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THE
AMERICAN
AGRICULTURIST.

FOR THE
Farm, Garden, and Household.

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

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

VOLUME TWENTY-TWO-FOR THE YEAR 1863.

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Suggestions and Notes for the Month.

We take pleasure in beginning our work for the year by presenting to each of our readers, the "Compliments of the Season." That the year now opening may be to each and all of them a "HAPPY NEW-YEAR," is our earnest wish. May it be rendered happy from the beginning to the close—to the farmer by abundant and profitable returns for his labors in the field; to the house-keeper by a diminution of anxious care, by freedom from severe illness in her family, by success in all her efforts to render home more attractive, more home like, than ever before; to the children and youth, by exemption from sickness, by vigorous growth of both body and mind, and by improvement in their habits and morals; to our common country by the return of peace, founded upon such principles as shall render that peace a perpetual one.—That our readers may secure the happy year we wish them, we shall on our part spare no labor or thought. We look at half a million sheets of pure white paper already in store, with as many more to be added, and the thought comes up that all of these are to be covered with the symbolic marks that convey ideas, and then be scattered broadcast over the land. May we be able to send forth such words, such thoughts, such hints and suggestions, as shall be best calculated to promote the pleasure and profit of all who peruse these pages.—We note down in these first columns some hints which, if not specially instructive, will at least serve as reminders of work to be done. The labors of the month will always go on more regularly, and be better done, if a well digested plan be laid down. Our first hint then is: Sit down with paper, and pen or pencil, and lay out the work for Janu-

ary: What must be done, what ought to be done, how much can be done, what must be done the first week, the second, and so on. Into this calculation must enter the probable interruptions and delays. This and the following month are essentially the farmers' resting season, though the care of stock, the providing of a year's fuel where wood is burned, the unfinished work in the grain department, and perhaps among out-standing corn, especially at the West, with other items detailed below, will keep many farmers pretty fully occupied. It is well to remember, however, that a bow that is always bent loses its elasticity; so, every farmer at least should at this season, lay on some extra muscle, and recruit his vigor for the exhaustive labors of the Spring, Summer and Autumn.

Work for the Farm, Household, etc.

Account Keeping.—Some system of keeping accounts is essential to the best success of every farmer. A sheet or two of paper with a debtor and creditor side, is better than nothing. On one side put down every item owed, and to whom; and on the other, note every item due. Sum up the condition of your worldly possessions in two columns. Every day's transactions, whether cash or credit, should be written down with the date. This should include every purchase for ready money, or on time, of a neighbor, or at the store, etc. It would pay well to have a debt and credit account with each kind of farm labor, with each field, each kind of animals, of family expenses, etc. Such accounts lead to thinking, to investigation, to carefulness. The written record to refer to, would prevent not a few of such scenes as are portrayed on page 9. Skill in book-keeping is not required; "quail tracks on paper," barely plain enough to be understood, are far better than no record.

Buildings—Replacing a shingle on the roof of the house or barn may save much damage from leakage. Hundreds of roofs fall in every year from accumulations of snow. If the rafters and covering are known to be abundantly strong, no further care is needed; otherwise remove any extraordinary deposits of snow. A wooden hoc on the end of a long pole will answer. An extra strip of wood, or of listing, on the window or door casings may shut out much cold. We have seen a man using half his spare time in cutting, hauling, and carrying in wood to keep up a rousing fire, when there was an inch crack under the outer door that let in cold air enough to use half of the heat produced. An hour in stopping that crack would have saved forty hours spent at the wood pile, and added greatly to the comfort of the house. He "saved at the tap and wasted at the bung-hole." Better spend one day in stopping up the cracks, than ten in keeping up the fire. Some time since, we showed how cotton was worth \$10 a pound; a pound of it in the cracks and crevices shut out more cold than \$10 worth of fuel could

drive out.... We repeat last month's hint, that the less outside protection a man or animal has, the more food must he consume to keep up the internal fire. Make not only the house, but the stalls, the sheds, and the styes, warm; make the animals comfortable, and far less food will be needed. A double floor or a warm cellar underneath will also save fuel and food, and promote health. See "Children on the Floor," page 21.

Cattle.—In brief, make them comfortable; they will look better, feel better, eat less, be more healthy, and be worth far more in Spring. Every animal should have some shelter from wind, rain, and snow. If not a stall, then a good shed. If on a new farm on the prairie, where timber is yet too scarce and costly for your means, a rail pen covered around and above with straw or stalks, will well pay for its cost, in the better condition and growth of the animals. If water is scarce, better melt snow over the fire than to compel them to eat snow. Extra fuel (food) must be supplied to keep up the fire in their bodies, if snow is melted there. The extra digestion required for this, detracts from health, vigor, and growth. Remember the salt rations at least twice a week. That weak animal will continue a "runt," if kept from a full supply of food and from shelter, by another overbearing animal. Give it some protecting division line.

Cellars.—Foul air breeds decay. All rubbish, or rotting vegetables should be removed. Families living in a new or swampy country suffer from malaria; decaying vegetables in the cellar send up similar gases through the house or barn cellar. If damp, a few boards or straw on the bottom, to walk on, may save wife a cold, perhaps a fit of sickness, if she goes there often from a warm room, with thin shoes on. Ventilate as often as the weather will permit, but stop out the thief Jack Frost, with an extra bank of earth or tan bark, if the walls be not amply thick and impervious. An hour's frost may destroy the products of weeks of toil. A coat of whitewash, put on the walls and ceiling even now, will promote neatness and sweetness, and save the necessity of an extra light, if the windows be deficient or in part covered. The best windows are those with double glass, half an inch to an inch apart, and the sash on hinges. Room may be saved by having the sash hung at the top to swing up to a hook.

Colts.—See hints on page 11. Care in breeding, and in feeding also, has produced our improved horses. Stinted colts make stunted horses. By means of good nourishing food, not over-graining, you may develop large muscles, strong bones, capacious healthy lungs, and turn out a far more valuable horse for any kind of work,

Club Meetings.—Farmers need the benefit of these more than any other class. Mechanics, merchants, and business men generally, come more in contact; their ideas are rubbed up bright

by practice; they learn from each other's methods; they talk more about their work and the best way of doing it, than farmers who are separated from constant intercourse by their broad acres. The meetings for social chat about farm matters held at the school house, or from house to house, are of great utility. No one ever attended such a meeting without carrying home some new hint, or having a new train of thought started. Too much formality, too long a constitution and bye-laws, are to be avoided. The more familiar, conversational they are, the better. Every neighborhood in which they are held will be benefited, and their effects will be seen not only in greater crops, better roads, tidier farms, and better stock, but in healthier, and happier inhabitants. Especially should the young men be induced to take part in these meetings: they should be taught that agriculture is ever progressive, and that he who does not keep pace with it, must be, like Tim Bunker's neighbor, Jake Frink, always "runnin' astarn." (See Dec. *Agriculturist*, page 364.)

Hogs.—Those to be slaughtered will lay on fat all the faster for being kept warm. Those having large numbers fattening on the western prairies may hasten their plans and save corn, by providing good nests, if not in warm pens, then among the stalks, or in straw heaps. It will pay to dig pits for them in the ground, covering with straw or sheltering to shut out cold and storms. Feed the lighter grains and soft corn first, finishing off always with good sound corn. Experience proves that it pays well to grind and steam hog food.—Store hogs, those kept over, will at the East, almost pay for their board in making manure, if rightly managed. See rules for making "Prime Pork," on another page. Supply them plentifully with coarse litter, forest leaves, straw, etc., and they will manufacture a valuable fertilizer without the help of machinery, without the help of an overseer, even without instructions. Give fattening hogs plenty of cooked food, and provide good shelter for all.

Horses.—Avoid sprains and hoof diseases from frozen ground, or snow and mud slush, by prompt and careful shoeing; prevent coughs and colds by comfortable blanketing when standing in cold winds and promote general health by just enough of good food, and by comfortable, clean, light, and ventilated stables, and frequent cleaning and rubbing.

Humbugs.—Look out for them. They always come upon one unawares in a new and attractive garb—golden-tinged. When anything is offered astonishingly cheap, look out for a cat in the meal, especially if it is an article with which you are not familiar. See notes elsewhere.

Ice.—Get in a full supply as soon as sufficiently thick and solid. In the better preservation of food in hot weather, and in case of sickness alone, it may be worth its full cost, to say nothing of the luxury of having at hand a supply of "pickled coolness" in midsummer weather. Ice is not difficult to keep. A rough shed about 12 feet square and 10 or 12 feet high, well roofed and out of the sun, with enough of clean saw-dust to fill in five or six inches thick between the ice and the boards, and also to cover it well, will preserve enough ice for a season's supply for an ordinary family. If the shed is not built, erect the frame and cover it; then pack in the ice in freezing weather, and sprinkle on water enough to fill up and make the pile a solid block. Then commence at the bottom to fasten on the outside boards and fill in the sawdust as the boards rise. A double frame that would admit of sliding the boards in between the posts, would enable the filling to be done in this way, year after year.

Implements.—There may be a scarcity of farm laborers during the coming season, and those who secure the best labor-saving implements will be fortunate. Though these can not all be practically tested in Winter, it is well to be on the lookout for information relative to them. Visit first class farmers, bring up the subject in farmers' club meetings, and read agricultural publications. A day devoted to finding an implement that will save a week's labor, besides paying good interest on its cost, is time well spent. By all means see that

those already on hand are in good repair, and well preserved from rust, rot and accident. As hitherto frequently suggested in the *Agriculturist*, a coating of three parts of lard and one of rosin melted together and rubbed on them, will prevent iron and steel from rusting.

Manure.—Our Western readers, on the virgin soils, where organic matter yet abounds, usually skip the manure articles. Eastern farmers, on the old lands, are annually learning more of the value of good manure. A few loads of good manure per acre will often double a crop without increasing the other expenses of preparing the ground, seed, and cultivation. Every kind of animal or vegetable matter, from the dead carcass, to the black earth in the woods or swamp, will by decay furnish nutriment to any growing crop. The compost heap is the gold mine of the farm. Into this heap, let every handful of animal droppings go, and with these all the vegetable matter possible, the leaves from the forests and elsewhere, black earth from the woods and swamps, sods, weeds, etc. The heterogeneous mass, frequently forked over and well rotted, will tell on next Summer's crops. See article on covering manure, page 14.

Marketing.—An important feature in successful farming is judicious marketing. Many farmers must sell as soon as possible, but it is desirable to have good facilities for reaching the market, and also to be so forehanded as not to be obliged to sell when fair prices can not be obtained. The farmer can then watch the market reports and study the probable home and foreign supply and demand, and determine with considerable accuracy when it is best to sell. The farmer who gets \$1 per bushel for his wheat realizes double the profit that he does who only gets 80 cents, provided the cost of producing is with both 60 cents per bushel. It pays to study marketing well, and also to prepare and put up in the best manner all perishable produce, such as butter, poultry, fruit, pork, vegetables, etc.

Plow heavy soils deeply, in mild spells of weather, when dry enough, and thus secure the benefits of freezing and snow, which are often of great value.

Poultry will pay for good housing, feed, and care now. Eggs retail here in the city, at this season, for 25 to 35 cents per dozen, and the buying price is correspondingly high. Give the fowls gravel and sand to scratch in, with grain and bits of meat. A little lime or powdered oyster shells, vegetables, ashes, and plenty of pure water should also be supplied. The opinion that fowls need no water, leads to the prevalent custom of leaving them to get their liquids from the filthy yard, or by eating snow and ice. Give the fowls, especially the laying hens, a constant supply of clean water.

Roots stored in cellars or in pits for feeding out, may require additional protection from frost. They need some ventilation, otherwise the dampness from evaporation of their juices which is continually going on, will make the surrounding air a good conductor of heat, and they may be frozen. If any are decaying, remove them at once. In feeding, give them as a relish with dry food, rather than as a staple article of diet.

Seeds. Keep in a dry and cool place, away from rats and mice; these are particularly fond of pumpkin and squash seeds. A little care now will save much annoyance at planting time. Now is the time, if not already done, to get ready all seed needed in Spring. It is always high at seeding time.

Sheep need a few roots, turnips or potatoes, daily, with the other dry food. Do not suffer them to lose flesh now. Keep sheep separate from other animals, liable to worry or injure them. It is not too late to put bucks with ewes for lambs to be dropped during the first of June.

Steers. Commence handling while young, as they are then more within one's power, and readily become accustomed to being controlled. Do not load them heavily, or treat them harshly. Give them full opportunity to learn what you want of them, before expecting obedience.

Wood. Store a plentiful supply in a dry place. The finer it is cut, the more thoroughly it will dry, the quicker it will boil the dinner, and the better answer every good purpose. See remarks on green and dry wood in November Calendar.

Orchard and Nursery.

Not much active work can be done in this department the present month, and but few hints are needed in this month's Calendar. In laying out the plans for the year, it may be well to inquire, whether more trees may not be planted with profit. Fruit trees do not require much ground the first five years, and when they do, their products repay the loss of surface. How much does it cost to raise and to annually tend a tree that in a few years will return large crops of apples or other fruits? It will be economy to now look up and engage the trees desired in Spring, so that they may be provided for, and ready to come at the best dates. Most of the leading nurserymen have catalogues of names and prices, which they furnish free to applicants inclosing a stamp for postage. See valuable list of pears on page 17.

"A penny saved is earned." A single day's labor seasonably and judiciously devoted to precautionary measures in the Orchard and Nursery, may save both money and vexation of spirit. Domestic animals, rabbits, mice, strong winds, etc., are ever liable to produce injury, and should be fully guarded against. Good fences, kept in good repair, are the best protection against domestic animals, but these are of little avail, if the gates are left open, as is often the practice in Winter. Various methods are employed to protect the trunks of trees from the attacks of rabbits. They may be bound with paper near the base, which is to be besmeared with tar. One of the simplest, easily applied, and most effective protections of the base of the trunks of small trees, is to set around them two horse-shoe drain tiles, fastening them together with a wire wound around. Of course, neither mice nor rabbits can injure trees so protected. Dried grasses or weeds, or banks of snow furnish good breeding places for mice. The removal of the rubbish, and the hard tramping of deep snow around the trunk should be attended to when mice are troublesome.

Occasional attention should be given to staking and tying up trees swayed by strong winds.

Cions for grafting, and cuttings for propagation may be made in January or February before the sap starts. Put them in boxes of barely moist sand or earth, in a cool part of the cellar. They will thus keep well for months. Cut those from thrifty, well matured wood of last season's growth.

Drainage is quite as important for fruit trees, as for farm crops. Trees standing in a wet, damp soil are injured by freezing, and the soil is cold and damp all the year. No water should stand in hollows around the trees. A deep drain run near a fruit tree often acts like magic upon its growth and fruit bearing. In open weather this month, new drains may be opened to advantage.

Large fruit trees and deciduous (leaf shedding) shade trees may be moved with convenience and safety during the coldest weather, by cutting out and taking up around the roots a considerable mass of frozen earth. We assisted in successfully moving a shade tree two feet in diameter. A deep channel was cut around the trunk at the distance of 4 to 5 feet. The frozen mass was dug underneath, and boards worked under, with one end on the surface. Bundles of trees were placed around the bark to protect it, which were held in place with a heavy chain, to this were attached three yokes of oxen. A dozen ropes from the branches on every side, to steady the tree and keep it upright, were held by several neighbors, who volunteered to assist. The tree was slid along on boards and planks laid down, and it was thus moved some 50 feet into a new hole, and loose soil packed in around the frozen earth. A large heap of stones put on, kept it from blowing over during the first year. The tree grew and flourished, as if nothing

had happened to it. Smaller trees may be readily moved without so much labor.

Stakes and labels should be prepared in Winter. Some recommend to make them more durable by soaking them in a solution of 1 lb. of blue vitriol in 3 gallons of water. Straight grained pine, sawed into suitable lengths, and split and whittled smooth, are the simplest and most easily made. A notch is required on both sides of one end, to tie by. A little thick white paint, rubbed on with a cloth before marking, preserves them, makes the letters more visible, and the paint fastens the pencil marks.

Those intending to plant trees next Spring, are recommended to excavate large holes now (if not already done) where trees are to be set. The frost and snow greatly ameliorate the subsoil. Besides this benefit, important time in the busy season is gained. It pays well, at least on heavy soils, to expose the subsoil of the whole area of the new orchard, in Winter, to the action of snow and frosts.

Kitchen and Fruit Garden.

In northern localities the ground is either frozen or covered with snow so that but little can be done during the present month. Still, the garden should occasionally be visited to see that all is going on well. If water stands on any places occupied by crops it should be removed by surface drains, if underdrains be not practicable at once. See that fences are tight and gates properly fastened, to all enclosures containing fruit trees and shrubs. A hungry stray animal will do irreparable injury in a few hours if allowed to enter the garden. Much can be done in planning to facilitate Spring work. Every garden of moderate dimensions should be mapped at leisure, and all projected alterations or improvements indicated. The place for all the main crops should be marked upon the map. It is quite important to have a regular rotation of crops, there being scarcely any vegetable, save onions, that succeeds well on the same ground year after year. In arranging the planting map, those plants liable to mix should be put as far apart as possible; this is especially important for squashes and melons and the different varieties of sweet corn. In open weather the ground may still be plowed if not too wet.

Bean poles, Stakes of all kinds, Pea Brush, etc. Now is the best time to get a good supply. If left until Spring work begins, it is very apt to be hurriedly done or neglected. If the lower ends of the poles be soaked in a solution of 1 lb. of blue vitriol in 12 quarts of water they will be more durable. White birch, where obtainable makes good pea brush.

Cold Frames.—Protect in severe weather by straw mats covered by boards or shutters. A covering of snow helps protect the plants. In mild weather ventilate and let the plants have light.

Cuttings of Currants, Gooseberries, etc. If these were not made in Autumn, secure a supply now, at times when they are not frozen. Bury them in moist but not wet sand or soil, in boxes in the cellar. They may be buried in the cellar bottom, if moderately dry ground.

Hot-Bed Frames and Sashes.—Old ones should be put in order and new ones made or purchased. Every garden should have a hot-bed; they are cheaply constructed and easily managed by any one of ordinary intelligence. Almost all kinds of vegetables are easily obtained some weeks earlier. The sash should be six feet long, and wide enough to contain 4 rows of 7x9 glass. The sides of the sash should be heavy enough to prevent springing; this may be obviated by an iron rod secured midway across the sash. Unless one is a very clever workman, it will be found cheapest to purchase the sash ready glazed. The glass should lap about $\frac{1}{2}$ of an inch and be well secured by points and putty at the sides. No putty is required where the panes overlap. The frames should be made of plank, firmly nailed together. They may be one foot high in front and two feet high at the rear, and of a length suitable for two or three sashes if so many are used.

Seeds.—Examine the supplies on hand, and see that they are safe from mice. Note the kinds which

it will be necessary to purchase and examine seedsmen's catalogues. Experienced persons can judge of the quality of seeds by inspection; where there is any doubt, it is safer to test them before purchasing a supply. Placed in earth or sand, not too wet, in a warm room, they will soon germinate if good.

Tools.—See that all are in good repair and carefully housed. One man with good tools will do as much work as two men with poor tools, yet the difference in the cost may be less than the expense of a very few days' work.

Flower Garden and Lawn.

If any improvements are to be made here, let the plan be well considered and placed upon paper so as to be worked from....When snow accumulates on evergreens, a slight jarring will throw it off and prevent their being broken down....Walks and carriage drives may be made during mild weather. Dry walks should be secured by placing a drainage of coarse stones below the gravel....Prepare an abundance of neat labels and stakes, in anticipation of the busy season....Flower pits should be allowed air freely when the temperature is not too low. Give water sparingly if the soil is very dry; keep them carefully closed and covered during very cold weather. Look out for mice....If trees are to be planted in the Spring, holes may be made now whenever the ground is open. The frost will greatly ameliorate the soil and fit it for the reception of roots. Large trees may be moved with a ball of frozen earth, as suggested under Orchard above.

Green and Hot-Houses.

Care and judgment will be required to maintain a proper temperature. Listing the cracks and putting on shutters in very cold weather, will save a large amount of wood or coal—the latter an important matter at its present price. In the Green-House, where but little or no growth is desired, the temperature should be kept between 40° and 50°. In the Hot-House the range should be from 65° to 70°, and moisture of atmosphere and other conditions of rapid growth maintained. Look after ample ventilation when the out-door temperature is not low, and arrange for plenty of light. The importance of light is not always apparent to novitiates.

Azaleas require water as they increase in growth.

Bulbs.—Those desired to bloom soon are to be transferred from the Green-House to the Hot-House, where the higher temperature will favor their rapid growth. Change water in glasses every two weeks.

Calceolarias.—Re-pot those needing it. Turn frequently, presenting all sides equally to the light to induce upright growth.

Camellias should now delight the lovers of the beautiful, with a fine bloom. Water and syringe foliage every three or four days, but avoid wetting the flowers, as this will hasten their decay.

Carnations, etc.—Set cuttings to provide plants for early Summer bloom in the open air. Stake those in bloom, and water frequently. Those becoming pot-bound need shifting to larger pots. Cuttings also of petunias, verbenas, pelargoniums, etc., for bedding out in Spring, may now be made. Those planted last month are ready to pot off.

Fuchsias.—Re-pot growing plants. The imperfect ones will answer well for cuttings.

Grapes.—Those well advanced require plenty of air and but little water at the roots. If mildew appear, syringe with water in which a little sulphur is sprinkled. Thin out, and prune if needed.

Insects.—Guard against them as much as possible, by cleanliness, washing or syringing foliage, hand picking, etc. If they appear, use tobacco fumes for thrips or green fly, soap and water for scale, and clear water with sponge or syringe, for red spider.

Manure.—Stimulate growing plants every two weeks or so with dilute liquid manure, until plants are about to bloom, then discontinue.

Oranges, Lemons, Oleanders, and Myrtles should

now be put in a situation to favor a moderate growth. Clean their trunks and branches from insects.

Peach, Nectarines, Figs, and other fruit trees in pots, should now have a warm growing position, and re-potting if needed. Give liquid manure occasionally, and look for fruit the latter part of June.

Soil.—Have a supply ready for use where it will not freeze. Directions for its preparation have been frequently given in previous numbers.

Seeds of many hardy annuals may now be sown for transplanting early to open air borders.

Water will be needed frequently this month, especially in those houses requiring considerable heat. A mere sprinkling of the surface is not sufficient. It is well to plunge the whole pot into the water tank if the foliage begins to wilt. Fire heat often dries the earth in the bottom of the pot when the surface is moist. Keep a tank, cistern, or barrel, always full of water in the house itself, that it may be of the same temperature.

Apiary in January.

This is a period of inactivity in the hives. For those out of doors little can be done except to secure proper ventilation, which is quite as necessary now as at other seasons, and to guard against the depredations of mice. Ice may chance to close every aperture and the bees be smothered. If mild weather occurs, and the frost leaves the hives, they may be lifted to allow the removal of dead bees and accumulated filth. Mice and other vermin may be kept out by closing the openings with wire cloth, leaving a hole large enough for the passage of a single bee. When snow covers the hives let it remain, if proper care has been taken to keep out the mice. While the sun should be allowed to fall upon the hives in very cold weather, they should be shaded during the warm spells. The bees may be tempted to fly during mild days, and may be allowed to do so unless the ground is covered with recently fallen snow. Bees that are housed require but little attention, and should not be disturbed any more than is necessary to make sure that they are secure from the attacks of vermin.

Seasonable Directions for Mess Pork.

The following standard rules, known as "Getty's Directions," are those given for putting up Prime Mess Pork, to meet the requirements of the English market. They are also adopted and made imperative, in the contracts given out for Army Supplies by the United States Government.

QUALITY AND WEIGHT OF PIGS.—The Pigs to weigh from one hundred to one hundred and sixty pounds each, and to be in good condition, strictly corn-fed or hard Pork. For the United States army the weight may be extended to one hundred and seventy pounds.

PARTS EXCLUDED.—The head is to be excluded, also the fore leg up to the breast or brisket, the hind leg including the hock or gambrel joint, and the rump, if the hams are not cut up with the sides.

WHAT CONSTITUTES A BARREL OF PRIME MESS.—A barrel of Prime Mess Pork consists of fifty pieces of four pounds each. If the hams are cut up and put in, there shall not be less than twenty-three side-pieces; if without hams, not less than thirty side-pieces.

HOW TO CUT AND CURE.—After the Pig has been split through the back, cut each side longitudinally into two strips; pack the strips into large casks or vats, and fill up with brine, having salt-peter added at the rate of one ounce to three gallons of brine; leave the strips in the brine for eight or ten days to extract the blood, and for the lean meat to take a pink color.

When ready to be packed into barrels, have each strip carefully cleaned, using a knife and brush if necessary; cut them into four-pound pieces as nearly as may be; Mess (select the pieces) as indicated, and pack neatly and compactly in layers, with sufficient salt to preserve it.

BARRELS.—The barrel should be twenty-eight inches long, and seventeen and a half inches over the end (when finished) made of seasoned white oak free from sap, full bound with hickory or white oak hoops, and one iron hoop (one inch wide) on each end next below the chime hoop.

THEORY OF MESSING.—Pigs averaging say one hundred and forty-five pounds, will work up in messing about as follows: When the side, including the ham, is cut up there will be twenty-three or twenty-four pieces of side-meat, eight pieces of ham and saddle, and eighteen or nineteen of shoulder and neck to the barrel; excluding the hams, the number of side-pieces will be increased to thirty-one or thirty-two. In no case should there be more than six pieces of the leg part of the shoulder put into a barrel.

clusters or umbels of small flowers, of various colors, from pure white to purple. Grows 6 to 12 inches high, and blooms most of the season. Sow early in Spring.

No. 51.—**DRUMMOND'S PHLOX** (*Phlox Drummondii*).—A very beautiful annual, the delicate flowers of which exhibit a very great variety of marking. Grows 12 to 18 inches high, requires little care, blooms constantly, and is beautiful in masses. Sow early in May.

No. 89.—**COTTON PLANT** (*Gossypium herbaceum* and *Barbadense*).—The Upland, with a little Sea Island Cotton Seed, both in the same package—the Upland downy, the Sea Island naked. The Upland, sown in the Spring, and protected from frost, will mature its bolls in the Autumn, south of 40° or 41°, but will bloom wherever corn succeeds. The plant grows 3 feet to 5 feet high; the flowers are showy—bright yellow, with purple eye. Sow at corn planting, in drills, and thin to 18 inches apart. Our parcels are designed for ornamental and small experimental plants.

No. 111.—**CASTOR OIL BEAN** (*Ricinus communis*).—A stately plant, 5 to 10 feet high, with broad tropical foliage, which is showy and beautiful. It is a very rank grower, and needs a rich, warm soil. Sow in the open ground, and leave 3 to 6 feet apart.

No. 122.—**CANTERBURY BELL** (*Campanula media*).—Showy, flowering the second year from seed, and sometimes living 3 or 4 years. They bloom along a spike 2 to 3 feet high; flowers of perfect bell shape, large, and in some varieties double; white, lilac, blue, and intermediate shades. Sow any time in May or June, and transplant in the Fall to 1 foot apart in rows, or set in groups.

No. 123.—**GILIA** (*G. nivalis*).—An annual of 1 foot in height, delicate growth, and finely divided leaves; flowers usually white, growing in panicles. Good for massing. Sow early in Spring.

No. 124.—**WHITELAVIA** (*W. grandiflora*).—This California annual pleases us much, blooming 5 to 6 weeks from sowing, and continuing until October. Its blue, bell-shaped flowers resemble the Campanulas. Sow early in May, and thin to 6 inches apart; grows 1 foot.

No. 126.—**LONG-TUBED CENTRANTHUS** (*C. macrostemon*).—An annual of rather delicate appearance, but hardy and desirable. Flowers fasciated, (in bundles or clusters), tubular, borne on stalks 10 to 12 inches high. Bloom until frost. Sow early, and thin to 6 inches.

No. 164.—**SWEET SCENTED AOERATUM**. (*Ageratum Mexicanum*).—A pale blue or white annual, desirable for bedding or massing. The plants may be taken up in the Fall and put in the conservatory or hot-house where they will flower during the Winter. Sow early in Spring.

No. 169.—**BEAUTIFUL CLARKIA** (*Clarkia pulchella*).—A hardy Rocky Mountain annual, growing 1 foot high. Flowers, light purple, opening from June to Sept. Sow about the first of May. A good border flower.

No. 170.—**EVENING PRIMROSE**. (*Oenothera biennis*, *macrocarpa*, etc.).—Fine biennials which are not sufficiently known. Most of the species are low, with light yellow flowers, some of which are 4 or 5 inches in diameter, and expand in the evening, whence the name. Sow in May and transplant in October, setting 2 feet apart. Some species have a white bloom.

No. 173.—**MIXED LARKSPURS** (*Delphinium consolida*).—Annals of white, rose, pink, blue, and variegated colors, growing from 2 to 3 feet high. Some of the species are double and very pretty. Flowers in spikes for a long time in succession. Sow very early, as the seeds lie long in the ground; they are very hardy.

No. 177.—**QUAKING GRASS** (*Briza gracilis*).—A beautiful nodding grass, growing 3 feet high. The heads or panicles resemble the rattles of the rattlesnake, and dry so as to be very ornamental in bouquets of dried flowers. Sow in early Spring.

No. 182.—**SWEET ALYSSUM** (*Alyssum maritimum*).—An annual, nearly 1 foot in height, flowering in long racemes, from June to November, or until killed by frost. Sweet-scented; flowers white. Sow in early Spring, and thin to 1 foot apart, unless massed, for which it is well suited.

No. 183.—**IMPROVED FRENCH AND GERMAN ASTERS**.—A beautiful hardy annual. The common "China Asters" give no idea of the beauty of these improved varieties, some of which are nearly as large as Dahlias, and very double. We have grown nearly half an acre for seed for distribution, though from the little seed in perfect flowers, the parcels are necessarily small. Sow in open ground in May. They bear transplanting to any desired position.

No. 200.—**FANCY GOURDS** (*Lagenaria vulgaris*, in var.)—Cultivated for the singularity or beauty of the fruit; vines climbing. Plant like cucumbers, near a trellis, or provide poles; protect against insects. Our seed consists

of all the seeds from the prize collection of 75 varieties exhibited at the recent show at the *Agriculturist* office. They were necessarily mixed for general distribution.

No. 203 and 204.—**GERMAN AND FRENCH Poppies** (*Papaver somniferum* and *Rheas fl. pl.*).—Of these common yet very showy species there is an infinite variety in form and color. The culture is simple. Sow in beginning of Spring, thin out to several inches apart; bloom in July.

No. 205.—**DOUBLE FRENCH MARIGOLD** (*Tagetes patula*).—A very showy annual of 2 or 3 feet high; flowers bright yellow to dark brown, and often beautifully striped and margined. Sow first of May; blooms from July to frost.

No. 206.—**GOLDEN STRAW-FLOWER** (*Helichrysum bracteatum*, etc.).—One of the most common of the *immortelle* or everlasting flowers; blooms yellow, white, pink, and scarlet. Grows 2 or 3 feet high. Sow in borders in May. Pick flowers before expanded, for Winter bouquets.

No. 209.—**DWARF BLUE LARKSPUR** (*Delphinium formosum*).—A fine herbaceous perennial, blooming first season, 18 inches high; flowers ultramarine blue, very rich; blooms July to September. Sow early in May.

No. 210.—**DWARF MORNINO GLORY** (*Convolvulus minor*).—A very showy annual, growing 14 to 20 inches high; the funnel-shaped flowers, blue, white and yellow. Sow early in May. Blooms from June to October.

No. 212.—**SWEET PEAS** (*Lathyrus odoratus*).—A familiar annual, valued for the remarkable sweetness and beauty of its flowers. Its habit, mode of sweetening, etc., is much like the garden pea, but it is much more delicate. The flowers are of many bright colors, (red, white and blue,) beautiful in bouquets.—A great favorite. Sow early, in good soil, seeds 2 inches apart; requires brushing; grows 2 to 6 feet high.

No. 216.—**ACCROCLINUM** (*A. roseum*).—An everlasting flower. Grows 1 to 2 feet high; flowers rose-color, very pretty. Sow middle of May, in sandy loam, or grow in pots and turn out into the open border first of June. In stiff soil, make drills, and cover lightly with sandy soil.

No. 219.—**MARTYNYA** (*M. proboscidea*, etc.).—This, sometimes called "Buffalo Horn," from the form of the pod is a vigorous annual about 2 feet high, of a spreading habit and rather coarse foliage. The flowers are shaped somewhat like those of the foxglove, of various colors and very showy. The curiously shaped fruit makes very good pickles if taken while tender. Sow in good soil after all danger of frost is over and leave the plants about 3 feet apart.

No. 220.—**NANKIN PERILLA**. (*Perilla Nankinensis*).—A hardy annual cultivated for its singular foliage which is of very beautiful dark purple color, and makes a fine contrast with other flowers in the border.

No. 221.—**STRIPED MIRABILIS**. (*Mirabilis Jalapa*, in var.).—The new varieties are a great improvement on the old Four o'clock. The plants grow 2 to 2½ feet high. The long fleshy roots may be taken up after the frost has cut down the plant, and preserved like Dahlias to be planted the following Spring.

No. 222.—**CONVOLVULUS VARIEGATA**.—A low twining variety remarkable for its beautifully variegated foliage. Flowers purple. Should be started in pots and put out in the ground in settled warm weather.

No. 223.—**MOURNING BRIDE**. (*Scabiosa atropurpurea*).—A hardy perennial which blooms the first year, if planted early. Leaves divided; flowers dark crimson purple, rose-colored and white.

Death of a Prominent Agriculturist.

Our foreign exchanges bring the mournful news of the death of Mr. Jonas Webb, of Babraham, England, whose name has so often appeared in these columns as one of the most noted and successful breeders of stock, particularly of South-Down sheep. For forty years Mr. Webb made the improvement of these animals a constant subject of study and experiment, and by his skill raised his flock to a grade that gave them a world-wide reputation. America and Europe acknowledge him as a public benefactor. His success in improving sheep has given additional value to whole provinces. It was our good fortune to enjoy several pleasant chats with him at the Royal Agricultural Show in London last Summer. We found him daily at his post, describing the merits of his four magnificent Short-Horn cows, on the good points of which he was all enthusiasm. His tent was the center of attraction to multitudes of stock breeders from all parts of Europe. Mr. Webb was 66 years old on the day of his decease. The circumstances attending it were particularly painful. The death of his wife was an overwhelming blow, under which he sank on the evening of her funeral, and on the day set apart for the marriage of his son.



Containing a great variety of Items, including many good Hints and Suggestions which we give in small type and condensed form for want of space elsewhere.

No More Premium Maps.—Letters continue to come in daily, asking for premium Maps. Our offer was distinctly limited to the end of November. We stated in the December *Agriculturist*, that owing to the increased cost of our own paper, and the higher price of the Maps, we could no longer afford this premium, though we have continued to send them when asked for by those living too remote to apply before the close of November. We repeat, that except in special cases, and for strong special reasons, no more Maps can be given. The price is 25 cents each for the large map of Virginia and that of the Southern States, and 50 cents for the map of the United States, including the Canadas and New Brunswick. When desired at these rates, we will procure and send them post paid by mail.

Premiums—Last Call (?) We publish our premium list in full this month, probably for the last time, though all the offers will be continued until further notice—how long we can not exactly tell, as it will depend upon the future price of printing paper. Those who wish to get any of our valuable premiums will do well to set about it at once. There is yet time to fill up the lists already commenced and to start new ones. A good article can be easily obtained now, without outlay of money.—N.B. It will be seen, that the terms of two or three articles are slightly changed, owing to the advance in their market price.

Fruit Grower's Meeting—Change of Hour.—The time of meeting on Thursday each week will hereafter be at one o'clock P. M. These meetings will be found the source of much valuable information. Leading practical growers are always present to describe the best kinds of fruits, the modes of planting, culture, etc., with other topics of interest relating to the orchard, garden, etc. All interested are invited to attend.

Buy your Books now.—Like everything else depending upon the price of paper (except the *Agriculturist*) the prices of books have advanced from 25 to 50 per cent. Anticipating this rise, we laid in a partial stock of those most called for from our office, and these stand at the old price in our list on page 30. Persons wishing any of these books will do well to apply for them at once, as our price list must be advanced to that of the publishers, as soon as the present supply runs out. It will be seen, that a few books in our list are already advanced a little. Persons calling for premium books will please note the changes from time to time, as we must be governed by the rates announced each month.

Honest Postmasters.—Almost every day we get letters containing subscription money, but unsealed, some of them from California even. We are happy to announce the safe arrival of so many such letters, but would advise, for the sake of keeping Postmasters honest, and especially when gold dollars are enclosed which might drop out in the mail bags, that all money letters be securely sealed.

Town Hedges.—J. W. Bucher, Northumberland Co., Pa. If to turn cattle, use heavy Locust or Buckthorn. For a screen simply, we prefer the Arbor Vitae. In both cases it is advisable to buy plants from nurserymen or hedge-plant growers, who sell them cheaply by the 100 or 1,000. The American Arbor Vitae is best for quick growth and cutting to any desired form. The Siberian variety grows slowly in neat, cone-like form, and is beautiful when planted singly or in close rows to form a compact screen or hedge.

"Agriculturist" Wanted.—William Beal, Lenawee Co., Mich., writes that one of his neighbors who takes no agricultural paper, recently sold a flock of sheep enough below their value to have paid for the *Agriculturist* the remainder of his life. He was not "posted" as to the market. The reading of a single article in our number for November, would have saved him all his loss. This is a sample of many similar testimonials recently received.

To Advertisers.—One who has advertised his business very extensively in most parts of the country, writes that, "the *American Agriculturist* did me as much good as all the other papers together."

Small-pox in Sheep.—This is reported to have been quite prevalent of late in England, and to prove the efficacy of vaccination, the Government has purchased 200 sheep to experiment with. They propose inoculating a portion of them with the virus direct from the cow.

Poultry Profitable.—Mr. R. W. Davey, of Middlesex Co., Mass., in a letter to the *American Agriculturist*, says he finds it pays well to give poultry warm quarters with plenty of feed. He reports the cost of keeping six fowls 11 months, from January 1st, to December 1st at \$6.04. The returns were: 551 eggs at 16½¢ per doz. \$7.66. Poultry sold, \$4.70. Fowls added to stock, \$1.50; total \$13.86—a net profit of \$7.82, or more than \$1.25 for each fowl. This is certainly a very good showing on a small scale. Mr. D. justly attributes this success to the care bestowed upon his poultry; which he does not include in reckoning the cost.

The Hens Do Lay.—"A Constant Reader" writes: "I have 21 hens, good layers, but they entirely ceased giving eggs in the latter part of Summer. Acting upon a hint in my *American Agriculturist*, on Oct. 1st, I sent to the soap-fat triers, and got a 50 pound cake of scraps at one cent per pound, and placed it in a clean corner of the barn-yard. The hens, though abundantly supplied with grain, pitched into the scrap cake as eagerly as a boy would into a pound cake, though they found it hard work to get off much of the substance until after a rain had soaked it. Two weeks after, the eggs began to be dropped, and now how they do lay! We have kept no account, but we must have got a dozen and a half a day for some time, as we have consumed all we could eat in the family, and have sold a surplus of 10 dozen at the rate of five for a shilling, or \$3, which I enclose herewith for three copies of the paper for myself and two friends, as named below. The eggs eaten at home more than paid for the meat (not yet half gone) and the other feed."

How Much Grain for Fowls?—C. N. Bement, writes to the *American Agriculturist*, that he has ascertained by actual experiment, that in the months of December, January and February, a common sized fowl will consume on an average one gill per day of corn, barley, or buckwheat, if permitted to take it at pleasure.

Fowls Changing Color.—E. P. Berrian, Westchester Co., N. Y., writes that he has a 2-year old black Spanish hen, which was originally a jet black, but during the last six months she has been changing her coat, and is now almost entirely white. He asks the *Agriculturist* readers to account for the phenomenon.

Age of Poultry.—C. N. Bement, writes to the *American Agriculturist*, as follows: "It is easy to judge of the age of a plucked fowl by the state of the legs. If a hen's spur is hard and the scales on the legs rough, she is old. Examine the head also. If the under bill is so stiff that it can not be bent down, and the comb is thick and rough, leave her, no matter how fat or plump, unless a tough case is preferred. A young hen has only the rudiments of spurs, the scales on the legs smooth, glossy, and fresh-looking, whatever the color may be; the claws tender and short, the nails sharp, the under bill soft, and the comb thin and smooth.—An old goose when alive, is known by the rough legs, the strength of the wings, particularly at the pinions, the thickness and strength of the bill, and the fineness of the feathers; and when plucked, by the legs, the skin under the wings, by the pinions and bill, and the coarseness of the skin. Ducks are distinguished by the same means, with this additional mark, that a duckling's bill is much longer in proportion to the breadth of its head, than the bill of an old duck."

Oyster Shells for Poultry.—H. A. Slater, Hartford Co., Conn. These broken fine are as good or better than slaked lime; they answer in part for gravel, as well as lime.

Thanksgiving Turkey Sacrificed.—A subscriber (Pliny N. Ward, of Worcester Co., Mass., in renewing his subscription to the *American Agriculturist* for 1863, writes: "... I know of no agricultural publication equal to yours in several respects. Its rich vein of sound, practical, common sense, causes its perusal to do good like a medicine; and I should wish for its monthly visits if I did not own a single foot of land, for its moral and religious influence. You will believe my statement above, when I assure you that, our Thanksgiving Turkey was sold to obtain the dollar herein forwarded." [Such kind appreciation, and this letter is only a sample of many, is certainly a strong stimulus to increased effort on the part of the Editors.]

"Egyptian Sorgho or Imphee."—M. Beck, writes to the *Agriculturist* from Wayne Co., O., that he planted 17 rods of what was called Egyptian sorgho there, on a rich clay soil, rows two feet apart, and

cans 4 to 5 inches distant, which grew luxuriantly and ripened in October. The juice evaporated on Cook's pan, yielded 40 gallons as the fine syrup as he ever saw. This was at the rate of 375 gallons per acre.

Barley—Weight of a Bushel in Me.—On page 375 of December *Agriculturist*, the weight of barley given at 56 lbs., is a typographical error; it should have been 46 lbs.

Prolific Bean.—S. G. Willard, Windham Co., Conn., says a subscriber to the *American Agriculturist* in that County raised 326 merchantable beans of a large, white, running sort, from one seed trained on a pole 5 feet high. He thinks the "*Agriculturist* did it."

Northern Cotton—Specimens lately Received.—Ten pounds of Upland, well grown, but rather short staple, from Rev. J. A. Bent, Washington Co., Ill.—Small samples from 6 pounds of two varieties, grown by G. D. Furber, Macoupin Co., Ill., from seed sent out by the *Agriculturist*. Both of these (Upland and Sea Island,) are well-grown and fine.—Specimen long staple from H. Davison, Defiance Co., O., grown from Alabama seed, which proved too late for that climate.—Also specimen of short staple, fine fiber, from J. G. Stackpole, Meigs Co., O., from plants growing five feet high.

Silk in Ohio.—From the Census report of 1860, we learn that 2,166 pounds of cocoons were produced in Ohio that year. Michigan comes next, that State being credited with 1,043 pounds. Correspondents who have frequently asked where they can obtain eggs, will doubtless find them by addressing prominent agriculturists in those States.

Tree Cotton Seed.—Mrs. B. Davis, Ash-tabula Co., O. There is none of this seed that we know of, to be had in this country. The parties who set forth the wonderful merits of the plant a few months since, proved unreliable, disappointing many parties who had paid money for the seed.

Sweet Potatoes Profitable at the North.—Several years of experience, always successful, and a great many reports from those who followed our advice last Spring, and tried them, fully confirm the belief that it pays well to cultivate at least a small plot of sweet potatoes for home use, in any garden south of latitude 42°, where a light warm soil can be had, and even further North in favorable localities.

Cesspool Slops.—W. Gilbert, N. Y. Cesspool slops are among the most valuable, especially if the chamber slops are added, or water closet pipes enter into the cesspool. Clean out frequently, mixing the contents with muck, and a rich compost will be formed.

Salt Preserves Timber.—Asa M. Holt, Middlesex Co., Conn., writes to the *Agriculturist* that he built an out-cellar in 1828, covering the roof with sawed chestnut timber laid from the ridge pole down over the rafters. Upon this was put three feet of earth, with an outer roof of pine boards to turn rain. The roof lasted ten years, and then fell in. He then had a similar roof put on by the original builder, but before covering with earth, a bushel or more of coarse salt was sown over the timber roof. This last roof has been on 24 years, and bids fair to last some time longer.

Hardy Apples in Minnesota.—H. D. Ives, Napoleon Co., Iowa, referring to an item with the above head on page 288, August *Agriculturist*, says the Roxbury Russet bursts its bark in their prairie soil, and is tender beside. The same is true of the Baldwin and R. I. Greening, though in a less degree.

Vicar's Improving.—"Don't touch the Vicar's," was the advice of an old woman who has sold pears in Washington Market for the past ten years, to a person about negotiating for some of this variety. "They won't sell," added she. True, as ordinarily grown and ripened, they are uninviting to sight or palate, but as offered at the *Agriculturist* Fruit Growers' Meeting, they were really good. The secret lies just here. Thin the fruit while growing, pick late in the season, handling with care. A little frost don't hurt them. Put in a barn or other building for a week, to sweat, then take to a cool cellar, and if packed in cut hay, oats, or oat chaff, all the better. Two weeks before wanted, bring them to a warm room—say 65° to 75°—and they will often color up finely, and if they are not No. 1, they are more than good, at a time when very few pears of any kind are to be had.

Ignoramus Quince.—Such is the label on a very fine specimen of pear quince on the *Agriculturist* tables, which has a history. A progressive farmer in New-Jersey asked his neighbor why he was cutting

down his quince trees. The reply was, they were worthless, and he could not succeed in raising quinces. Our friend advised him to take the *American Agriculturist*, where he had seen good directions for growing quinces. But he did not want any "book fudge." "I left him, but took away a few twigs of his quince trees, cut from the brush heap, and treating the cuttings and the trees they produced according to the directions given by 'book fudge,' I now have as fine healthy trees as one could wish, from which I picked the specimen here sent, and some 60 other fine quinces. I have shown the trees and fruit to 'Ignoramus,' and if he don't come down with the dollar, I think he will get a present."

Prune the Grape Vines Now.—Don't leave them so late that the pressing sap in the Spring will force its way through the partially hardened cut. We much prefer November and December, or at latest, January for the annual trimming. Prune judiciously, cutting out to within one eye, the last bearing cane or shoot, where the renewal system is followed, and taking out a portion of the old wood of old vines allowed to ramble over an extensive trellis, or on the side of a building. The new growth should also be shortened in somewhat, bearing in mind, however, that this is to be the next fruiting wood.

Delaware Grafts.—J. Botland, Bucks Co., Pa., in a letter read at the *Agriculturist* Fruit Growers' Meeting, says he raised Delaware grapes from grafts inserted in old roots. He advises laying an old vine in a trench early in Spring, and graft by splitting it at intervals, and running the wedge of an ordinary graft perpendicularly through this split; then cover with 3 to 4 inches of earth, leaving one bud out of ground.

What Grapes to Plant.—This is a puzzling question to the amateur, even, and much more so to a novice. In order to settle the question, the Fruit Growers' Meeting have appointed a judicious committee to bring in lists, from which, after discussion, probably for weeks, a selection will be made and adopted as the Society's list.

Grafting Large Plum Stocks with Apricots.—J. Webster, Marion Co., Ill. Better graft in the branches, if the trees are three inches through. Small seedlings of one or two years' growth are best budded close to the ground.

"A Pomological Congress of Nations" is announced in the *Revue Horticole* to be held at Namur, Belgium, Sept. 28, 1863, to which delegates are invited from all countries. The special object is to form a standard nomenclature, which will prevent a great deal of confusion, and not a little loss, especially to our own nurserymen and fruit growers, who often import, at a heavy expense, what they already have growing under another name.

Fruit Growers' Magazine.—E. Newberry, Evansville, Ind. There is no periodical in this country devoted wholly to fruit growing, and none giving more space to this subject than the *Agriculturist*.

Good Currants.—A. A. Davison, Mason Co., Ill., says he picked 128 quarts of Red Dutch currants from 33 bushes, some of which were too young to bear a full crop. The older ones bore 6 to 8 quarts per plant.—From one three-year old Houghton's Seedling Gooseberry bush he picked 3 quarts of fruit. This will do for a beginning, but a much larger yield may be looked for.

Brush for Scraping Trees.—We have lately seen a brush made of metal instead of hair, for cleaning trees of moss and dead bark. It is a French device, which Yankee ingenuity could improve upon. But a house broom, cut off to a stub, answers very well. Follow this up with some alkaline wash.

Fruit Talk 280 Years Ago.—"The names of apples which I had their graffes from Brintenarch, from one Mr. Pace: Item, the apple out of Essex; the Lether-cot or Russet apple; the London pippin; the Ken gnerling, or the Croke; the glass apple or pearmain; the red stear; the Nemes apple or grenling; the Bellebone; the apple out of Dorshetsheer; the Domine quo vadis; the Paces pear," etc. etc. (Extract from the *Common Place book of John Trevelyan, of Somersetshire, 1582.*)

Flowers from Vermont.—Miss A. M. Allen, Lamoille Co., Vt. Your "Eupatorium" is *Veronica Virginia*. "Fall Crocus" is *Colchicum autumnale*, or meadow Saffron, while the bulbous rooted flower proves to be *Ornithogalum umbellatum* or Star of Bethlehem. The white flower is probably *Achillea Ptarmica*. "Siberian Ash" is *Pyrus Americana*, and "Lady of the Lake" we judge from the specimen to be *Physostegia Virginiana*,

Keeping Butter.—George W. Pomeroy, Montgomery Co., Pa., says he tried the recipe of D. E. Smith, given by a subscriber in the *Agriculturist* on page 138 of last volume (May No.) and injured his butter thereby. The recipe says: "Work May or June butter two or three times, adding at last working one grain saltpeter and a teaspoonful loaf sugar to each pound of butter. Pack in stone jars to within two inches of top, and fill with strong brine, cover tightly and bury in a cellar bottom." Has any one else tried it?

Steamed Carrots for Cows.—M. S. Wickersham, Philadelphia, Pa., writes to the *American Agriculturist*, that his cow has improved in yield of milk since commencing to feed steamed in place of raw Carrots. We believe cooked roots to be best for feeding; the question not yet fully decided is, whether the cost and additional labor will be repaid by increased thrift of the animal.

Sawdust in Stables.—Rhode Island will find by referring to volume 18, page 357 (1859) of the *Agriculturist*, that his suggestion is not a new one. We are glad to receive his testimony, that it makes a clean and comfortable bed and greatly increases the value of the manure by absorbing the liquids.

No Use for Manure.—J. H. Hayes, Carroll Co., Ind., writes to the *American Agriculturist*, that its teachings on the general use of manures are valueless in that region, because the land is already rich enough to yield 80 bushels of corn and 25 to 40 bushels of wheat per acre. Just so it was once on thousands of acres in Virginia, where now the land will scarcely bear the shadow of grain. Manure is needed at the West, to keep the land good. It is true that not so much will be required, as where by neglect of manuring the soil has become sterile; but sooner or later all land not fed will grow lean, and so will its owners' pockets.

Flowing Swamp Land.—H. G. Chamberlin. Land covered with muck, like yours, will not be benefited by flowing, unless it is planted with cranberries. It would injure the tame grasses of mowing lands to allow water to stand on them for a few days even. Cranberry lands may profitably be covered with 6 inches of water from the middle of Nov. to the middle of April.

Sorghum Seed.—Wm. Fulke complains, as do many others, of the difficulty of procuring good seed. Sorghum and its allies are merely sweet varieties of the common Broom Corn, just as Sweet Corn is a variety of Indian Corn, and, like that, is liable to lose its peculiarity or "run out." Experiments are needed to determine the mode of cultivation which shall perpetuate or even improve the variety. Here is a useful and profitable field for some one, for we cannot afford to import our seed each year. Who will try?

American Jute.—This name has been given to a fibre prepared by a process patented by W. S. Cantelo, from the *Hibiscus Moscheutos*, or Swamp Rose Mallow. The plant grows native on our salt marshes or river banks near the coast, and around salt springs. It throws up numerous stout stems 4 or 5 feet high, which bear large rose-colored flowers, much like those of a single Holyhock. It belongs to the Mallow family, the plants of which are remarkable for their tough bark. The Cotton plant belongs to the same family. It is claimed that three and a half tons of fibre, fit for manufacturing paper, and worth \$100 per ton, can be raised from an acre. Should this statement be only partially true, much land that is now unprofitable could be devoted to its culture.

Materials for Making Paper.—The scarcity of Paper stock has led to experiments upon various vegetable fibers, some of which we have noticed in other items. The fiber of the wood of the Linden, or common Basswood, has been for some time successfully used. A patent has recently been obtained for making Paper from corn husks. The common Life Everlasting (*Gnaphalium polycephalum*) has been converted into tolerable Paper, and we notice that in England the common "Eel-grass," (*Zostera marina*) is proposed as a material for the same purpose. This latter is found abundantly along the coast, and is often incorrectly called Seaweed, the latter being an entirely different plant. It is used to some extent to fill mattresses, cushions, etc.

A Troublesome Weed.—W. M. B., Tippecanoe Co., Ind., should have sent a specimen of the plant which causes so much trouble. It cannot be the common Wild Morning Glory, which grows in low, moist ground, and which we never have seen disposed to

encroach upon cultivated land. Perhaps the plant is the European Bind Weed, having a perennial, creeping root by which it spreads rapidly. It is a mistake to suppose that particular weeds can be killed by some specific application, as that which will destroy weeds will also kill useful plants. Like other evils, prevention is easier than cure. The most obstinate weeds are easily eradicated when young, but when they once get possession of the soil, the task becomes very difficult.

The Cultivation of Peppermint.—"A Subscriber," Butler Co., Iowa, thinks Peppermint might be cultivated with profit, if there were a regular and steady demand for the oil. The plant has been profitably cultivated in St. Joseph Co., Michigan, which has during the last ten years produced the largest portion of the Oil of Peppermint used in the world. Not only our own country, but Europe has been largely supplied from this quarter. The product varies greatly in different seasons, and the price fluctuates accordingly. The amount of Oil produced per acre ranges from 7 to 20 pounds, and the price from \$1.25 to \$4.00 per pound.

A detailed account of its culture may be found in the proceedings of the American Pharmaceutical Association for 1858.

California Milkweed.—T. J. D. sends us from Sacramento the pods of a species of Milkweed, (*Asclepias*) suggesting that it may be useful to paper-makers. In the absence of leaves, we are unable to identify the species, but the pod much resembles that of the common milkweed, *Asclepias incarnata*. The hairs or down upon the seeds of the various species of Milkweed are among the articles which have been proposed as a substitute for the ordinary kinds of paper stock. We are not aware that any experiments have been tried with it, but doubt whether it has sufficient strength of fiber.

Ginger Root—To Several Inquirers:—Ginger is a tender plant and will not stand our winters, though it may be grown in the open ground, by taking it into the Green-House during Winter, and giving it plenty of water.

"Live for Ever."—*Sedum Telephium*.—This plant, known also as Orpine and Aaron's Rod, is reported by a subscriber in Connecticut, to become a troublesome weed in some localities. If any of our readers have had any experience in exterminating it we shall be glad to hear from them.

Propagating from Diseased Trees.—F. G. Wilson, New London Co., Conn. Experienced nurserymen object to propagating by grafting with cions from diseased trees.

Trees vs. Flowers.—It must be acknowledged that tree-planting has this superiority over the making of flower gardens, that the former is designed chiefly for the benefit of a succeeding generation, while the latter is for our immediate personal gratification.

Euonymus.—How to Propagate.—From Fulson, Rockingham Co., N. H. The *Euonymus atropurpureus*, called the Burning Bush, and at the West the Wahoo, is one of the finest of our native shrubs, being very brilliant in autumn, when covered with its scarlet fruit. It is raised both from seeds (to be had of seedsmen), and by cuttings or layers. Plants of this as well as of the European varieties can be had of nurserymen at 25 to 50 cents each.

To Enjoy Your Garden.—Keep within your means: both in respect to the size of it, and the labor, time and cost of keeping it in good order. There is a great deal of enjoyment in snugness.

A Fragrant Fancy.—A highfalutin correspondent of a certain paper, writing from his garden-bower, says: "The *Chionanthus fragrans* has been, for the last six weeks, covered with expanded blossoms in our shrubby border. It blooms best as a standard bush. The fragrance not only perfumes the garden, but all the neighborhood; and in the direction of the wind, (a gentleman informed me,) it may be smelt half a mile off! At certain seasons, when this and a few other plants are in flower, a stranger may literally smell his way to my garden!" Whew!

To Make a Garden Roller.—"Mary," Vergennes, Vt. A pretty good home-made roller can be constructed as follows: Take a straight log from the forest, say 2 feet through, and 1½ to 2 feet long, the ends sawed off square; remove the bark, and fasten into a frame by means of iron pins in the center of each end.

This will answer for the lawn or gravel walk. They are sometimes made by nailing narrow planks upon circular end pieces, the edges rounded off to make a smooth circular surface, and a box of stones or other weight fitted on top. If of pine or other light wood, the roller can be made larger in diameter, so as to roll more easily without being too heavy for hand use.

Double Crocus.—In reply to the queries of "Horticola," and our own comments in the November No., T. J. James, M. D., of Rochester, sends to Horticola, through us, a neat box containing flowers of the double Autumnal crocus. We understood Horticola as referring especially to the *Spring* crocus, but the Autumnal is very beautiful and rare.

Casc-Knife and Lima Beans.—Wm. R. Davey, Mass., asks whether the Casc-Knife Beans can be improved by planting the large Lima among them. Most of the ordinary Beans are varieties of the same species, and will cross and mix freely, while the Lima is a distinct species, and will not do so. As the large Lima does not succeed in his locality, we recommend him to try the small Lima; by starting them in a frame upon pieces of sod, and not planting out until settled warm weather, they have succeeded in a much colder locality than Massachusetts.

Chili Potatoes.—Large Yield.—Geo. Nichols, of Madison Co., N. Y., writes that he obtained from 4 "Chili Potatoes" a yield of 42 lbs., probably refers to the "Garnet Chili." They were cut into pieces with two eyes each, and planted without any unusual preparation of the soil. We have had two years' experience with this very productive variety, but found it always hollow in the centre. Have others found similar trouble?

Big Bassano Beet.—Isaac Beemer, of Litchfield, N. J., reports fine success with this variety of Beet from seeds received from the office of the *Agriculturist*. One of his specimens measured 26 inches in circumference, and asks if any one can beat that Beet. He recommends planting in a seed-bed, and transplanting, and thinks it is not generally known that Beets may be as readily transplanted as cabbage.

Topping or Facing.—"C. C.," of Jamesburg, N. J., says we must not spare the "little sins," as some are inclined to call the deception used in "topping" or "facing," apples, potatoes, etc. He regrets that the practice has become so common, that words are even coined to express it, and thinks that the corruption in government even may be traced back to such beginnings. We recently saw a striking instance. A very poor lame man had managed to get together money enough to buy a basket of apples to peddle. He took the basket from a barge at the wharf, brought it upon his back with much exertion for him, and sat down near our door to commence business. The first two layers were fine fair apples, but all below them were hard, gnarly specimens that a pig would squeal over. Instead of making a profit, the poor man lost half of all the money he had in the world. That was at least one degree below stealing.

Parasites.—Those plants which live upon the juices of other plants, are of two kinds: Those which take the crude or ascending sap, and those which live upon the elaborated or descending sap. The former receive the crude sap and elaborate it in their own green leaves, and can, like the Mistletoe, live upon widely different plants, while the others, living on material already prepared for them, are without green foliage, and, like the Beech Drops, are always found on the same or closely related species.

Sweet Potatoes for Coffee.—E. Stillwell, of Monmouth Co., N. J., sends us a sample of Sweet Potatoes prepared for Coffee according to the following directions: "Wash the potatoes clean, cut into thin slices, dry in the sun or an oven, and then roast the same as coffee. For 12 persons, take ½ cup of ground coffee, and ¾ cup of roasted potatoes not ground but left in slices, and add water in the usual manner." We tried the sample as directed, and find it of fair quality, but having a little more coffee taste than the mixture of rye and coffee more common in the market. The potatoes may have been roasted a little too much in this instance. Potatoes too small for ordinary cooking can be used thus.

Extract of Flesh, or Solidified Beef Tea.—This article is recommended not only for use in hospitals, but as a concentrated and readily portable food for soldiers. It is prepared by chopping beef, free from fat and bones, as if for sausage meat, and mixing it with its own weight of cold water. It is then slowly heated to

boiling, and allowed to boil one or two minutes. The liquid portion obtained by squeezing in a cotton cloth, is then evaporated to dryness. The evaporation should be done carefully, by placing the vessel in another larger one containing hot water. Half an ounce of this extract represents a pound of fresh beef, and when dissolved in a pint of water, makes a strong and nourishing soup. People at the West, where beef is so cheap, can readily prepare a valuable nutriment for their friends in the army.

Designating Nails—Why "Penny"?

—"L. F. P.," inquires of the *Agriculturist*, why common nails are designated sixpenny, eightpenny, etc.—The word penny appears to be a corruption of the word pound. Nails were counted by the six score (120), and by the great score or 1200. Sixpenny nails were those of a size to weigh six pounds to the 1200; tennenny nails those weighing ten pounds to the 1200; and so of other sizes.

Book on Skeletonizing Plants.—

This beautiful art has been several times referred to in the *American Agriculturist*, and some illustrations have been given with a brief description. It consists mainly in preparing leaves and capsules of plants so as to retain the delicate veins and fibrous tissue perfect, but bleached white. Many of the specimens equal in beauty the most exquisite tracery in marble. The essential part of the process is, to place the leaves, etc., in warm water, and then let them lie in the same place for several weeks until the skin and cellular tissue decay so that they can be removed with a soft brush. The skeleton is then bleached in a weak solution of chloride of lime or other bleaching preparation. The art may well be practiced by every lady at very little outlay of time or expense; the specimens obtained are far more beautiful than the most elaborate ornaments that can be worked with the needle.—We have received from the Publishers (Messrs. Lippincott & Co., Phila.,) a little volume of 50 pages from the pen of Dr. Parish, called the "*Phantom Bouquet*," describing the process particularly and giving some exquisite engravings of prepared leaves. The paper, press work, and illustrations are admirable. It may be had at this Office. Price \$1, (which includes postage when sent by mail).

Agricultural College of Penn.—A

pamphlet of 63 octavo pages giving a succinct history of Agricultural Colleges generally, and of this one in particular, has been sent us by Dr. Pugh, the President of the College. It opens with the origin of agricultural education in Europe, by briefly tracing its history to the present time; it notices the several attempts to found agricultural colleges in this country, but is mainly devoted to the history of the Agricultural College of Pennsylvania.—This Institution has been full during the session just closed—110 students having been in attendance. The large and commodious buildings of the college about being completed, at an expense of over \$100,000, will be ready for students next year. The next session opens on February 22. Persons wishing further particulars can address Dr. E. Pugh, Agr. College P. O., Center Co., Pa.

The Basket Overflowing.—Our correspondents will please have patience. The paper is full, and we still have a large number of good basket items, as well as other articles which must wait for room.

Our Seed Distribution for 1863.

On page 4 is a list of seeds offered to our readers this year together with the method of distribution. The design of the annual distribution is simply this: With our special facilities for raising and purchasing good seeds, and by a wholesale system of operations, we are able to put up and send out, at an expense comparatively small for each subscriber, though large in the aggregate, a few parcels of choice seeds, either new or specially valuable, which may serve as germs to future abundance in each locality where they are grown. Most of the seeds are annuals, and will therefore multiply rapidly. A single plant of some varieties will yield seed enough for two or three plots another year, and by the next year the single original seed may supply a dozen or more neighbors.—Our aim is not to furnish a seed store for those accessible to good seeds and able to buy them, but rather by the free presentation of a few seeds where they would not, or could not be purchased, to awaken a taste for experiments, and for the cultivation of beautiful and useful plants. We introduce seeds of many common kinds, mainly for the benefit of those living remote from any access to good seeds, to whom they will prove acceptable. Most persons, however, will find in the list some seeds they have not yet met with or at least have not tried.

Explanations.—We regret to make the list of seeds

smaller than it has been in past years, or is likely to be in the future, and also to limit the parcels to only three or four. Nor can we introduce a large number of new seeds intended for this year, for the following reasons: First, the enormous rise in the cost of printing paper, (see page 32) leaves us no margin of profit for seed expenses. 2d. Several plots of seeds we were raising specially for distribution turned out badly. For example, we sowed four acres of an imported heavy oat, intending to make a specially large distribution of the seed. They were promising finely, but just before filling out, a furious wind and rain storm prostrated and literally destroyed the whole crop. 3d. While in Europe, we arranged with several parties to order from them, if desired, an unusually large supply of extra fine seeds of many new kinds. But the duty of 30 per cent added to imported seeds, with the thirty odd per cent premium upon the money in which the duty must be paid, the advance of foreign exchange to 145 and 150, and other increased expenses of importation will double the first cost which is very high for such choice seeds. We should have endured even this, however, had not the greatly increased cost of our paper rendered it impracticable, without raising the subscription price, a thing we do not wish to do.

With these explanations, we present the list, hoping that it will be more than acceptable to our readers. The supply of several kinds is limited, but we will do the best we can under the circumstances, begging the indulgence of our readers if we are unable to do all they would desire.

What our Agricultural Bureau ought to Do.

When the new Agricultural Bureau was provided for by Act of Congress, we had some hopes that good would come out of it. That the General Government should do something—should do much—to foster and develop the greatest interest of our country, its agriculture, is too evident to require argument. That no change for the worse could be made upon the system pursued during several years past, seems almost equally evident. The appointment of a head to the new department being a matter of so much importance, we tried to indicate to the President that in the selection of the Commissioner he should not be guided by his kind hearted feelings, by family considerations, or by impetuosity, but appoint the best man, the one of the most comprehensive views, of activity, experience, administrative talent, and enterprise. How far he was guided by such considerations we do not pretend to say. The appointment being made, we determined to judge of it by the result produced. So far we have waited and are still waiting to see what will be done. Any real good accomplished we stand ready to approve. Whatever hints we may offer to the gentlemen in charge of the Bureau, are therefore given in the kindest spirit. The Department belongs to us, in common with every other person interested in the agriculture of the country.

What ought it to do? First, we say, that it should aim at investigation, at the collection of information and statistics which can not be attempted by individuals. To illustrate: The distribution of seeds, excepting those of rare and costly character, can be done by individuals. Our Agricultural Department at Washington, has been mainly a free government seed store, largely devoted to collecting, at public expense, a great number of seeds, mostly common, and of good, bad, and indifferent quality. These, together with an annual volume of little value, have been distributed at random by members of Congress as political instrumentalities. It is well for the Government Bureau to collect rare and new seeds from other countries, and test their utility in different parts of our own country. But this should be only incidental.

Here are a few of the things we would pro-

pose for the attention of the Agricultural Bureau:

I.—The opening of a comprehensive and systematic correspondence with leading, reliable, and intelligent cultivators, at least one in each county in the United States, after the plan of M'Killop's commercial agency in this city. At that agency one can learn, on the instant, the exact status, the financial condition of any business man in the entire country. Such a system of government correspondence would enable the Agricultural Bureau to gather prompt information on any topic of general interest.

II.—The collection of accurate early information from the whole country in regard to the amount, condition and prospects of the growing crops. This information to be gathered frequently during the growing season, say from May to September, and the general result to be published for the guidance of both farmers and commercial men, and to be given to the public at once—not a year afterwards when of no particular value. The special announcement by telegraph, that "full returns to the Agricultural Bureau indicate a given amount of wheat or corn growing, and that the prospects at a given date indicated an average or a deficient or a surplus yield," would be hailed by all classes as something tangible and useful.

III.—A thorough discussion, founded on comprehensive and general information, of two or three leading crops, each year. To illustrate: Grass, or the forage crop, is the most important one of the country. Could not the Bureau of Agriculture, with its facilities, set on foot and carry out an investigation which would tell us definitely: what are the peculiar characteristics of the Blue Grass regions of Kentucky, and into what other portions of the country that grass might be introduced with advantage; what kind of grass proves to be the best for prairie soils in the different localities, and why; and the same of clay soils, loams, bottom lands, etc., in the various climates, and at different elevations; the relative value of timothy, clover, lucerne, red-top, etc., for growing cattle, working animals, dairy purposes, also for horses, sheep, etc. The information should not be an Essay for the Report, at so many dollars per column, by one man, founded on his own limited observation, but it should embrace the results of a collection of reliable information from the whole country. Let the whole force of the Department be concentrated upon one, two, or three crops a year, according to its facilities for doing it thoroughly.

IV.—The introduction and testing of new seeds and plants. The present system is wholly wrong. It is worse than useless to collect a great mass of seeds, and scatter them broadcast over the land, at the caprice of Congressmen who use them at random as electioneering or political appliances. Let the Department secure a moderate supply of several new seeds and put a portion into the hands of a few persons of known skill and enterprise, in a sufficient number of localities to make the experiment general for the whole country, and let careful returns of the results be obtained and published. A hundred parcels of seed thus tested, would furnish more information than a million parcels scattered promiscuously. One or two hundred specimens of a new plant thoroughly tried in as many localities, would be amply sufficient to test its value, and the results obtained from their careful trial in judicious hands, and under specific instructions, would be decisive.

The above are a few suggestions we would offer to the managers of the new Bureau of Agriculture. We may add others hereafter.



END OF THE LAWSUIT-DIVISION OF THE PROPERTY.

(Designed and Engraved for the American Agriculturist.)

The above sketch by our German artist, A. Hochstein, is designed as a sequel to the picture of last month, in which two litigants were tugging with all their might, the one at the horns and the other at the tail of a cow, while a lawyer was quietly seated upon a pile of books, drawing his fees (milk.) We have here the final result of the suit. The cow is wasted, her flesh has gone into the milk pail—and the milk has been required to sustain judges, lawyers, sheriffs, jurors, witnesses, etc. The contestants are unusually lucky if they have not wasted the value of half a dozen other cows, to say nothing of loss of time and strength. The original cause of the lawsuit was, or might have been, (for we have known of just such a case,) a difference of recollection as to whether the cow was sold to “come in” about the first of May, or after that date, the purchaser refusing to pay without a reduction of \$3 for loss of milk during eight weeks. The illustration is not aimed at the legal profession *per se*, for we are free to say that it is an honorable one, when honored by its members. Below we give place to one of several protests from the profession, which spiritedly, and in the main justly, sets forth its value, importance, and dignity, and we need add nothing more on that point. The writer admits the prevalence of just what our illustrations are intended to discourage, viz.: a propensity to run into litigation about every real or fancied difference of opinion concerning property rights. We recommend our legal friends who protest so strongly against our last month’s engraving, to read the article appearing with the original illustration in the September *Agriculturist*, 1859, (vol. 18, p. 265.) We repeat a few paragraphs:

“The picture portrays the character of very many of the lawsuits carried on in our country. So long as the cow gives milk, it will be required for ‘expenses,’ and when this fails, the worthless carcass of the animal may perhaps be obtained by the litigant who has the most money, or the greatest physical endurance—each of them having in the mean time sacrificed the entire use

of the cow, and, besides, time and strength enough to have acquired half a dozen better animals.

“With most men, the first impulse, on having a slight difference with a neighbor, is, to ‘go to law about it.’ To submit the case quietly to the arbitration of disinterested persons, and yield to their decision, would not quite satisfy the dignity, nay, the belligerent propensity of the parties. How few men, comparatively, there are, who have lived forty years without having ‘been in court’ one or more times. And how few are the instances where even the victorious party has not lost more than has been gained—in time, worry of mind, expenses—to say nothing of the trouble entailed upon others who have been drawn into the conflict as witnesses, interested spectators, jurymen, etc. We have a vivid recollection of being called from pressing business to go fifteen miles to attend ‘county court,’ and of waiting four whole days to give evidence as a witness, in a case of which we personally knew nothing; and to cap the climax, the case was ‘adjourned over’ three months, when two days more were consumed in waiting. Our protestations that we knew nothing of importance, and that all we did know was hearsay, amounted to nothing with those in eager fray. The idea seemed to be that that side would be the strongest which could bring the most persons on the stand as witnesses, and so with more than twenty others we danced attendance. The whole amount at issue was less than our individual loss of time in one of the days spent at court. We received in return one shilling (12½ cents!) ‘in advance.’

“There is no doubt that most persons who would first sit down and count the cost of a suit at law, would be deterred from litigation, but for a feeling of false dignity. ‘I would expend the last cent before I would allow him to trample on my rights,’ is the common expression.

“But the pecuniary loss, serious as it often may be, is not the worst feature in the business. The hatred engendered, and bad passions nourished, re-act sadly upon the parties engaged. Said one who had finally obtained his suit,

involving a large amount, and one which he could ill afford to lose: ‘Had I foreseen the anxiety and vexation I have suffered from this business, I would have given a receipt in full for the amount, rather than have commenced.’ Many others will bear the same testimony. There are cases where it is positive duty to invoke the aid of law to secure or preserve rights, but reason, not passion, should preside when such interests are involved.—If any of our readers are tempted to indulge in ‘law,’ let them first give this picture a careful study, and then inquire if it will not be better to lose the milk at once, than to hold the cow with might and main, for an indefinite period, and in the end find all the labor lost.”

We are happy to say that we have but slight obligations, good or bad, to cancel with our legal friends. We have got along more than forty years without being actually called into court as a defendant or plaintiff, and hope to be equally fortunate the rest of our days. A libel suit, claiming \$10,000 damages against us, for an article cautioning our readers against land speculators, was commenced some three years since, but the parties failed to intimidate us into silence, though the complaint is still on file in some court. Our good legal friend, Wm. E. Robinson, Esq., put in a rejoinder which (thanks to his legal skill, and in this case legal brevity,) seems to have set the matter at rest.

But we will now give room to our able and worthy friend to put in his rejoinder to our pictures. Adhering to our rule not to contest ‘a case’ if to be avoided, we make no response, but submit the whole matter to the jury of readers.

LAW, LAWYERS, AND LAWSUITS.

To the Editor of the American Agriculturist:

I have taken and read your paper for half a dozen years or more, and prize it highly. It has done much to change my homestead from a small city lot to a twenty acre farm in the suburbs of New-Haven. You have contributed not a little to my stock of horticultural, agricultural and pomological knowledge. Warmed by your enthusiasm I

have had, at different times and with various degrees of intensity, the pear fever, the berry fever, the poultry fever, and the hog fever—to say nothing of other distempers. From some of them I have not yet entirely recovered. I have reproached myself at times for not giving you something of my experience, for he who always receives and never reciprocates, is liable to be suspected of selfishness. But pressure of other duties has thus far prevented.

I belong to the best abused and the least defended profession in the world—the legal—having been a member of it for upwards of sixteen years, during which time I have had my full share of business, and all the professional success to which I was entitled. I mention it not egotistically, but only to enable you to see that I ought not to be ignorant of the subject about which I purpose to write.

A well digested system of just and equitable laws, and courts of justice to properly enforce and administer them, are absolutely indispensable for the security of life, liberty, and property. No civilized community can exist without them. Destroy them in this country to-day, and we will relapse into barbarism with a fatal rapidity unequalled by our wonderful progress thus far in all that constitutes national greatness. The confidence and security with which we lie down and sleep at night, in both city and country, is owing to the fact that the protecting shield of law is above and around us, and that we have courts to redress our wrongs. I will not enlarge upon this—its truth will be admitted by every one who will pause to think and reflect.—This being the case then, every one engaged in the work of ridiculing the tribunals, and their officers, which are constituted for the purpose of administering justice between man and man, is prosecuting a very bad business. His blows are aimed at the pillars of the State. He stabs at the nation's life.

In your December No. you illustrate your idea of lawsuits by a picture which is a fair caricature of some lawsuits, and of some lawyers and their clients. [Exactly what we designed it to be.—Ed.] It may in some cases do good—in many its tendency will be bad, if it prevents your readers from obtaining that justice to which they are entitled, and which they can not have, except through the agency of the courts. There is much litigation that might and should be avoided. It is equally true that there is much that should be encouraged. Sweeping, indiscriminate censure of lawsuits and lawyers is an easy matter. Any one can do it. It is much easier than just and fair discriminations. Such reformers need to be themselves reformed. They trim dead and diseased branches by cutting down the tree at the root. Your picture is of this character. No line or word gives to your many readers the fact that your illustration is a truth only as it describes exceptional cases, and that it is a monstrous falsehood so far as it conveys the idea that our courts and lawyers are engaged not in the god-like employment of administering justice between man and man, but in extorting money unjustly from credulous clients.

The picture you say has already caused some clients to settle their cases by compromises. If so, it by no means follows that they were wisely settled. Yet you conclude such was the case without knowing apparently the facts.* An insurance company refused to pay a widow \$2000 upon a policy which she held upon her late husband's life. I helped to recover for her a verdict of over \$2400 for debt, interest, and costs. She had two lawyers, and the case was taken to the court of errors by the company, and there abandoned, leaving the verdict of the jury in force. After my associate and myself had received all the "milk" we wanted, I had the pleasure of paying to the happy widow over \$2000. Now, while the case was pending, had she seen your

*Here is one of the cases. Two neighbors in this State had commenced a suit about a cow which promised to be a long one. They happened at the Post Office in a country store, as the *Agriculturist* arrived, to which they were both subscribers. Each opened his paper and saw the engraving. They laughed over it, approached each other in good humor, and settled their difficulty on the spot by mutual concession and agreement. They sent us a report, and we shall not tell how large a fee was presented to us in acknowledgment of legal services rendered.—Ed.]

illustration of the beauties of litigation, and compromised her claim for \$1000 by reason of it, you would have had another opportunity of congratulating your readers upon the happy influence your picture was exerting in diminishing and settling suits. But your picture would have cost the poor widow \$1000 in clean cash! I would recommend this case to your "artist." I could fill many numbers of your paper with other instances that have come under my observation, illustrating the same great truth, but it is unnecessary.

To rush into litigation to redress every little real or imagined wrong would be foolish, and there is in my judgment no class of men in the community who do so much to discourage it as the lawyers. I have had abundant opportunities of knowing this is true of the attorneys of this State as a body, and I believe it true of every other State. The most unselfish advice to settle and to quietly submit to little wrongs, is given constantly by the men who are so liberally maligned. [Such men we admire and honor—if there were not many exceptions, there would have been no occasion for our picture.—Ed.] A bad man loses his ease and he abuses the lawyers. A rogue is convicted of crime, and he curses the courts. A man wishes to be a villain and is afraid of justice—he thinks society would be improved if the law books were all consumed. A witness, bribed or biased, has his falsehoods exposed on the cross-examination, and he hides or tries to hide his dishonor by a prodigal abuse of the legal fraternity. A political editor having large self-esteem, a longing for office, and a narrow-minded jealousy, delights to ridicule and stab the legal profession, some of whose members he imagines are a little in his way. And sometimes a clergyman, who has failed as a lawyer, prefers to place his change of employment upon the ground that he is too good a man for so bad a business. And now and then the editor of an agricultural paper pauses in his enthusiastic admiration of fat pork and poultry, large cows, cabbages and colts, to eirelate libels upon one of the most laborious and useful professions. [Is the holding up to ridicule the practices of those foolish men whom good lawyers themselves try to keep out of the law, any "libel" upon the profession?—Ed.]

In the meantime the lawyers as a body smile at the narrow-minded folly of their assailants, and answer by a dignified silence. I stand almost, if not entirely, alone in attempting a reply. I do it in part to pay a debt, for I feel that I owe you an article or two. Another time I will select a subject more appropriate to your columns. FAIR PLAY.

New-Haven, Conn., Dec. 1, 1862.

Treatment of Wounds in Animals.

A correspondent inquires for directions as to the best treatment of flesh wounds in animals, what salve or liniment should be used, etc. It is a mistaken notion that any plaster, salve, liniment, or other nostrum, will heal a wound. The divided parts must grow together by the action of vital power in the flesh itself. The most we can do in the matter is, to place the separated portions under the most favorable position for uniting, and then let nature work. Of course the flow of blood must first be stopped. Unless some large blood vessel has been wounded, bleeding will usually soon cease. If however it continues long, and especially if the blood be of a bright red color, and comes out by jets or spurts, showing that an artery is divided, prompt measures are necessary, usually requiring some surgical skill. It is sometimes needful to hold open the edges of the wound, find the ends of the blood vessel, and tie them with strong white silk, leaving the silk long enough to hang out of the wound. In less severe cases, the application of cold water, or of alum water, or pressure, will aid in stopping hemorrhage.

In a simple cut, it is not necessary to cleanse

the wound from blood. Its coagulation will aid in the healing process, if the parts can be brought together and kept in contact. Foreign substances, as dirt, splinters, etc., must be removed before a cure can be looked for.

When bleeding has mostly ceased, bring the parts in close contact, and secure them by narrow strips of adhesive plaster. This article, which can be procured at any druggist's, should always be at hand. If, however, the laceration be extensive, it will be necessary to sew the parts together. Some means should be adopted to prevent displacement of the parts, after healing commences. To relieve the itching and irritation, the animal will endeavor to scratch or rub the wound, and thus often make it worse than at first. Bandages are useful, where they can be applied. They should not be too thick, for fear of heating and consequent inflammation. The animal should be kept entirely quiet, and the diet be made rather low. If much inflammation appears in spite of these precautions, an occasional moderate dose of Glauber's salts, together with the application of cold water to the wound, will check it. These general directions will answer for wounds not severe enough to require a veterinary surgeon. *

Imprisoned Animals.

Animals need shelter, but imprisonment is neither necessary nor beneficial. The horse and cattle stalls in too many instances supply only one requisite, viz.: warmth. Animals are frequently penned up from week to week, in narrow quarters, reeking with filth which fills the air with noxious effluvia, where little or no light can enter, as though they were undergoing punishment. Now even the best accommodations that can be provided, are in a measure unnatural. Our domestic animals at the North are natives of warmer climates, where they are accustomed to roam at will during the entire year. Every important change from this, their natural condition, will more or less interfere with their best development. If abundant and wholesome food, pure air, and plenty of light be supplied, the benefits of shelter will more than counterbalance the loss of freedom.

Confinement of animals should not be too strict. Some amount of exercise is indispensable. The horse that is kept standing on the stable floor for weeks, will be troubled with swollen limbs, loss of appetite; will be likely to acquire the habit of cribbing; and when finally used, will over-exert himself, and then quite likely be laid up for a time with stiffened muscles. Cattle become restless and feverish from long confinement, and will not lay on fat, or give a full flow of milk, without a moderate amount of exercise daily. A good plan is to turn them loose in a sheltered yard after the first feeding, while the stables are being cleaned. Animals as well as men enjoy a change of place, and with these their health and comfort are intimately connected.

Cure for Foot Rot in Sheep.

A. A. Goff, Farmington, Ohio, contributes to the *American Agriculturist* the following preparation for curing foot rot in sheep, which he says has been very effective in his neighborhood: "Mix 3 oz. each of blue vitriol (or sulphate of copper), white vitriol (or sulphate of zinc), verdigris (or acetate of copper), and gunpowder, with ½ pint each of alcohol, spirits turpentine, and strong

vinegar. Cork up tightly a few days before using. It is easily applied from a vial having a quill inserted through the cork. By dropping this mixture into the affected parts three times, once in ten days, a cure will be effected."

One of the ingredients of the above mixture, viz.: sulphate of copper, in strong solution, has long been used by successful sheep owners, as a specific for the cure of foot rot. Randall, in his work on Sheep, details numerous cases cured by himself with this treatment. Whether the addition of the other articles is beneficial, we are in doubt, and should recommend to try it only after the sulphate of copper had failed.

In applying either remedy it is essential to pare away the hoof from the affected parts to get at the diseased tissues, and thoroughly saturate them with the liquid. The solution of blue vitriol should be used as hot as can be borne by the hand. Extended directions for the treatment of this disease were published in the *Agriculturist*, Vol. 20, page 141 (May 1861).

For the American Agriculturist.

Raising and Training Colts.

The earlier in life the education of any animal commences, the easier will be its training and the more certainly will its habits be fixed. Horses learn most of their vices before they are three years old, and in a large number of instances the work of "breaking" them does not commence before the second or third year.

Begin when the colt is *one month* old. Put on him a leather or web halter, without the hitching strap. Let it remain there and you will have control over him when you wish to handle him. Have a leather hitching strap with a buckle or clasp on one end, to fasten into the halter ring when you wish to lead or tie the colt. Never tie a rope or a rope halter around the neck. Allow the colt to nibble at his dam's feed while she is eating. After he has become accustomed to the halter and to being led about and handled, you can tie him alongside of his dam at feeding time, watching him the first time to prevent his pulling back, and afterward if he shows a disposition to pull. Never speak harshly to, or abuse either dam or colt. You can do more by kind, firm treatment than by abuse of any kind.

Wean the colt at his seventh month, keeping him out of sight and hearing of his dam for several weeks. Give him a pint of good oats with plenty of sweet hay morning and evening, also fresh pure water. As he grows larger, increase his feed, always giving the best. Remember the colt is now forming the bones and muscles upon which his future usefulness depends, and he can not form strong, solid ones without good strong feed and good shelter. Give a feed of chopped stuff and cut straw several times during the week, to keep his system cool, and to prevent the "lampas." If he should take them, put him on soft feed, occasionally giving him a bran mash, until the lampas disappear. Keep the colt under shelter during the Winter nights, and on stormy days and nights at any season of the year. A loose box or stable in which he can be placed without tying, is best; next, a stall six feet wide in a stable well lighted, drained and ventilated. Have a ring and staple driven into the manger bar, to tie to. The best plan for tying, is to pass the halter strap through the ring and tie it to a small weight, heavy enough to keep the strap always drawn tight. Have the strap long enough for the colt to lie down with his head flat on the floor; the weight will always keep the strap stretched so that he can not get

his feet over it. Keep the stall well littered at night and perfectly clean during the day. Do not put the litter under the manger when cleaning out the stall in the morning, but throw it under a shed outside of the stable, to dry before using at night. The ammonia arising from the urine decomposing in the litter is very injurious to both eyes and lungs. Frequently sprinkle some good deodorizer on the floor to absorb and destroy all noxious gases. Accustom your colt to harness, and to saddle and bridle, by putting them on frequently, and letting them remain on for a half hour. Train the colt without blinders on the bridle. Never draw the check rein tight. For fast driving, it is better to dispense with it entirely. I would not advise an inexperienced person to use the biting bridle, but if used, let the reins be loose. If possible, it is best to let the colt run until three and a half years old, and if very valuable, until five years of age before putting to regular service. You can teach the colt the use of the lines before he is fit for service, by putting on a surcingle with rings fastened to it, two thirds down each side of the colt. Put the reins through the rings and buckle to the bridle. Walk behind the colt and teach him the use of the lines. The rings on the surcingle will prevent the reins from slipping up over his back if he should try to turn; by holding your hands low, it is impossible for him to turn. If he backs, touch him lightly with a stiff whip. By the above training the colt at three years of age will be ready to put to light work, though I would advise waiting a few months longer. The subsequent training will depend on what use the horse is intended for.

Alleghany Co., Pa.

R. S. W.

Colvin's American Milking Machine.

Our recent files of English papers have much to say of this apparatus. The *Agricultural Gazette* sent out a special reporter to witness recent trials in the dairying districts of England, and a single number of that journal has some ten columns upon the performance of the machine. The inventor appears to have met much better pecuniary success abroad than at home.

Two or three years since, the machine was brought to our office with a request for a favorable notice in the *Agriculturist*. It did not seem to us to meet the high claims made by the inventor, and before deciding as to its merits, we asked permission to try it upon our own place. This was not acceded to, and the exhibitor left, remarking that it was all right, and that it would be sure to go with the people whether we endorsed it or not.

At the recent International Exhibition in London, one of the proprietors was on hand with the apparatus, where its novelty immediately attracted great attention, and we were informed that large sales were made. We tried to witness it in operation, but were unable to be present at the exhibition at the right hour. After a very careful examination of the apparatus itself, our previous impressions of its value were not changed. The machine is arranged with India-rubber sockets to receive the cow's teats, and the milk is drawn out by an ingeniously constructed pump attached to the pail. If such an apparatus can do the work well, it is a most desirable invention, but we feel strong doubts as to its practical success. The operation of hand-milking most nearly resembles the sucking of the calf, and is therefore likely to be most effective. In the *Agricultural Gazette* reports, it is ad-

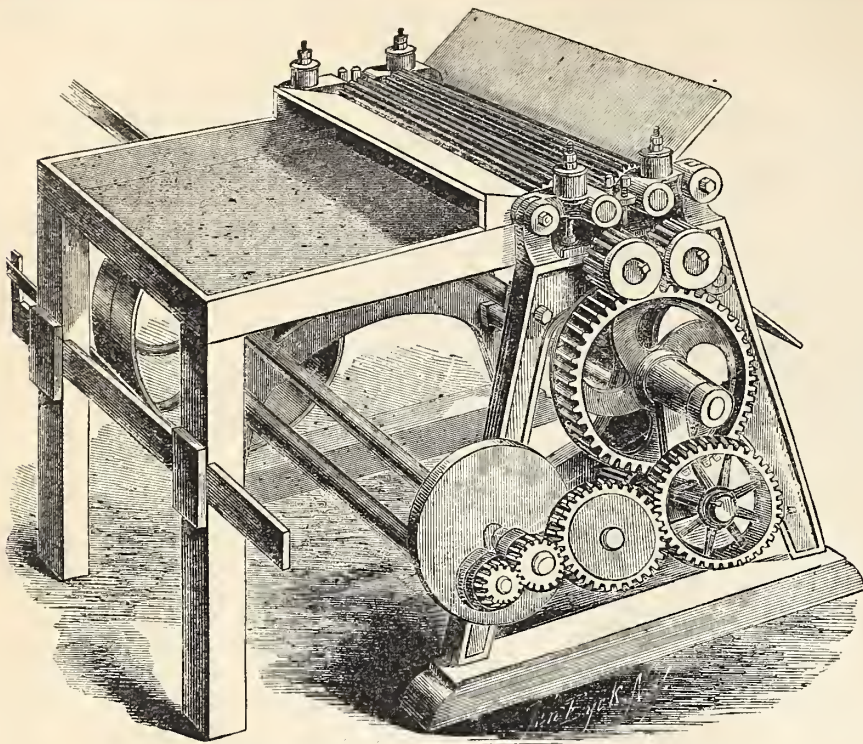
mitted that the cows were not all milked clean, that some of them proved refractory, and others held up their milk. These objections were met with the excuse that November is not the time to begin with the machine, after the cows have been hand-milked all Summer; that in Spring they will yield more readily. If this excuse be admitted, the sales will probably go on in England during the Winter, and an opportunity will be given for the American public to learn the final results. We are quite willing that English farmers shall be at the expense of the doubtful experiments, and that the manufacturers there shall make the first investments in the patent. We are quite ready to say a good word for the machine, if the patentees can show by fair practical experiments that cows can be milked clean with it, at saving of labor.

Feeding Turkeys in Winter.

Where corn is cheap, and the bins are full, nothing better is needed. But unfortunately many who like roast turkey, have their bins nearly empty, where corn is nearly a dollar a bushel. These birds will eat longer of corn than of any other food. They seem never to get enough of it. But they are by no means dainty in their diet, and will eat any thing coming from the kitchen that a pig will devour, if it be properly prepared. They will work up the refuse material from the farm and garden, about as well as pigs.—Boiled potatoes, fed warm, are highly relished by them. In this way potatoes, that are too small for marketing and for seed, may be turned into roast turkey on very short notice. If the parings and slops from the kitchen are boiled and mashed with them, it is all the better. But they need a variety of food, green as well as cooked, in order to thrive most rapidly. They are very fond of cabbage, and will feed upon the refuse plants that have not headed, until the stumps are picked bare. If these are not on hand, raw turnips chopped up fine will be readily eaten. They need also some animal food to promote growth in Winter. Beef scraps from the tallow chandlers or butchers are as highly relished as by hens. Nothing in the way of animal food comes amiss. It is of more importance that the food should be abundant and various, than that it should be select.

In fattening, some shut them up in a room partially darkened, and feed with scalded meal and pounded charcoal; but we object to the confinement of the turkeys. It is almost impossible to keep the food clean and to prevent waste, and they are quite as restless as when they have their liberty. With regular full feeding at night and morning, they will not wander far from the yard, and will take no more exercise than will be for their health, and the best flavor of the flesh. By this process of feeding, a late brood of turkeys may be brought up and fattened in Winter, without any serious encroachment upon the corn bin. With turkey at fourteen cents a pound, it is a very convenient article of barter, at the village store, and not hard to dispose of in the home market. The relief from salt junk by the winter feeding of turkeys is immense.

QUESTIONS FOR QUACK DOCTORS.—Will eating roast duck give a man a fowl stomach? And, if so, will the flesh of neat cattle be a good cleansing agent? Does eating green corn produce huskiness of voice? What kind of hose should be used for corns, particularly where there are several *achers* under cultivation?



MALLORY & SANFORD'S IMPROVED FLAX BRAKE.

Prospects for Flax Culture—An Improved Brake.

The long and prosperous reign of cotton as king of textile materials, has in good measure thrown into obscurity the plant that from earliest history gave royal robes of fine linen to monarchs and comfortable apparel to their subjects. In the memory of many now living, no farmer's stock of implements was complete without the flax brake and the hackle at the barn, and the foot spinning-wheel by the fire-side, with which, and the loom, were wrought from the annual crop, clothing for the present use, and for the daughters' dowry. It is consoling to know that if the accustomed supply of cotton be cut off by the desolating storm of war, we have yet resources which have in former times proved adequate to furnish the necessities, if not all the luxuries, of late years supplied by the southern staple. Numerous costly experiments have been long in progress to discover, if possible, some mode of treating flax to render it capable of taking the place of cotton, and though the end is not yet fully reached, advancement has been made, and ultimate success is not hopeless. A large establishment in New-England formerly used for the manufacture of cotton goods, we believe, has recently been purchased by a company for the purpose of working flax on cotton machinery, under new patents, for the production of what is called flax-cotton.

But even if flax can not be manipulated so as to come into competition with cotton, and supposing the supply of the latter to be fully restored, there is yet a good prospect that flax-growing will prove remunerative. The supply of the staple for the manufacture of linens and other fabrics has been growing more and more scanty for some time past. A year or two since an agent was sent to this country from Great Britain to inquire concerning the amount produced here, and to take measures if possible to increase the breadth of land devoted to this crop. In addition to the call for flax for manufacturing purposes, the seed is in constant request,

and, by itself alone, is considered in many sections as good a paying crop as wheat or corn.

It is evident that to make flax-growing pay well, at least in ordinary times, it is necessary to employ improved machinery in preparing the fiber for market. Flax-dressing by hand is too slow to be profitable. Mills in various parts of the country are ready to perform this work, but they can serve for only a limited area; flax in the straw is too bulky to allow of distant transportation. On account of this difficulty the fiber has been wholly neglected in large districts where the plant is cultivated, and only the seed has been saved, for the manufacture of oil. We have recently examined a newly invented flax-brake intended to meet this want, which if successful will do much to stimulate flax culture. The machine is shown in the above engraving. It consists of a series of fluted iron rollers, seen at the top, between which the flax is drawn from the feeding board. A peculiar vibratory motion is given to the rollers by means of ingeniously arranged gearing seen near the base of the machine, which causes the flax-straw to pass repeatedly back and forth between the rollers, and it comes out with the "boon" or woody part so thoroughly broken that a very large part of it (64 per cent, it is claimed) can be readily shaken out of the fiber without any further dressing. Machines for a similar purpose are already in operation at flax mills, but they require trained workmen to tend them, greater power to work them, they leave a large part of the "shoove" or broken straw mixed with the fiber, and their operation is not without danger to the workmen. Numerous instances of the loss of an arm have occurred to inexperienced operators. The Mallory & Sanford brake can be run by an ordinary horse-power, and any laborer can use it without danger. Another advantage claimed for the new brake is a great saving of fiber. In experiments made in the flax mill at Union Village, Rensselaer Co., N. Y., 500 lbs. of flax straw dressed on a brake of the old pattern, yielded 92½ lbs. dressed flax, 43 lbs. coarse tow,

and 9 lbs. fine tow. A like quantity of the same quality under the new brake gave 110½ lbs. dressed flax, 16 coarse tow, and 3 lbs. fine tow—a gain in good fiber of over 3½ per cent. The greater weight of tow in the first lot above the 10 lbs. saved in the "line" or dressed flax, was owing to the larger quantity of "shoove" or broken straw remaining among it, rendering it of less value than the tow from the new brake. The capacity of the above machine is said to be from twenty to twenty five hundred lbs. of flax-straw per day of ten hours. If the above claims of the inventors are reliable, and they appear to be well substantiated, the machine will greatly aid in making flax culture more profitable. Further information concerning this apparatus can be obtained from Messrs. Mallory & Sanford, corner of Center and White streets, in this city, where the brake may be seen in operation.

We consider the subject of flax culture of such importance that we are preparing to give during this year the fullest possible information on all the practical points involved. We are already in communication with those who have had much experience in the business, and shall lay the result of our investigations before our readers in time for putting in the next crop. We will also esteem it a favor if those of our subscribers who are familiar with flax culture will contribute their knowledge on the subject for the general benefit, giving particulars as to best soil, proper preparation of ground, time and manner of sowing, quantity of seed per acre, after-culture and treatment; in short all the items that the inexperienced desire to know.

Agricultural Inventions in 1861.

In the last number of the *American Agriculturist* page 326, we gave a synopsis from the latest official list of some of the patents issued in the year 1861. The topic is worth referring to again, for there is perhaps no better indication of the progress making in agricultural science and practice. The progress already made is very great. It is probably safe to estimate that the inventions of 1861, as compared with the implements in common use only twenty years ago, will effect a saving of the labor of more men than are enrolled in our great armies, even if these men were all taken from the farm. The demand which calls forth these inventions, shows that farmers are not satisfied with the old methods, but are looking for something better. As long as people were content to mow an acre a day with the hand scythe, no machine was thought of, capable of doing the same work in a fifth part of the time, and with brute force instead of human muscles. The same may be said of the horse-rake, which puts the larger part of the afternoon work of the hay field upon the horse. So of all the other inventions that lighten the labors of the husbandman and increase his profits; they have their origin in the conscious imperfection of the old implements. The list of inventions furnishes a good mirror of the thoughts of the farming population, and shows whither the current is tending.

We find in the list for 1861, twenty-five inventions pertaining to bee-hives, showing that a new impulse has been given to this branch of rural economy. The interest in hoed crops is represented by fifty-three patents for cultivators. When it is recollected that in each one of these patents are represented a number of unsuccessful applicants, it will be seen that a great amount of study has been bestowed upon a field of in-

quiry already pretty thoroughly explored. With the steel tooth cultivators of former inventors, or with Share's horse-hoe, there was no difficulty in doing nine-tenths of the tillage of the corn crop in the most satisfactory manner. There are nine patents for seed drills, showing that there is dissatisfaction with the common mode of sowing grain broadcast. There are ninety-seven patents for harvesters, mowing machines, reapers, and their various appendages. The inventive skill of the country seems to be specially directed to the most economical method of gathering our hay and grain harvests. The problem is solved, for we have now machines that put all the exhausting labor of the hay and grain field upon the muscles of the horse, and greatly lessen the drudgery of the farm, almost turning it into agreeable pastime. The great West and the boundless prairies speak in these inventions.

One might think on inspecting any of four large agricultural warehouses, a (single one of which enumerates more than a hundred kinds,) that plows were nearly perfected. Our inventors are not of that mind, for we find in the list, sixty patents for plows and their appendages. Something must be the matter with the old methods of dropping seed, for we find thirty-seven new seed planters, most of them for corn. The days which shall see a boy dropping corn from a basket with a man covering with a hoe, are nearly numbered. The writer tried one of these horse corn planters last Spring. A man and boy easily planted ten acres a day with it, which is some improvement upon one acre a day. The corn came up as well and made as good a crop as if it had been planted by hand.

Beside these, there are a great variety of seeding machines, grain separators, thrashing machines, machines for sowing fertilizers, spading machines, straw-cutters, horse-rakes, feed cutters, corn shellers, and over twenty new churns, showing that the war has very little affected the inventive genius of our people, or impaired our capacity to feed ourselves and the world.

Evans' Rotary Digger.

The report given below indicates that this implement is at least an approach to what has long been desired, as an improvement upon the plow: "The undersigned committee, appointed to examine 'Evans' Rotary Digger,' exhibited by Mr. H. C. Hepburn, at the State Fair at Rochester, respectfully report, that the machine was submitted to them in operation on a field near the Fair grounds. The soil was a loam of medium texture between the sandy and clayey, and had been cropped the past season with beans. The machine was drawn by a pair of farm horses rather under the average strength, making at each passage over the field a cutting *twenty inches wide and eight or nine inches deep*. It moves on three wheels, and weighs in its present condition, as stated to the committee, 1,200 pounds. The operation of the revolving teeth or diggers, upon the soil, is similar to forking. One passage over such soil as that on which it was tested before the committee, appeared to loosen and pulverize it to the full depth of the teeth or diggers, but when twice passed over the same cutting, the weeds and grass had nearly all disappeared, and the soil was made so loose that persons walking over it sank as they would in a mass of newly fallen snow. The committee take pleasure in saying, that, on the whole, they have been well pleased with what they have seen of the practical working of 'Evans' Rotary Digger,' and concur in the opin-

ion that it is in a fair way of being made a machine of great value for the pulverization of the soil. All of which is respectfully submitted. LEWIS F. ALLEN, of Erie; SAMUEL L. FULLER, of Livingston; P. BARRY, of Monroe, *Committee*."

Inoculating Meadows.

In a foreign exchange, we find mention made of Wedlake's "turf-separating machine." This is nothing very new. It is a machine with which to lay down parks, meadows and lawns by inoculation. It resembles somewhat a common straw-cutter, and is used as follows: The land to be treated must be plowed, harrowed, cleared of all lumps, weeds and large stones, and then rolled smooth. Go now with a paring-plow to some common or roadside, where the turf is of good quality, and having sliced off a suitable quantity, stack it up in small, loose heaps, where it will become partially dry, and easily broken into fragments. This prepares it for the machine, into which it is put, and torn and separated into small fibres, or numberless distinct plants with roots. Before the plants become much withered, take them by the basket full and walk over the field, sowing them broad-cast, like grain. (It should be said, however, that this sowing should be preceded by a light scarifying of the surface with a harrow.) After the sowing, follow with a roller, which will compress the roots a little into the earth and give them a hold on the ground. This process in a good grass season insures a fine turf in a single year.

Turning out to the Right, or Left?

Long custom is not easily changed, and reasons "as thick as blackberries" are always to be found, for "doing as our fathers did." This has been fully verified by the mass of communications called out by the article in the *American Agriculturist*, (Oct. No., Vol. 21, page 302,) showing the desirableness of teamsters adopting the English practice, and turning to the left, when meeting. An anonymous writer, "E. O." presents the opposite view quite forcibly. His reasons for opposing the changes are: the difficulty of obtaining common consent; the existing laws to the contrary; the necessity of altering the construction of all one-horse sleighs, the thills of which are now placed in accordance with the present manner of turning out. He is however in favor of the driver changing his seat to the left, that he may better keep his vehicle from collision. He gives an additional reason for this in the fact that the step upon carriages is on the left side, and if a lady is first handed in, the driver must crowd past her to his place on the right—not easily done in these crinoline times. He has practised driving seated on the left for years, and likes it much better.

Perhaps our correspondent can use the whip well with his left hand, otherwise both he and his lady would occasionally find it awkward business for him to give a strong right-handed blow, while seated on the left. The necessary change in sleighs would cost less in the end than the damage resulting from collisions—particularly in crowded cities, and as for laws and customs, they should be helps and not hindrances to improvement. If the propriety of a change of custom be generally agreed upon, it will not take long to make all needed legislation, and to re-model the one-horse sleighs when used. After hearing both sides pretty fully, we adhere to our position on the question, and all things considered, it is better to "Turn out to the left."

Branched Bean Poles.

"Y." of Saratogo Springs, N. Y., communicates his experience to the *American Agriculturist* as follows: I have been for a number of years, a successful cultivator of Lima beans, and now give you my *modus operandi*. My poles, which are dwarf maple, hickory, etc., say nine or ten feet in height, are cut, leaving their tops on. These poles (which I put under cover in the Winter,) usually remain sound five or six years. Early in the Spring, I have my bean patch well worked, then have holes dug, say two feet by eighteen inches, then dump into each hole, about $\frac{1}{2}$ a bushel of fresh horse manure, cover with rich earth; then, with the aid of a crowbar, set the poles, and plant the seed in a circle around each—say half a dozen beans, with the eyes downward. These, after they get beyond the reach of grubs, I thin out, leaving three in a hill, and I have never failed in raising a good crop. True, I am compelled at times to cover them up nights, by placing newspapers around them, held down by stones or lumps of dirt, to protect them from frost, but I am well repaid for the trouble. I can raise from the same number of hills, *with brush on the poles*, more than double the quantity of beans that can be raised on the old-fashioned crowbar pole.

For the American Agriculturist.

Good Way to Make an Asparagus Bed.

With a two-horse plow turn a deep furrow each way, this will open a ditch two feet wide to the depth of the soil. Then run the plow in the bottom of the furrow and loosen the clay, or subsoil, as deep as possible, and throw this out with a shovel upon one side. Place in the ditch six inches of half rotten manure, cover it with a slight coat of the soil, then make a small mound of sand or fine earth (sand is best), every two feet, in the center of the ditch. Set the crown of the plant upon it, and cover with sand slightly; then shovel or plow the soil over the plants three inches deep, which will bring the surface level again. Next take the plow and one horse and run close to this row, throwing the soil from it, then turn the other way and throw the subsoil on the first planted row where it may remain. Clean out this second ditch with the shovel and proceed to plant the asparagus roots as before; and in the same manner extend the bed to any desired size.

The planting should be done in the Fall, and the clay that is thrown on the top will be pulverized by the frost and sufficiently enriched by a coat of four inches of manure, which should be spread over the bed as soon as the frost has decomposed the clay upon the bed. This I think the cheapest way of making a good bed, for it must be made *deep* to be durable. One-year-old plants are best. I have them now from seed obtained from the *American Agriculturist* last Spring, that have a circle of roots over a foot in length. By setting them upon a cone as described above, they are placed exactly in their natural position, with the ends inclined downward towards the manure and moisture; and the earth coming in closest contact with them. And, by the way, this is the proper plan for setting all kinds of plants, or trees, that have fibrous roots, between which the earth will not readily pass, the great object being to get the earth in closest contact with the roots. A good coat of manure and salt should be spread over the asparagus bed every Fall; and it will produce for an age.

Montgomery Co., Md.

W. R.

For the American Agriculturist.

Shall we Teach Agriculture in Common Schools?

This question has been agitated, more particularly in New-England, for the last few years, and from the multiplicity of articles upon the subject in the papers from this quarter, we see is still up for discussion. Manuals have been prepared and those who publish school-books and understand the engineering necessary to get them introduced to the school, are the busy advocates of this branch of agricultural reform. To show precisely what is aimed at, we quote the words of one of these reformers as given in an agricultural address.

"Botany, or the study of plants, grains and vegetables, should be a prominent study in our common schools, commenced with the alphabet, and continued to graduation, so that every boy and girl 14 years of age, can not only tell the growth and food of every grain and grass and vegetable, but also what soil and season, and fertilizers are best for it. Chemistry also should be studied from the earliest period to the latest, as we now study arithmetic and geography. It is vastly more important for a person to know the prime gases than the prime numbers. Arithmetic, geography, and grammar, are studied to the neglect of other more important and attractive branches of knowledge. Teachers should be trained in our Normal schools not in Algebra and geometry only or chiefly, but in botany and chemistry, and meteorology."

If we understand this reformer aright, he would have all the natural sciences which have a bearing upon husbandry taught in the free schools, and have the children indoctrinated in these sciences, by the time they are fourteen. Botany is of no more use to a farmer than zoology, entomology, geology, and perhaps we should add ichthyology and conchology. If it is profitable for him to understand the science of plants, it must also be useful for him to know something of the insects that destroy them. Fish and shells make excellent manure, and so would come appropriately under the young farmer's studies. But these are only the auxiliary sciences to the great study of husbandry, a business that requires more varied knowledge than almost any other avocation.

The unreasonableness of the demand of these reformers is apparent, if we consider that children in the free schools have already more studies than they can master in the brief period of attendance. It is not profitable or hardly safe to send a child to the drill of the school room before he is seven years of age. Before this age, his best place is in the nursery and the open air, attending to *physical* growth. Surely, the seven years previous to fourteen are not too long a period to master the branches usually taught in the free schools. A farmer should know how to read and write well, or he might not be able to keep posted in the various branches of natural science, after he commenced business. He should be ready at figures, or his pecuniary affairs might suffer loss. The farmer sustains certain relations to society and is as liable as other men to be called to fill positions of trust and responsibility. It is therefore important that he should know how to use good English, whether he get the "prime gases" in due order or not.

The natural sciences are appropriately studied in our higher schools and colleges. Men and women of adult years and with all the advantages of laboratories, collections of specimens, accomplished lecturers, and months if not years of study, are only able to get the first principles of these sciences. So little progress is made in the ordinary college course of

study, that unless a young man has a peculiar taste for these studies and pursues them zealously in his vacations, and after graduation, they are never of much practical value to him. They make him more intelligent, and the discipline is valuable, but he does not so far master these sciences in his college course, as to make them of much use, or to make him a fit teacher of them. How then can it be expected that a child of fourteen is to get knowledge enough of these sciences to be of great advantage to him.

We have not the teachers of requisite knowledge to instruct children in these studies, even if it were desirable. Most graduates when called to teach any one of these branches as a specialty, feel the need of extra preparation and training to fit them for their work. Much less then could it be expected of our common school teachers, to instruct our children in sciences they have never studied. It would take years of special training to prepare them for it, and when they were fitted they could not afford to teach at the wages now given in the free schools. Higher qualifications in the teacher, of course imply the necessity of higher remuneration.

Then we have not the conveniences for teaching these sciences in our common school houses, and can not have them without a total change in our system of education. The teacher of chemistry needs his laboratory with some apparatus, lamps, retorts, blow pipes, jars, earthen, metals, etc. All the natural sciences need apparatus and specimens, to be studied with profit. We can not have these in the school house, for it is not built for the purpose. Any effort to introduce these studies would naturally divert the minds of the children from the branches commonly taught, which are necessary for all classes. It would result in a smattering of knowledge without thoroughness in any thing.

Then it would inevitably provoke the jealousy of other classes not engaged in farming. The shoemaker and the blacksmith would be afraid that the children of farmers would have more than their share of the teacher's attention, if the study were optional; and if it were compulsory, it would breed a rebellion, and oust the teacher or school committee. Every one who has had much experience in the management of these schools, can see that the thing would not work. It is a common school, and only for those studies which are the common want of all.

We want as a preparation for entrance to agricultural schools, pupils well drilled in the branches now taught in the common school, and the time now allotted to these studies is none too long. Farmers should stand upon a level with other classes in these studies, as well as have special knowledge of their own business. This will have to be learned in schools specially devoted to agriculture, and upon the farm. Though this will not be so well for manufacturers of school books, we have no doubt it will be better for farmers. A NEW-ENGLANDER.

REMARKS ON THE ABOVE.—It appears to us that in the above article the writer has taken rather too strong ground, though probably right in the main. The common branches, reading, writing, spelling, arithmetic, and geography, should certainly be the first studies, and be well mastered. But along with these, partly as a recreation perhaps, may well be introduced easy primary lessons in chemistry, in what is termed Natural Philosophy, in botany, physiology, and geology. The teacher is poorly fitted for his or her sphere of labor who can not give to a whole school at least some "talks" on these branches. If not prepared to do so, he should

omit some evening parties and "study up." Fifteen or twenty minutes time in the school room daily devoted to a short talk on these branches, will scarcely retard progress in other studies, and will afford a pleasant relief to both scholars and teachers. A little knowledge of the elements, of physiology or the care of the body, of the first principles of natural philosophy, of botany or the structure and growth of plants, of geology or the way soils are made up and arranged, will awaken interest and inquiry, cultivate a taste for these studies, and beget an important habit of observation—to say nothing of the practical utility to the future citizen, of even a little such knowledge. The trite saying, that "a little knowledge is a dangerous thing," is false as a rule. *The great mass of children will never get any idea of these useful and interesting sciences, if it be not got in the common school before the age of fourteen.* A few ideas inculcated there, will lead to useful reading, thought and investigation, afterward—to the less reading of trashy, exciting novels.—Not much apparatus is required. A few very simple experiments are enough to awaken interest, and explain the first principles. The best chemistry class we ever examined was one of boys and girls in a common school, from 12 to 16 years old. The teacher expended on simple materials, \$8, contributed by a few individuals. The first electrical machine we ever saw (and a very effective one it was), we made while yet in the public school, with materials found wholly on the farm, except a single glass jar for the main cylinder. For a guide we had an old Comstock's philosophy sent as a present by an Eastern friend.—O. J.

Profit of Sheltering Manure.

It is now pretty well settled by the experiments of intelligent agriculturists, that manure protected from the weather is much better than that which has lain for six months or more in the open yard. Every farmer who has cleaned out under his stable floor where there was no cellar, or has used the manure made on the floor of the sheep barn or shed, has had occasion to suspect as much. Crops fertilized with such protected manure started with great vigor, showing a dark green color, and pushed on rapidly to maturity. There must be something in such manure that the unsheltered article loses.

An English experiment shows that manure which was kept covered by nine inches of earth, produced several bushels more of grain per acre than the same amount of manure applied to the same extent of land, but which had lain exposed to the weather during the Winter. Another experiment shows a difference of about four tons or nearly one hundred bushels, between the produce of two acres in potatoes, the one of which had 20 loads of covered, and the other 20 loads of uncovered manure.

A gain of fifty bushels of potatoes to the acre, just from the difference in the quality of the manure, is worth looking after. It will be seen that this is nearly all clear profit. There is no more expense for seed, for handling manure, or for tillage. The only additional item would be the increased labor of harvesting. The conviction that the housing of manure is good economy is pretty general, and yet not a fourth part of our farmers pay any attention to it. The open yard without a barn cellar, and even without sheds, is still a very common spectacle.

The best substitute for lack of cellar is a covering of earth, or muck, for the manure, as fast

as it is collected. If the open yard were kept well supplied with muck, and the manure were to be plowed under every month but without draining off, it would not waste much. Where straw is plenty, as in the wheat growing districts, it makes a very good covering for manure. This is the practice of some of the best managers. But it requires a much larger quantity of straw than most of our farmers have for litter. The straw is thrown out frequently, and the yard is kept nearly dry for the cattle to lie on. Muck usually costs nothing except the drawing and hauling, and rightly managed it makes a good protection for manure. It should be scattered frequently over the yards and under the sheds, and the heaps kept well covered.

A CAUTION.—A Canadian subscriber to the *Agriculturist* complains that he has followed our advice, and that his manure dried up, heated, and was nearly spoiled—in other words it “fire-fanged.” This reminds us to repeat, that while no liquids should be allowed to run from the manure heap, it *should always be kept moist*. The heap should be frequently examined, and if found drying out, water should be added. The best plan is to pile the manure in a tight vault or excavation that will hold the liquids. If not under a roof, a cover of loose boards will answer, as a little rain falling through will do no harm. Then, as often as needed, pump up or dip up with a bucket, the liquid from below and spread it over the heap. This liquid manure will hasten the decomposition of the straw and other coarse materials, and all the heap will be equally rich.

The “Dakota Potato,” or Ground Nut.— (*Apios Tuberosa*.)

To the Editor of the *American Agriculturist*.

This plant, Eaton, in his *Botany*, more than thirty years ago, said: “ought to be generally cultivated.” And it appears by the December *Agriculturist*, others have taken the hint, as well as the undersigned, in making the trial. Six or eight years ago I procured some of the tubers from the State of Maine, and some also from this immediate vicinity, (Middletown, Ct.,) and planted them in my garden, but I am sorry to say my success has been poor indeed. So far as my own experiments can be relied on, they do not appear to improve by cultivation, in the least, nor even to grow as well as they do in the wild state. I have not yet been able in my garden to produce tubers as large as are often found in their native situation. I purpose to continue the experiment a few years longer, however. J. J.

Sweet Potatoes in Ireland.

“Hibernia” inquires if sweet potatoes will flourish on his farm near Belfast, in the North of Ireland. We judge not. If we remember rightly, the soil thereabouts is not sufficiently sandy and warm. A light, moderately sandy, warm soil suits this crop best, though we have grown them well on a pretty stiff loam, by high hilling. Probably, however, the soil would answer, if there were sufficient sun light. In the sea-girt islands of Great Britain the air is almost always moist, and bright skies, warm clear days, such as the sweet potato flourishes best under, are not the general rule there. Perhaps the longer absence of frost, owing to the proximity of the never-freezing ocean, may in part make up for the less sunlight. It would be well to try the experiment. The common *Nansmond* variety can be purchased in our mar-

kets. These, packed in dry sand in a box, and kept from freezing, can be carried over at any time during Winter. Put them into boxes of earth in a green-house or hot-bed in March, and abundant sprouts will start out. When 6 to 10 inches high, break them off from the tuber, keeping as many fine roots on the stems as possible, and transplant out into high hills or ridges, when the soil is warm and danger of frost past. The ground should be well supplied previously with thoroughly rotted manure. For directions, see *American Agriculturist* for April, 1862, (vol. 21, page 109), and an article to be published a month or two hence.

For the *American Agriculturist*.

An Iowa Corn-Marker.

Iowa is well adapted to the cultivation of corn, yet many are so careless that weeds often get the mastery, hence they get a poor remuneration for their hard toil. One great reason is, that after fitting the land for seeding, they spend several days in “furrowing out each way,” with a shovel plow, jogging along in a zigzag manner, so crooked that a squirrel can hardly find the rows after it comes up. This requires much labor, and is of no benefit except in making easy planting. The corn is placed too deep to feel the warmth of the sun when it needs it the most, and the farmer has to wait too long for the corn to get large enough to keep from covering it up the first time through with a plow or cultivator. Corn needs light, air, and warmth to vegetate and grow rapidly; to obtain these abundantly I can not think a deep furrow favorable. My way is to plow deep and harrow lightly to level the surface, then make a marker after this fashion.—Take two hardwood poles, or scantling, fourteen feet long, lay them parallel, and pin to them at right angles four blocks two feet long and two inches thick, at a distance of three and-a-half feet apart. Slant off the front ends of these blocks, making them like sled runners. Turn the apparatus over, fasten a tongue to the middle of front pole, and the marker is complete. Hitch on the horses, take your place on the center of the marker and drive on until the field is marked in one direction; then cross-mark in the same way. Stakes should be set at each end of the lot to guide by, instead of merely trying to run parallel with the last mark. Fifteen acres can thus be marked each way in a day. C. J. RHODES.

Tama Co., Iowa.

How Corn is Made in Egypt (Ill.).

[The following plain, straight-forward account of the common mode of cultivating corn in Southern Illinois, from Wm. O. Marvin, of Randolph Co., will give a partial picture of farm life there, and perhaps afford a hint or two. The plan described is doubtless susceptible of improvement. A brief description of the methods pursued in different sections, not only with corn but other crops, would be useful to others.]

“We prefer for Indian corn, wheat stubble unbroken until plowed for planting in the Spring: *First*, the cut worms trouble it very little; *second*, should the season be dry it bears the drouth much better than our other lands; and *third*, such land is most easily kept clean. The plowing should be at least eight inches deep, and all the growth of weeds and grass be turned to the bottom. After it is well broken, we lay it off one way in rows four feet apart, and 5 to 6 inches deep, with a one horse plow. It is

then crossed with the marker, making six rows to the round. Our children usually drop the seed. Some cover it by throwing on one, and some two furrows with the small plow, and just before it is up, harrow it down level. Others cover with the harrow alone. Others cover by dragging a suitable flag stone across the rows, which is by no means a bad way, as we have no stones in our fields to interfere with culture. But we think the hoe is the best implement of all to cover with, and this is the only use we make of the hoe in producing the crop.

When the corn is up so that it can be worked, we remove the front tooth (or share) from a cultivator, and with a span of horses run it astride the rows, first one way, and then across. This works the soil between the rows, and close up to the hills, in both directions, leaving it clean and in a condition little inferior to the best hoeing, and the hills are made around the corn. [This lets in the sun to warm the roots and promote their growth.] The labor is not half that of hoeing. The after culture depends upon circumstances. If rains harden the surface, the plow may be required. After plowing, a one-horse cultivator is run between the rows to level off the surface, as we prefer flat culture to high ridging around the hills. By the above process we get, in common years, from 40 to 60 bushels per acre, according to the quality and condition of the soil.”

Change the Locality of Seed—An Example of Selection.

A contributor to the *American Agriculturist* writes thus: It is the general testimony of those who have tried it, that the productiveness of seeds of many crops—among which may be mentioned wheat, corn, and potatoes—is greatly increased by changing their locality. Will it not be well for farmers to bear this in mind now, and not wait until some unlooked-for delay may chance to embarrass Spring work? Perhaps the benefit is not owing so much to change in latitude or longitude, as to change of soil. If not, then it will do as well to exchange with some neighbor who has seed raised on a different soil. But what has been proved, is safest, and those who can procure seed from a distance should do so. It is not too early to be looking about, and making arrangements to that effect.

[That to change the locality of seed is beneficial, seems to be the general opinion, and therefore it is reasonable to suppose there must be something in it, though we do not understand why this is so, nor are we certain that the popular opinion is not an erroneous one. On our old paternal homestead the same varieties of wheat, corn, and potatoes, were grown continuously, perhaps for twenty years or more, and instead of deterioration in quality or product, there was a constant improvement, so much so that most of the wheat raised was in demand for seed. A system of selection was followed. No potatoes smaller than hens' eggs, and no over-grown tubers, were planted. The seed wheat was obtained by hand-screening, with a sieve made specially for the purpose which retained about one third of the largest and plumpest kernels. The two-thirds passing through the sieve was still first grade in the market, at least after this selection of seed had been practiced a few years. Ed.]

Why is a woman mending her husband's clothing after he has retired to rest, like the enemy of the human race? Because she is sowing *tares* while the good man is asleep.



SPECIMENS OF GOURDS AT THE "AMERICAN AGRICULTURIST EXHIBITION."

1. Valparaiso Squash. 2. California Squash. 3. Hubbard Squash. 4. Crook-neck Squash. 5. Turban, or Turk's-head Squash. 6. Golden Winter Scallop. 7. Vegetable Marrow. 8. Green Striped Bush. 9. Lagenaria Vitata. 10. Gourd from Hindostan, new. 11. Mock Orange. 12. Pear Gourd. 13. Sandwich Island Gourd. 14, 15. Unknown. 16. Hercules' Club. 17. Artichoke Gourd. 18. Long Orange Gourd. 19. Cucumis Dipsacius, Japan. 20. Cucurbita Striata. 23. Bottle Gourd. 24. Boston Marrow Squash.

The Gourd Family.

Few persons, except professional seedsmen, have an idea of the number of varieties belonging to the gourd tribe, named *Cucurbitaceae* by botanists. Until recently, comparatively little attention has been paid to their cultivation, except in the case of the squashes and pumpkins, which occupy time-honored places in the garden and the field. Within a few years, fancy and ornamental gourds have been coming into favor for decorative purposes, and their number and beauty have been greatly increased by importation from foreign countries, and hybridization with old varieties. The recent exhibition of these vegetables at the Office of the *American Agriculturist*, called out a most beautiful display. About one hundred different kinds of the gourd family were represented, from the Mammoth Valparaiso Squash weighing 270 lbs., to the diminutive striped gourd, that when full grown scarcely equals a black walnut in size.

The above engraving, drawn from specimens at our exhibition, shows some of the more curious and otherwise noteworthy varieties. Part of these will be recognized as established favorites in the garden and on the table: others are new and striking. The specimen numbered 5, the Turban Squash, bears a striking resemblance to a Turkish head-dress, and from its beautiful coloring is a most attractive object. It is also edible, and by some considered to be of fine quality. No. 13, the Sandwich Island Squash, was trained while growing, into a good resemblance to a swan without wings; the bill is well represented by the stem. No. 10, is a new and singular specimen raised by W. F. Heins, from seed sent to the *Agriculturist* office from Hindostan. From its pungent quality we suspect it belongs rather to the capsicum family

than to the cucurbitae. No. 19, might be called the 'vegetable caterpillar.' It is about three inches long and half an inch in diameter, of bright green color, and thickly studded with stiff hairy spines. It was grown from seed received from Japan. We have no knowledge of the use made of it there. It forms a unique ornament. No. 18, the long orange gourd with dark green bottom, is one of the most pleasing varieties for ornament. The vine trained upon a rustic trellis or over rock-works in some corner of the grounds, is a beautiful object when laden with its rich parti-colored fruit, and the gourds when ripened are very attractive. The markings of green are varied with each specimen, making them still more pleasing. The different kinds of gourds are so easily hybridized, that it is less difficult to procure an almost endless number of sorts, than to preserve any desired variety true to the original. It can only be done by covering the flowers designed for seed, with some protection against insects, and fertilizing them with pollen of their own species. A single bee entering a blossom may bring with him pollen from several different species gathered in other localities, and thus impregnate the flower and cause its seed to vary.

Attractive as are the ornamental features of the gourd family, most of our readers will be more particularly interested in edible varieties. For excellence both as a sauce and for pies, the Hubbard squash (No. 3 in the engraving) still remains at the head of the list. It has made its way but slowly into the markets. Its dark green color gives the idea of unripeness, and we have known parties growing it for the first time, to throw away the fruit and pronounce it a humbug, supposing the season to be too short for its maturity. But after having once become acquainted with its excellence, its color is no

longer an objection. Next to the Hubbard stands the Boston Marrow, already so well known as to need no description. With this, perhaps, even superior to it for pies, the African squash takes rank. It is much larger than the Marrow, but this is rather an objection for ordinary family use. One specimen could hardly be wholly used before spoiling.

The cultivation of squashes and pumpkins is not difficult, though a few important particulars must receive attention to secure the best results. Being mostly natives of tropical climates they should have a warm situation, as a southern exposure, or under protection of a building or high wall. It will be very advantageous to start them early in a hot-bed or in the house, and transplant them when they have attained the third leaf. Of course, there should be great care to leave the roots entire, and the earth around them undisturbed. An easy way of accomplishing this is to scoop out large turnips, fill them with rich earth, and plant one seed in each. When ready to transplant, cut off the bottom of the turnip, and the roots will soon find their way out; the remaining substance of the turnips will decay and feed the plants.

The best soil for growing these vegetables, is a deep, warm, sandy loam, well enriched with stable manure. Not only should the hill be made rich, but also the surrounding soil where the vines will send out rootlets to gather nourishment. Too little room is usually allowed to each plant. They need space enough to run without crowding and shading each other. The area required will of course depend upon the kind cultivated. It is a good plan to sow at intervals a number of extra seeds in each hill as food for insects, which will attack the young plants, and leave the first to grow too strong to be consumed by them; they can be easily thinned

out as needed. More minute directions for treatment of the vines will be given at the appropriate season, in our Calendar of Operations.

About Earth or "Angle" Worms.

The common earth worm (*Lumbricus terrestris*), has no eyes, feet, or other external appendages, and the head differs from the tail only in being more narrow and pointed. Its stomach consists of two pouches, and the alimentary canal extends from stem to stem. At about one third of its length from the mouth, there is a sort of belt, encircling the body, consisting of from six to nine rings, among which lie the organs of reproduction. As the worm is hermaphrodite, each individual carries this belt. It has the senses only of taste and touch, the latter being acute, as everybody knows who has touched it on peering from its hole. Its taste is coarse, since it feeds upon the soil it lives in, swallowing it and its half-decayed organic substances, and passing them through its body.

It is not certainly known whether these worms breed oftener than once a year. They produce their young sometimes from eggs, and sometimes already hatched. The eggs are laid at a considerable depth in the ground, and in clusters. They are laid mostly in the Spring, and hatched in June or July. The egg is about the size of a pea, elliptical, with a tubular hole at one end, through which the young escapes. In the cut annexed, *a* represents an egg, *b* the same after the embryo becomes visible, and *c* the same with the worm beginning to shift for itself.

The common notion that if this worm be cut into any number of pieces, each portion will live and soon become a perfect worm, is hardly true. But if any part of its body be cut off behind the belt, the remainder will be reproduced. If, however, it is cut in two at the belt, or between the belt and the head, it is sure to die.

The natural uses of the worm seem to be to furnish food for moles, frogs, toads, snakes, birds, fishes, and some kinds of insects. It is sometimes asserted that they are useful to vegetation, by boring the earth and loosening it, rendering it permeable to air and moisture, and even adding to the depth of the soil. But this is probably a mistake. The frequent boring of the ground makes the adjacent parts firmer. The worm-casts thrown up above the worm-holes are water-tight, and so prevent the descent of water into them. Their subsoiling does not amount to much. On the other hand, they do positive injury. They disfigure walks and lawns by their casts, and eat into roots of plants, especially those which are feeble.

These worms can be destroyed wherever they congregate in considerable numbers. As they are quite thin-skinned, any hot or caustic liquid will kill them. An excellent caustic is made by dissolving quick-lime in water, at the rate of half a pound of lime to six quarts of water, to be applied through a common sprinkling pot. Wherever worm-casts appear, sweep these off with a stiff broom, and then apply the caustic freely. In a short time, the worms will come to the surface, and die.

VARIETIES OF THE HORSE-CHESTNUT.—The number of species and varieties is greater than is commonly supposed. Beside the common one, with white flowers, tipped with pink, there is a scarlet, and a rose-colored, a double white,

Michaux's, Whiteley's red, a cut-leaved, and the common Buckeye. These belong to the genus *Æsculus*. If we include that of *Pavia*, which is smooth-fruited, we have a yellow-flowered, a red, a pendulous dwarf red, a downy-leaved, a purple, a flesh-colored, etc., etc. The scarlet is particularly fine. We have seen a striking effect produced by grafting the alternate limbs of the old white with the scarlet; the result was a brilliant, mammoth bouquet.

Important List of Pear Trees for the Vicinity of New-York, Ripening in Succession through 5 to 6 Months.

In the previous volume we have frequently referred to the Fruit Growers' meetings held weekly at the office of the *American Agriculturist*, on each Thursday at 1 o'clock P. M. Though almost entirely informal in their character, the discussions of matters pertaining to fruit growing have been highly interesting and valuable.

Several weeks since we suggested to the gentlemen present, the desirableness of agreeing upon a list of varieties of pears for family use—with some regard to marketing, and to ripening in succession throughout the entire season—which could be recommended at least for the vicinity of New-York City. The importance of such a selection was urged in view of the greatly increased general interest in fruit growing, and from the fact that the list of trees grown by nurserymen has become so extended as to require no little pomological knowledge to select a good assortment from their crowded catalogues. We also desired such a list as a reply to very numerous inquiries from our readers for a list of good pears for family use, and for market.

A competent Committee was appointed, and a request made that as many as could make it convenient should present lists of 20 varieties, with the number of each recommended to make up an assortment of 100 trees. Such lists were furnished at subsequent meetings by Charles Downing, Parsons & Co., T. W. Field, W. S. Carpenter, A. S. Fuller, Dr. Ward, J. G. Bergen, and others, all practical fruit growers of large experience. These lists were compared and their merits fully discussed at six successive meetings. The following list was finally agreed upon and recommended almost unanimously. Reference was had specially to varieties known to be successful in the region of country around New-York City, but the list, with slight modifications, is valuable for the whole country:

LIST ADOPTED BY THE FRUIT GROWERS MEETING.

2 Doyenne d'Ète.....	July 15 to Aug. 10
2 Beurre Giffard.....	Aug. 1 " " 15
4 Tyson.....	" 10 " " 20
10 Bartlett.....	" 15 " Sept. 15
4 Belle Lucrative.....	" 15 " " 15
6 Flemish Beauty.....	Sept. 1 " " 25
4 Louise Bonne de Jersey.....	" 10 " Oct. 10
4 Seckel.....	" 15 " " 15
4 St. Michael Archange.....	" 15 " " 15
6 Beurre Bosc.....	Oct. 1 " Nov. 1
10 Duchesse d'Angouleme.....	" 1 " " 20
4 Bergen.....	" 1 " " 20
6 Beurre d'Anjou.....	" 10 " " 25
4 Beurre Clairgeau.....	" 15 " Dec. 15
4 Beurre Diel.....	" 15 " " 1
4 Urbaniste.....	Oct. " " Nov.
4 De Tongres.....	" " Dec. 15.
4 Winter Nelis.....	Nov. " Dec.
8 Lawrence.....	" " " "
6 Vicar of Winkfield.....	" " Jan.

The Urbaniste was adopted with the understanding that it comes late into bearing, and the De Tongres was added as promising exceedingly well, though not sufficiently proved to warrant an unqualified recommendation.

The Louise Bonne, Duchesse, Beurre Diel, and Vicar, were considered *best* on quince, while

Bartlett, Flemish Beauty, Seckel, Beurre Bosc, Beurre Clairgeau, De Tongres, Winter Nelis and Lawrence, were recommended on pear, or double worked on quince. The remainder of the list may be on either pear or quince.

At first, strong objections were raised against the Vicar of Winkfield, on account of quality, but these were over-ruled by those who explained that they were not generally well ripened. Some specimens exhibited, though prematurely ripe, were pronounced really fine, with a sprightliness not found in many other sorts. Pears of this variety should be picked late, put in a cool cellar or other place, and be kept until the first or middle of December; then after exposing for one week in a moderately warm room, they color up finely, and are of fine flavor at a season when but few others are to be had. They can be kept back until the middle of January. The Vicar is one of the most vigorous growers and constant producers of large crops that we have.

There was much discussion over the Beurre Bosc—the nurserymen, while admitting all its good qualities, say it costs twice as much to raise as many other sorts, and they fear if a person plants out two-year old trees, he will lose half of them, so difficult are they to carry through the first few years of growth. After becoming established, and especially on branches of large trees, this sort does pretty well, and the quality of the fruit is of such excellence, that it finally received a strong vote.

Persons wishing to plant 50 trees can take half the various kinds named in the above list, or if they do not wish so great a variety, let them select from those having the highest numbers, keeping in mind the succession in maturing.

For Peach Trees.

A correspondent of the *American Agriculturist* writes thus: B. F. Seaver of Orange Co., N. J., whose peach trees had not borne fruit for several years, had a good crop the past year, some trees yielding 3 to 4 bushels each, and the trees were very thrifty. He attributes his success to the application of a method recommended to him by Mr. Plummer of Newark. In early Spring, as soon as the frost began to come out of the ground, a teakettleful of scalding-hot water was poured over the crotch of each tree, (the crotch being generally not far up from the ground.) The water circulating round the trunk enters the ground, and kills the grubs which produce the "yellows" later in the season. A small puddle hole in the ground around the base of the trunk should first be made, to hold the water as it falls, and if you will examine afterwards, you will find the dead worms. You can't have the water too hot, and need have no fear of injuring the bark of the trees. Of course the excellent fruit season had much to do with the large crop realized last year, but as several duplicate trees of previous years, in the same locality, had died of yellows, it is reasonable to suppose the above operation had a good effect. [We can not affirm that the hot water was useless, but we can hardly see how it could be beneficial. It could not of course run up into the holes of borers, and if it did, it would not be hot enough to disturb them after running down the trunk. Other insects would hardly be found on the surface at a time when the frost is just coming out of the ground. A continuous stream of hot water would be likely to soon destroy the vitality of the bark. Perhaps we are wrong, but without the success of the method in other years than the past one, we should not recommend it for general adoption.]

Curious Trees.

Useful trees have their place, and so do ornamental trees. But in addition to these there is a class which may be called distinctively *curious*; and of these a few notes may be interesting:

The *Cow Tree* is a native of Venezuela, South America. It is often found growing on the poorest and most rocky soil. Its leaves are dry and leathery in appearance, and for several months of the year not a shower falls to moisten its roots and branches. Yet, by piercing the bark, it yields a liquid resembling milk, which is sweet and nourishing. At sunrise, this fluid seems to be especially abundant, and at this hour the natives go to the trees in great numbers to get their daily supply.

The *Sorrowful Tree* is found near Bombay, India. It is so called, from its habit of blooming only at night. While the sun is shining, not an expanded flower is visible; yet in half an hour after the sun is below the horizon, the tree is full of them. There is little beauty in them, though the odor is pleasant. At sunrise, the petals close up or drop to the ground. This tree, it would seem, must have some sort of relation to the night-blooming Ceres.

The *Dwarf Tree* is found upon high lands near Cape Horn. Its maximum height is two and a half feet, and the spread of its branches about four feet, and a stiff, thorny mat at that.

The *Mammoth Trees* of California, are worthy of note here. They are found three hundred feet high, and 29 feet in diameter at five feet from the ground. A hollow section of a trunk was lately exhibited at San Francisco, which presented a large carpeted room, with a piano and seats for forty persons. On a recent occasion, one hundred and forty children were admitted without inconvenience.

The *Ivory Nut Tree* is found in South America, and belongs to the palm tribe. The natives use it in building their huts, and out of its nuts they make buttons and various trinkets. Of late years, the nuts have found their way to other countries where they are worked up into all sorts of fancy articles.

The *Cannon Ball Tree*.—What can be more interesting than this tree in our warlike times! It's a pity that it grows only in the tropics. It rises about sixty-five feet high, has beautiful crimson flowers, in clusters, and very fragrant. The resemblance of the fruit to cannon balls has given it its martial name. When fully ripe, the balls burst with a loud report. The shells are worked into cups and a great variety of other useful and ornamental household utensils.

The *Bread Fruit Tree*.—Here is something useful, as well as curious. Would that it grew somewhere besides in the islands of the Pacific. The fruit attains the size of a child's head ten years old. If wanted for food, it needs to be gathered a little before it is fully ripe, and then baked, like hoe cake, in hot ashes. When properly cooked, it resembles not a little the taste or a good wheaten loaf. Nor is this the only use of the tree. Its timber is excellent for house-building, for making canoes and agricultural implements. The sap is a gummy substance, very useful as a pitch for caulking the seams or vessels. The fiber of the inner bark is used by the natives for making cloth., which in that climate answers a good purpose. It is the favorite tree of its native region; and well it may be.

The *Upas Tree*.—The "deadly Upas," of which we have all read and heard from childhood, which was supposed to diffuse a poisonous air, fatal to animals or men who came beneath its

branches, has no existence, and never had. The only possible ground for the superstition was this: On a certain island of the East Indies, there is a valley in which there is a constant deposition of carbonic acid gas. This gas spreads itself among a few trees of the neighborhood, and of course, if birds, animals or men inhale much of this gas, it will quite surely be fatal to them. But this is no fault of the trees, which have been found to possess no poisonous quality.

The *Tallow Tree* is a veritable fact. It lives in China, and yields an oily substance resembling tallow, and which answers well as a substitute for it. The tree is of only medium size, at maturity. It would not be hardy in America.

The *Varnish Tree* is Japanese, though found, also, sparingly in China. This is the tree which produces the black Japan varnish, so useful an article of commerce. It resembles, in general appearance, the white ash tree of this country. It does not furnish its peculiar liquid in large quantities, until nine or ten years old.

Tree Planting Societies.

Several years ago, mention was made in the *American Agriculturist*, of a Rural Art Society established in one of our towns, the leading object of which was to encourage planting roadsides and yards with shade-trees, and to foster a general public taste for rural improvement. This article was copied into an influential paper in London, with a commendatory note by the Editor. A year after, a gentleman who had read the article, was led to recall and re-read it. His reading set him a-thinking, and his thinking set him a-writing. He wrote several articles, urging the rural embellishment of London and the surrounding villages. Other pens became enlisted in other parts of the kingdom, the subject got a good airing, and something practical is likely to grow out of it.

One of these articles urges the formation of rural societies like those in America. Here are a few sentences: "The idea of promoting these objects by an association is a happy one; and in this age of co-operation, such a society can easily be established. Owners of property in and around villages would belong to such a society, because the embellishment would enhance the value of their property. Men of taste would belong to it, for the gratification it would afford them," etc., etc. So it would seem that the good seed sown by our agricultural papers, often springs up and bears unexpected fruit.

For the *American Agriculturist*.

A Farmer on our Native Forest Trees.

MR. EDITOR: It seems to me that there is too much of a rage for foreign trees and plants, to the neglect of the productions of our own country. I know, indeed, that *all* the good things are not confined to this nation, but I believe we have enough for our own use. Not a few persons are fond of having a root or cutting of something which once grew on a famous man's estate in England or France—no matter whether it is adapted to our climate or not. They are forever hunting after something rare, something uncommon, something which ordinary people can not hope to possess.

Now, I go in for the natives. We have here at home enough, and more than enough, to satisfy every reasonable desire and taste. If a person wants to increase his variety, here is opportunity enough. The fact is, only a few persons know what a long and varied catalogue we pos-

sess. The planters and nurserymen of England and the Continent are continually sending over here for our trees and plants, knowing them to be the finest that the world possesses: but are they not as good for us as for them? If you should send an order to any intelligent nurseryman in England, for a dozen of his best ornamental trees, irrespective of their origin, and adapted to a northern climate, rest assured he would send you, among others, the cucumber tree (*Magnolia acuminata*), the tulip tree, white elm, sugar maple, hemlock, and white pine, all of them indigenous to North America. That's worth thinking about.

Then, there is a certain claim of self respect. If a person is continually undervaluing his own, and hankering after the things which others possess, it indicates weakness, and it lowers him in the estimation of others. Now, if we respect ourselves as Americans, I think we shall put a due estimate on our own possessions; we shall feel a sort of national pride in them. For one, I feel proud of whatever belongs to us as a people. Our country, in its vast extent and resources, in its scenery and climate and people, is one of which we may well think highly. Our civil and political institutions cost us a great deal to purchase, and now, much more, oh, how much, to maintain and preserve! Now, sir, I can't help appropriating somewhat of this national feeling to our native productions—to our very grasses, and grains, and fruits, and trees. I dearly love them, because they belong to my own native land. Let us all prize, more and more, the trees which clothe our hills and adorn our valleys, and the vines, shrubs, and plants, which smile all over the landscape. FARMER.

Hints from Mr. Loudon.

In turning over an odd volume of Loudon's Magazine, lately, we met in his description of a country seat, a hint or two worth recording:

"Here we found *Thunbergia alata*, in great luxuriance, sowing itself every year, a proof that it may be treated as an annual. *Maurandya Barclayana* here, as in some other places, is found to be perfectly hardy. The top dies down to the ground in the Fall, but new shoots spring up vigorously in the Spring. And this we presume will prove to be the case with a multitude of other plants which we have not tried. . . . The collection of choice shrubs and ornamental trees here is remarkable, considering the limited extent of the place, the secret of which is, that few common plants or duplicates are admitted. . . . There is not a greater mistake, in planting pleasure grounds, than the mixing of the common or indigenous shrubs of the country with foreign or improved species. It is as bad in a garden, as it would be in architecture to mix Grecian ornaments with Gothic ones." He also speaks of thorns being tied around the stems of young trees to guard them from animals. Also, of certain plants which require an abundance of light, but can not endure the direct rays of the sun; these are accommodated by being set where they get only the light *reflected* from a high wall which had been whitewashed. *Query*: Would not this answer for rhododendrons and laurels?—Lastly, he publishes the letter of a head-gardener who, in speaking of the trenching of the ground done for planting a lot of young magnolias, says: "The subsoil on this place we have not yet been able to prove, never having gone down deeper than five feet; but to that depth, it is all sandy loam." Think of that, ye American trenchers! Only five feet down!

Land on Slopes of Steep Hills.

A subscriber of the *American Agriculturist*, in Pittsburg, Pa., inquires "what to do with a plot of ground on a hill side, above a stone quarry that prevents building a stone wall around it. It has a stiff clay subsoil, resting on a layer of red greasy clay. The surface soil is inclined to 'slip,' but if it can be improved it is valuable for a graperly."—Probably bastard trenching, that is, digging it deeply but not inverting the soil, and placing under-drains and surface drains so as to carry off washing water, would put it in shape for tillage. The grape vine roots, after once filling the soil, would help keep it in place. In some favorite grape localities along the Rhine, where peculiar qualities of wine are produced, but where the surface lies but a few degrees from a perpendicular, they even go so far as to place baskets of earth among the stones and rocks, and fill up between them with soil. The baskets hold the earth until the grape roots spread, and take their place as they decay.

On the steep side hills around Stuttgart, in Wurtemberg, in many places along the Rhine, and among the hills between Lyons and Geneva, and in other places in Switzerland, France, and Germany, we examined vineyards upon the sides of hills that were naturally so steep that one could scarcely climb them. The usual method pursued is, to build stone walls along the hill, a few feet or rods above each other, and level off a plot of soil between the walls, making a succession of terraces. Stone and bush drains are provided to convey currents of water that would otherwise wash down the soil. On the steep, high hills over-shadowing Stuttgart on the south, the terrace walls are of almost regular solid masonry, with cut-stone gutters to convey the water. The cut-stone steps leading up through the plots are in many cases laid solid, and hollowed out to serve as water courses during heavy rains. Large sums have been expended in thus making artificial soils, but the luxuriant crops of grapes, such as we saw growing, doubtless pay a good interest on the original outlay. These steep hill sides, especially when the soil is worked deep, and thus thoroughly drained as it must necessarily be, seem to be just the places grapes most delight in. There are many such localities in our country. Hill sides, now worthless, may be fitted up for vines, with little more labor than it would pay to expend on any soil devoted to successful grape growing. Any suggestions on this topic, such as would help our Pittsburgh correspondent, and others similarly situated, will be acceptable.

A Compliment from John Bull.

In these days of trial, when England turns the cold shoulder to us, it is comforting to recall the pleasant things she has said and done in former times. Here is a morsel: Several years ago, when Mr. Loudon was giving instruction to a committee of gentlemen in reference to the embellishment of a public park, he said: "In that portion of the Park where it is desirable that the greatest beauty and interest should be created, the trees of North America should be planted. To these may succeed the trees of Greece and Italy; next, those of France and Germany; then, the British trees; and lastly, those of the north of Russia, and of Sweden and Norway."

One would have thought that British trees would be placed high in the list; and that those of the classical lands of Rome and Greece, if

not also those of France and Germany, would precede those of our own wild, democratic country. But lo! our trees are put at the head of the catalogue of all the nations!—How about our *men and women* raised on the soil that grows these trees?

For the *American Agriculturist*.

On Fitting up a Home—Confessions of an Amateur.

Every fruit grower and gardener has to educate himself, and generally pays very dear for his education. Multitudes get possession of the house, and a home lot, and the means to adorn it, before they get the knowledge requisite to lay out their money to good advantage. Many go-ahead without consulting architect, artist, or gardener—build, lay out grounds, plant trees—for it is the weakness of a Yankee to the manor born to think that he can do almost any thing as well as if he had never done anything else. Such go-ahead improvers after a few years' labor begin to get hold of the principles of landscape gardening, especially if they travel much, and observing other well kept places, discover that they have made several blunders, if not more. The gate is in the wrong place, the carriage drive has taken the wrong turn, the Norway spruces hide objects that ought to be seen, and a good deal is brought into view that were better hidden. He has at length educated his taste so that he can enjoy nothing that he has done, and he has to "change his base" and begin again. The walks are moved, new hedges are planted, half grown trees are transplanted, some are cut down, fruit trees are thinned out, and the work of years is destroyed in a day. Many can never summon resolution enough to make the change, and go on cherishing the blunders of their early years. They have gained a good deal of knowledge by their experience, but it comes a little too late for them.

I do not come altogether under this latter category, for I have already changed many of my blunders, but a few, alas! must remain for another generation. I am willing to put some of these blunders upon record for the benefit of those who are just building new homes or beginning to improve them. First, then, is the neglect of the architect and the landscape gardener. There is a wide spread prejudice against these characters, probably from the fact that both professions have their unworthy representatives, miserable pretenders who do not understand the first principles of their business. But Downing has his worthy successors, and the man who wishes to avail himself of their aid, can easily find them. Two or three hundred dollars seems a large outlay for the plan of a house and outbuildings, but in an expenditure of fifteen or twenty thousand dollars, or even half that sum, it is of trifling importance. The plan determines the character of the house, and the comfort of the household for their whole lives. A door in the wrong place, or the want of one in the right place, is matter of daily annoyance. Bad arrangements in the kitchen and dining room make a great deal of unnecessary labor for which you have to pay. The lodging room and nursery upon the second or third story, instead of the first, make a multitude of weary footsteps for the wife and mother already overtaxed. The continued health of a wife and well being of children may depend upon so small a matter as the right location of a bedroom. No rewards are better earned, none are cheap-

er to the purchaser, than those of the architect who plans a house to meet the wants of your condition in life and your family. The problem to be solved varies with almost every family. It is the business of the architect to study these wants and to meet them in the most economical manner. Many, more than save the price of their services in the increased economy which they secure in building, and in the future labor in the household. Some houses are so badly arranged that it requires three servants to do the work which two would easily perform in another.

The arrangement of the grounds around the dwelling is another, of less importance indeed, but still not to be overlooked. Every gem wants its appropriate setting, and a tasteful house may be half spoiled by its surroundings. We want the apples of gold in pictures of silver. Trees and shrubs may be so planted as to lighten the charms of the dwelling, and to give it additional shelter and warmth in Winter. They may be so arranged as to command the most beautiful objects in the distance, or to obstruct the view. One of my neighbors has entirely buried himself up in his trees. His home stands on an eminence commanding a beautiful view of the distant sea and its islands, but he can not see a sail from the window of the sitting room, where the family spend most of their leisure hours. The windows look out pleasantly upon a lawn of four or five acres. But a large clump of evergreens completely obstructs the view. He is sheltered indeed, but he has cut off the cheerful light of the sun, and the pleasing aspects of nature around him. He might have bid defiance to the winds, and at the same time have wooed the sunlight. He is surrounded with green fields but he can hardly get a glimpse of them.

This may seem to be a small matter to people without taste, but it has a good deal to do with the happiness of the family. We ride miles to get a pretty view from the summit of a hill, and enjoy the whitening sails of the sea, or the steamers that leave behind them their long trails of smoke. Such a view, or any other pleasing prospect, would seem to be worth preserving at home. I am a little old-fashioned in my tastes, but really, I prefer to have these pictures out of doors, rather than their imitations upon the walls of the parlor.

Twenty years ago, I planted a clump of evergreens, mostly Norway spruces and hemlocks, to hide a neighbor's barn across the way. They have grown wondrously, and more than accomplished their object, for they have hidden a glimpse of a sheet of water that lies at the foot of a hill a mile away. The trees are too beautiful to be cut away, it would be sacrilege to trim them, and I am in a quandary to know what to do with them. In tree planting, one needs to look ahead a little, and see what a tree will become when it is well developed. Smaller evergreens would have hidden my eyesore, and saved my lake. HENRY HERBERT.

Culture of the Pansy.

Few flowering plants give greater satisfaction than the Pansy. Less brilliant and showy than the verbena, petunia, scarlet geranium, and the like, it yet has excellences to which they can lay no claim. It is easily cultivated, requires little or no protection in Winter, commences blooming early in Spring, and with a slight check in the heat of mid-summer, continues in flower all the season, and furnishes an almost endless variety of colors, shades and markings. In answer to many inquiries about the prepara-

ation of the soil and general management, we quote from an English work on the Pansy, which is the highest authority in that country: "The results of various experiments relative to the growth of this flower, amount simply to this, that to produce fine, large blooms, due attention must be paid to soil, situation, and often transplanting. Young plants are generally found to produce the largest and finest marked blooms.

Soil and Situation.—Pansies delight in a cool, shady situation, and in a light, rich, loamy soil. A composition of good loam, enriched either with rotten dung, or leaf or vegetable mold, will grow them in the highest perfection; yet they will grow well in any good garden soil. But by using proper earths, often transplanting, and due attention to shading, situation and watering, you may have a succession of fine, large blooms for nine months of the year." (Nine months of the English year, of course, but not of our colder country and of our shorter season.)

To the above, we will add that, in our own experience, a deep soil, enriched heavily with well decayed cow-dung, mixed with a little sand, leaf-mold, and common earth in equal portions, makes the perfection of soil for this favorite plant. Shade, for part of the day, is quite desirable. The seed may be sown in the open ground, in September, where they will get a good start before Winter sets in, and they will make a fine show the following season. Or seed may be started in March or April in boxes in the house, or in a hot-bed, and then transplanted into the border as soon as Spring fairly opens. They should be set a foot apart in the beds, at which distance they will soon cover the ground.

A New Convolvulus.

The engraving above will give some idea of a new trailing plant from southern Europe, recently introduced into florists' collections. It is known in the catalogues by the alarming name *Convolvulus Cantabricus stellatus novus*—in plain English, the new Spanish Star Morning Glory. The flowers are of a beautiful, soft, pink color, with a pure white double star in the center, and being produced in the greatest profusion, it forms a fine bedding plant, either as an edging, or in an isolated bed. It is peculiar-

ly adapted for vase edging for rustic stands or boxes. The most pleasing disposition of it, however, will be in a suspended pot or basket in the sitting room, where its bright petals and gracefully drooping runners will give a charming aspect of cheerfulness. It is said to be

vines and flowering plants mingled together, each striving for the mastery; but a flower garden is, and should be, something quite different from natural scenery. It is designed to cultivate plants better than when growing wild. Every experienced gardener knows that few

plants attain perfection when overhung and shaded by trees, or in a soil penetrated by their roots. But this is the condition of many herbaceous plants when set in borders partly filled with shrubbery. They become drawn up, lank and spindling, or one-sided, and they make a comparatively feeble growth. Yet, how could this be otherwise when the soil is exhausted by the rank-feeding bushes? And besides, there is no harmony of effect between trees & shrubs. For illustration, take an extreme case: A tree awakens the idea of dignity and grandeur. One needs to stand at some distance to examine and comprehend it. The expression of an herbaceous plant in bloom, is that of brilliancy of color, and beauty of detail, and the eye must be brought near to examine it. To enjoy trees, one must look up; to enjoy plants he must look down. The parallel holds, somewhat, between shrubs and plants. The works of the best artists are marked by unity of design; so will the works of the best gardeners be. If we want to enjoy trees and shrubs, let us have them grouped by themselves; and the same of flowers.

And here let us say, that too little attention is given to shrubs. They are beautiful in themselves, and they form an appropriate link be-

tween trees and plants. Their habits, as to light, form, color, etc., should be made a continual study, and their arrangement, in groups and scattered specimens, should be as carefully planned as that of trees. They may be set in grass-ground, if the soil is kept well stirred around them a few years, until they are firmly established; after this, the grass may be suffered to grow up to their stems. They should be set at suitable distances apart, to allow of their full growth without becoming crowded into a confused, ill-shapen mass, as in a wild scene. It was a standing rule of Mr. Loudon, that "as a garden is a work of art, and a scene of cultivation, every plant or tree should be so placed as never to be mistaken for a tree or plant placed there by accident, or so as to prevent the prac-



NEW PLANT FOR HANGING BASKETS.

(Engraved for the American Agriculturist.)

very easily cultivated in good loam with the addition of a little thoroughly rotted leaf-mold.

The rustic basket containing it, shown in the engraving, is worthy of notice. An almost endless variety of designs for such receptacles can be made of twisted pieces of grape vines, gnarled branches of oak, irregular roots of various sorts, etc. These, neatly varnished, will be more pleasing than the most costly vases.

Mixed Flower Gardens.

It is a great mistake to mix shrubs and herbaceous plants in the same beds. They can not thrive well together, and the one injures the effect of the other. It no doubt looks very picturesque, in a wild wood, to see trees, shrubs,

tices of good cultivation from being applied to it." This is a very good rule for the planting of shrubs and flowers, as well as of trees.

Large Rhubarb from Seed.

Hugh Miller, of Charlevoix Co., Mich., wrote to the *Am. Agriculturist*, Oct. 11: "The Linnæus Rhubarb seed received through your Seed Distribution in the Spring, was planted in common garden soil of fair quality, and appears to have produced two or three new sorts. The largest kind is a dark green, and some of the stalks measure, at this date, 12½ inches from the ground to the leaf, and 4½ inches in circumference at the bottom. The stalk is round on the under side, and flat above. The leaf is 20½ inches long, and 21½ inches across."—This is certainly a remarkable growth from seed the same season. As we distributed many thousands of packets of seed, it is quite likely that several improved seedlings have been produced which will be worth propagating and diffusing elsewhere. The quality of the stalk, or of its juice, as well as size of growth, must be taken into account in deciding upon the merits of the new seedlings.

THE HOUSEHOLD.

Smart Parents have Dull Children.

The truth of this, as an almost universal rule, can be substantiated in every community. We should naturally expect the contrary. Striking characteristics are, in part at least, transmitted from parents to children. Why then, do so few sons and daughters of intelligent, active, and successful parents develop equal energy and achieve equal success?

Probably the following suggestions explain the difficulty and indicate a remedy. With rare exceptions, a man's success depends less upon his natural abilities and opportunities, than upon his self reliance, and consequent exertion of his powers. These traits are mainly developed in youth. Take an illustration. We have a friend, an equal partner in a firm doing business in one of the large marble blocks in this City. His natural intellect is not above average. Left an orphan at the age of four years, he fell into the hands of an uncle who was strict to austerity in his moral rule, but otherwise careless, and the boy was left mainly to shift for himself. To obtain pocket money, and much of his clothing, he peddled apples, gingerbread, etc., at shows, general trainings, and similar gatherings, and also made and sold various simple mechanical articles. The strict discipline of his uncle kept him out of vice, but the necessity of depending upon his own exertions, and the early practice of laying out his own plans and enjoying their results, developed ingenuity, foresight, and self-reliance. At manhood he came to New-York and entered a store as porter. His strict moral habits, and his developed abilities, were soon noted, and he was made clerk in the packing department. From this he was promoted to the selling, and then to the purchasing department, and upon the death of one of the partners, was gladly taken in as one of the firm. His business abilities, with his small savings, were considered a full equivalent to the greater money capital invested by the other partners.

Thus it has been in numberless instances. The children of the poor, thrown upon their own resources, have risen to competence and wealth. Their disadvantages have educated their abilities. But what has this to do with the subject of the present article? A good deal. Those parents who are "smart" themselves, generally do most of the work themselves, or at least take the whole direction of it. That active mother finds it easier to do her housework, than to leave it to the daughter. The daughter knows that mother will look after it, and exercises no care or oversight. The father looks

after every thing himself. The son is a mere machine worked by the father, and thus he grows up, incapable of successfully directing his own powers. Though naturally sharp, his faculties are dulled by inaction, and inherited talents are of little avail.

Our opinion is, that while parents should abate nothing of strictness of discipline in general matters, they should throw their children more upon their own resources. Let the son have his plot of ground, his animals, his own personal property, entirely under his own direction, for the care of which he shall be wholly responsible, and upon the proper management of which shall depend somewhat of his own pleasure and profit. Let the daughter at an early age have the oversight of certain departments of household labor, particularly those which relate to her own comfort. Let them thus grow up habituated to the exercise of their own thinking and planning powers, and their natural abilities will develop and give them a measure of success in adult years, which will do credit to their inherited talents.



About Pocket Handkerchiefs.

The pocket handkerchief, though not a prominent article in the outfit of a lady or gentleman, is yet worthy of some little attention. Care, but not fastidiousness, in minor points, marks refinement in either sex. It would excite ridicule for a well-dressed lady to display an old-style cotton pocket handkerchief, blazing with red and yellow devices, such as are in great request at the South for turbans for the negroes; and all the more justly, because a neat linen article can be had at no greater cost. To make the apron, or the fingers perform the service required of a handkerchief, is an abomination not to be tolerated in decent society.

For persons afflicted with catarrh, silk handkerchiefs are preferable to linen, being softer, and less apt to chafe the skin; they are also more serviceable. Care should be taken not to keep them in use an unreasonable length of time because they do not



easily show soiled places. They collect dust and other matter offensive to cleanliness as readily as linen, even if it be not manifest to the eye.

A neatly ornamented border or marking for the handkerchief for ladies is desirable. Expensive lace edgings and exquisite needlework, costing large sums, only show a love of ostentatious display, not in accordance with good taste. Accompanying this article are several original designs for ornaments around the name, or initials of the owner, to be marked upon the corner, which will be acceptable to the ladies. These designs can easily be traced upon the linen with a fine-pointed pencil, by laying it upon the paper, and holding it against the window pane. Afterward they can be readily worked with the needle, or drawn with indelible ink.

A CHILD allowed to govern those who should restrain him in infancy, will usually grow up without

the power of self-government, and he a slave to his own passions, or the tool of designing men.

Children on the Floor.

The floor is *always* the coldest part of a room in the first story, except in the few instances where the cellar contains an unshielded iron furnace that heats the whole air there, and the floor above.—In our own dwelling we use just such a furnace, at the expense of extra fuel, and to the detriment of vegetables and food stored in the cellar, *because* by this means the floors of the room above are kept warmed for the baby and the smaller children, and for the feet of all, young and old. Another cellar is used for the storage of most vegetables and fruits.—When the sun is shining into a room, stir up a little dust, and observe the currents of air. It will be seen that the warm air from the stove or register constantly rises toward the ceiling, while the cold air from the cracks and crevices about the doors and windows flows downward and *along* the floor. Young children, therefore, when sitting or frolicking on the floor, are in the coldest part of the room. The feet of those sitting or standing, are also the coldest. If, added to this, there is a cold cellar, or cold current of air beneath the single layer of boards in the floor, it is no wonder that the hands and feet and bodies of children get so cold, while the persons sitting or standing feel comfortable. There is perhaps no help for the currents of cold air; but when the baby is set on the floor, or the youngsters are playing there, they may be made more comfortable by spreading an extra carpet or piece of drugget, or even a blanket under them. In the morning, and whenever the fire gets low, or the floor, or the air of the room is unusually cold, the children should be elevated—the babe in the crib, and others on chairs. Every lady knows that her feet are warmer when placed on a foot stool, even if but a few inches high, than when they are upon the floor. The higher position of the head, neck, and arms, explains why these are warmer than the lower extremities, though the latter are well covered, while the former are bare. This may seem a small matter for discussion in the *Agriculturist*, but our attention to such little things much of our comfort and health often depend. At any rate, while you yourself feel warm, don't forget that the baby on the carpet is in a colder region, and may be actually suffering while you are warm.

Boots and Shoes—Warm Feet.

Those who have half a dozen active children, more or less, to keep shod, have probably found out ere this, that leather has gone up in price almost (but not quite) as rapidly as printing paper. If any one can tell us how to get cheap shoes, or any kind of shoes that will not cost about a dollar a month for each youngster, he will confer a special favor, and we will hasten to publish the fact for the benefit of the rest of mankind. Much can be done to lessen the expense of shoe leather, even at the present prices, by judicious selection and proper care of boots and shoes. A great mistake is made in buying thin shoes, with thin soles, for girls, while boys are provided with thick-soled high boots. A pair of strong boots will last a girl longer than several pairs of thin ones, and will allow her to enjoy the air and exercise which are necessary to health. There is no reason why the feet of girls and women should be more thinly clad than those of boys and men—"Fashion kills more than the sword."

Some of the means taken to preserve leather are injurious to it, while others are injurious to the feet. It is not desirable that a boot should be thoroughly waterproof; when this is the case, the perspiration is confined, and the feet rendered uncomfortable and unhealthy. The "waterproof or varnish blacking" so frequently used, is injurious to the leather, rendering it less pliable. It confines the perspiration, and keeps the feet cold by making the leather and stocking better conductors of heat. All those preparations which claim to render leather waterproof should be discarded. The

method which we have found most satisfactory is to apply melted tallow freely to the soles of the boots and shoes, and to the upper leather about an inch high around the soles. In this way the greater part of the upper leather is left in its natural condition, and will allow the perspiration to escape through the pores, while the soles are kept pliable and waterproof. The application of hot tar, as recommended in an article going the rounds of the press, makes the sole leather stiff, and, being unyielding, it wears off in contact with stones and frozen ground more rapidly than when rendered pliable by tallow. Neat's foot oil, when accessible, is preferable to tallow. When one is walking or working in deep snow or mud, it may be necessary to apply a single coat of grease or oil over the whole upper leather. We have found from experience that ungreased boots and shoes last much longer, and are more comfortable than those made air and waterproof by oil or by impervious blacking.

"Keep the head cool and the feet warm," is a trite prescription for health. The feet are always in a colder atmosphere near the ground, as well as exposed to dampness; and, worse than all, a foolish Chinese fashion, requires them to be cramped in shoes too small to admit free circulation of the blood which is the source, or rather the conveyor of animal heat. Special care is therefore needed to keep them warm. India-rubber overshoes are very good if worn only out of doors, and removed when coming in. Sandals, open over the foot are best, except when obliged to wade in snow or mud. Nothing contributes more to health and comfort than a frequent change of stockings. When stopping exercise at the close of a day's work, we invariably remove the socks filled with perspiration through the day, and put on dry ones for our long ride home to the country. Much comfort, and greater freedom from cold has resulted from this practice. The current opinion, in some parts of the country, is, that wet socks should be dried on the feet. This is not philosophical.

Humbug Doctors.

We are heartily tired of answering private letters inquiring about the character of this, that, and the other New-York "Doctor," whose flaming cards fill up so many columns of the papers, (often unpaid for,) and whose circulars are sent broadcast over the land. There are electrical doctors, Indian doctors, doctors of eyes, doctors of ears, doctors of "specific diseases" of the male sex and of the female sex, doctors of the feet, corn doctors, and more abundant than all others, the lung doctors. We do not advertise their cards, though frequently offered large sums to do so, and it is hardly fair that we should be called upon for so much time in investigating and replying to particular cases. Let us say, once for all, to the readers of the *American Agriculturist*, that we do not know a single one of these large advertising so-called "doctors," whom we would employ in any case ourselves, or recommend to others to do so. The half of them are not to be found at home when we hunt for them; and the other half are charlatans, who seize upon some particular ailment, and announce themselves as Specific Doctors for that disease. Their operations are carried on mainly through the mails. Some have an office or rooms, and by artful words beguile their patrons into submitting to their operations, after paying well for it. As a rule, those who make the greatest show in advertisements are the veriest quacks, without skill or ability to succeed in regular practice. Not a few of these are seapegrasses, figuratively, if not literally, kicked out of the back door of medical colleges, for lack of application to study, or for other just causes. We may say more on this point, but one illustration will serve now: A family had a son who began to be a little hard of hearing. Seeing a spread-eagle advertisement of a Specific Ear Doctor, the parents opened a correspondence with him, and were by his letters, exciting their fears, and parading his own superhuman skill, induced to take the boy three hundred miles, and stay several weeks. Cer-

tain mystical applications of an electric machine were made daily for a month, and the parents and child were kept away from home at a heavy expense. After making a sufficient show to warrant him in charging \$150, the so-called doctor applied a mysterious wash, and in an hour after, the deafness was gone. The parents went home joyful, though it had cost them the savings of several years, and much disturbance of their business for the season. Why should they not rejoice, when their only son had been restored to soundness. They proclaimed the doctor's skill, gave him a glaring certificate, and indeed others to follow their example. Now for the secret. The electrical applications were all a sham, used for effect upon the parents. The drums of the boys's ears had become a little thickened with wax, and incipient deafness had resulted, the same as if they had been filled with cotton. The mysterious ear-wash used in the end, was simply a little warm soap and water, which washed out the wax, and restored the hearing. Any half-skilled country physician, if applied to, could have discovered the cause, and prescribed the simple remedy. We notice by advertisements in our exchanges, that just now a large number of these quack doctors are perambulating the country, stopping a day or two at a time, now here, now there—just long enough to gather up the spare money of the credulous, nervous people, and then they are off. A few temporary stimulants, and the faith of the people in pretentious advertisements, give them a temporary credit, and then they take care to get out of reach of their victims. We caution our readers against any faith in "Electric Physicians," *et id omne genus*.

Gizzards—Teeth—Stomachs.

Plato having defined Man to be a "biped without feathers," Diogenes threw before his pupils a plucked fowl, saying: "There is Plato's man."—Notwithstanding the fact that the *Agriculturist* has Diogenes *redivivus*, as a critic, we shall venture an improvement upon Plato's definition, thus: "Man is a biped without feathers and without a gizzard." This definition applies to man as he is constructed, though not perhaps as he ought to be. Indeed, most people seem to act upon the idea that Nature has made a mistake in not placing a gizzard at the entrance to the stomach; rather they act as if there was one really there. Let us see:

The stomach is a receptacle with soft thin membranous walls, fitted for holding and dissolving food after it is reduced to a fine pulpy state. In this organ the food, if properly prepared previously, is mixed with a fluid called gastric juice; then it passes into the duodenum, (the little stomach or enlargement of the upper intestine) where it is mixed with bile from the liver, and with the pancreatic fluid. These fluids combining with the nutritious portion change it into chyle or a milk-like fluid. As the food moves on through the 25 feet of intestines, the chyle is extracted by myriads of little tubes with mouths opening upon the inner surface of the intestine. These tubes convey the chyle into a receptacle in front of the spine, near the small of the back, whence it is carried by a larger tube and poured into the blood in a vein just below the left collar bone. The blood distributes the nutriment to all parts of the body as needed. But suppose a piece of meat, or a lump of potato, or of apple, the size of a large marrowfat pea, happens to get into the stomach. Having no crushing power, it can only roll the lump over and over, wearing and dissolving off a little from the surface, perhaps. The food heats and sours, if not dissolved, producing pains and dullness, and heartburn, and if there be much of it in this condition, sickness and vomiting, followed by a natural effort to eject the irritant. But usually, the undissolved lumps pass on after a time, and make their way through the entire intestines. As these have a peristaltic or worm-like motion, they are constantly irritated by contact with the hard substances, producing pains, colic, inflammation, resulting often in diarrhoea, or perhaps in dysentery. Every lump of food voided in an undigested condition has been a source of derangement—per-

haps not serious to a vigorous person, but still injurious. Most of the headaches result indirectly from undigested food in the stomach or intestines. But a gizzard at the entrance, with its strong hard sides and supplied with gravel stones, would mash up the lumps, and leave the stomach to go on with its natural functions; more nourishment would come from the same food; heartburn or stomach-ache and irritation of the bowels would not usually be produced. Fowls swallow their food whole, and the gizzard does the grinding.

Shouldn't man have a gizzard then? Not necessarily. Nature, in her wisdom, has given him a "gristmill" right at the entrance of the alimentary canal—sharp incisors in front to cut the food, and back of them molars or grinders to crush it as between an upper and nether millstone. Let these do their full work upon every morsel of food, mashing it to powder and half dissolving it in the saliva of the mouth, and the troubles below will cease—if only so much be swallowed as the stomach can conveniently hold and work up. If the teeth be sore or defective, cut or mash every atom of food to the smallest possible fragments, while still on the plate. This course rigidly followed will lessen the physician's bills, will aid to prevent or cure dyspepsia, will save aches and pains in the stomach, in the bowels, and in the head, and will produce far more nutriment, strength and vigor, from the same amount of food.

CHILDREN'S EATING.

What is said above, applies with especial force to children. How often their evacuations are filled with undigested food, yet these lumps of apples, of potatoes, and other vegetables, etc., can not pass through the body without producing disturbance and pain all along the alimentary channel. No wonder they suffer so much "pain under the apron." No wonder they are so often sick, are so often puny, and that so many of them die with summer complaints. The writer's rule is this: Until children are old enough to understand the subject, or become habituated to masticate every item of food swallowed, care is taken to have their meat cut fine, the potatoes mashed on the plate, and other vegetables either cut or mashed. At breakfast and dinner they eat what others eat, if prepared as above. As they retire early, the last meal is a very light one, consisting of a small quantity of bread and milk, or mush and milk, or bread slightly buttered. Since we learned to adopt the above precaution in regard to preparation of food, and light suppers, they have scarcely been sick at all, they do not complain of pain, have had no howel complaints, Summer or Winter, they show no signs of "starvation," but are vigorous in body and mind beyond their years; and they sleep sweetly and soundly, very seldom waking from 7 P. M. to near or after 6 A. M. Any variation from uniform good health has been traced directly to failure in carrying out our rules. We firmly believe that if these rules were generally adopted and thoroughly practised out, nine-tenths of the pain, sickness, and deaths among children would be prevented.

How to Prepare Hominy.

R. Avery writes to the *American Agriculturist*: "As we are frequently inquired of at the table, how we treat hominy to make it so white and soft, I send you the process for publication. Take strong lye, put it over a brisk fire and when boiling, turn in sound white shelled corn as much as the lye will cover. Boil and stir briskly, until the bran is loose (from 1 to 3 minutes), hurry it into clean water and wash and rub it thoroughly, to remove all specks of bran. Soak it several hours, changing the water each hour: it will then look white and clean. As much may be lulled at a time as there is lye to cover, and after the lye is out, it can be spread and dried for use.—In boiling the hominy, par-boil for a short time, then put it in boiling water, and as you fill up, do it with boiling water. Cold water would set it and it would get no softer. Boil very moderately 8 or 10 hours without stirring, or it will burn. In preparing it for the table, put some in a frying

pan, and when warm mash with a potato masher. Season with salt and gravy or use in milk. In cold weather 19 out of 20 prefer it to the best potatoes."

A \$150 Doll.

If the value of an article should be computed from the amount of benefit derivable from it, the following calculation, originating with some unknown author, is not far out of the way, and is well worth considering by the parents of every little girl. It is unnecessary to say that the passion for dolls with girls, as that for a whip and a knife with boys, is universal. It can be gratified almost without expense; the materials may be found in every rag-bag. But we believe a few shillings may be well expended for something more attractive than the ordinary rag-baby. Let the child have as good an imitation of a 'real live baby' as can be found, and her interest in, and care for the precious treasure will be greatly increased. Here are the figures as set down by one who has tried the experiment:

The increased attractiveness of home to the child is worth during her entire girlhood at least.....	\$25.00
The relief to the busy and often feeble mother while the child is amused with the doll.....	25.00
The cultivation of a cheerful disposition.....	25.00
The development of the best affections.....	25.00
The knowledge of dress-making, millinery, etc., gained by dressing the doll.....	25.00
The motives to faithfulness in other duties, which may be inspired by judicious management.....	25.00
Total.....	\$150.00

Who will say that a single item in the above account is too high? Neither can it be justly asserted that such trifles as dolls for children are unworthy the grave attention of the *Agriculturist*. Whatever ministers to home comfort and improvement, is matter for study: and besides, in judging of the importance of what pertains to children, we should in part look through their eyes. What little girl does not conceive this subject to be one of the very highest possible moment? A MOTHER.

German Economy.

Some of the pleasantest pictures of rural life in Europe, are those drawn by Mr. Howitt. Particularly in Germany, does he find much to interest him. One thing which struck him quite forcibly, was the carefulness with which the country people save everything which can be turned to use. For instance, the roadside is not always set with forest trees for shade and ornament, but is planted with fruit trees, and these are protected and cultivated hardly less than those of the orchard and garden. Again, more pains are taken, than with us, in saving and drying all kinds of fruit for domestic use and for sale in market. Cows are not generally pastured in Summer, but are kept in sheds or small yards, where they are fed in various ways. Grass and clover, refuse fruits, vegetables and meal, etc., are carefully provided for this purpose. In some cases, the women and children go out with sickle and basket, to cut up and gather grass and weeds from the roadside; the boys go into the marshes and woods to gather tall grass and even to cut shrubbery, all for the useful cow. Yes, the useful cow; for not only is every drop of her milk saved and turned to account, but her other droppings are assiduously collected, and applied where most useful.

The tops of potatoes, refuse of hemp, and stalks of beans serve as bedding for the cow; and even the rough stalks of poppies, after the heads have been gathered for oil and seed, are converted into manure for the land. Children are often sent into the woods to collect baskets and bags of moss for cattle bedding, which afterward goes into manure. In the Autumn, the falling leaves by the roadside and everywhere are swept up and stacked for the same purpose. The cones of evergreens are gathered and dried for lighting fires. While the women are tending their poultry and their cows, the knitting needles keep constantly going. In short, the Germans seem to have reduced the scriptural precept to systematic practice: "Gather up the fragments, that nothing be lost." And this same frugality and industry, we are glad to see, prevails widely among the Germans who have chosen this country for their home. With such habits of living joined with virtue, they are sure to prosper.

A Good, Cheap, and Wholesome Dish.

A writer in an Eastern exchange, says: "My family breakfasted this morning, July 20, mainly on boiled wheat. Boiled wheat and milk. Boiled wheat and maple sugar. Not wheat flour, nor wheaten groats, nor cracked wheat, but whole grains of wheat, shelled from the best heads, the larger the better, and soaked in cold water two or three hours, and then boiled in the same water one or two hours, or until quite soft, and the water all absorbed. It should all be cooked while other culinary operations are going on, as it needs to boil or simmer on a slow fire for a good while, and care must be taken at the last that it does not burn. To prevent this, it may be finished off by placing the kettle in a pan of water. How easy for our soldiers to have a change in the bread and salt meat rations, if they may be allowed to glean a few wheat heads, and boil the grains in their camp kettles. How convenient would this little item of knowledge in domestic cooking be to the wife of many a farmer who would gladly get up an extra dish for the tired harvest hands! Try it. How many families are this day living on short allowance, right alongside of a wheat field, or with grain stack or barn near the house, because they can not get it ground, the mill being dried up or broken down, or occupied by 'the army,' or suffering a collapse, so that no grinding can be had."

Hints on Cooking.

Housekeepers' "Recipes"—A Suggestion.—Mrs. W. S. Miller, Dutchess Co., N. Y., suggests that in giving recipes, it is advisable to have only such materials as are found either in the house or in an ordinary country store, and that the idea of economy and health should be kept in view. [This would limit this department to a particular class.—The greater the variety the better, and then there will be something to suit all classes.]

Good Cheap Brown Bread.—Mrs. W. E. Thomas, of DeKalb Co., Ill., writes: "... I would be unwilling to 'keep house' without the *American Agriculturist*. We have been following its suggestions to 'use more corn meal in our cooking,' and among the variety of recipes tried for 'Brown Bread,' the following has come into constant use: Stir thoroughly together 2 teacupfuls of corn meal; 2 of rye meal (or the 'seconds' flour of wheat); 1 of fine flour; $\frac{3}{4}$ teacupful of molasses; $2\frac{1}{2}$ teacupfuls of sweet milk; 1 teaspoonful of salt, and 1 of soda; $\frac{1}{2}$ teaspoonful of ginger. Cook by steaming $3\frac{1}{2}$ hours steadily. It is pronounced by all, most excellent, either warm, or cold."

Mince Pies without Brandy.—Contributed to the *American Agriculturist*, by Maria Ray, Suffolk Co., N. Y. Take 9 lbs. of boiled beef, 2 lbs. suet, 6 lbs. raisins, 4 lbs. currants, 4 oz. cinnamon, 2 of allspice, 1 of cloves, 1 quart molasses, 7 lbs. of clean brown sugar boiled down in 2 gallons of sweet cider to half the bulk. Mix all well together and pour the boiling cider on it. Cover close until next day, when it will be fit to be made into pies. This will keep good for at least six months.

Potato Custard.—Contributed to the *American Agriculturist* by N. Anderson, Franklin Co., Pa.: 1 pint mashed potatoes, 2 cups sugar, 1 of butter or lard, 4 eggs, nutmeg, thin it with milk, and bake.

Crumpets.—Contributed to the *American Agriculturist*, by N. Anderson, Franklin Co., Pa.: 1 quart bread dough, 3 eggs, milk enough to make a batter; let it rise; bake in cakes on a griddle.

Opening Cemented Fruit Bottles.—Mrs. Lucy R. Tatum, New Castle Co., Del. Place the inverted bottles on a heated stove until the cement in the party pans is melted, lift the bottles from the pans, turn them right side up, and the softened cork can easily be removed with a cork screw, or even a stout fork.

Apple Butter.—"J. W. M.," asks some, Keystone State housekeeper to furnish the *American Agriculturist* with a recipe for making the genuine Pennsylvania Apple Butter. Here is the writer's method: Boil new cider down one half. Pare, cut, and core equal

quantities of sweet and sour apples. Put the sweet apples in a large kettle to soften a little first as they are hardest. Add enough boiled cider to cook it. After boiling half an hour, stirring often, put in the sour apples and more boiled cider with molasses enough to sweeten moderately. Boil until tender, stirring to prevent burning. Pack in firkins or stone pots for Winter use. (The molasses is not needed, we think, while it would injure the flavor for many people.—Ed.)

Brandy in Cooking.—Mr. W. W. Nelson, Kent Co., Del., alluding to our remarks on the use of brandy in cooking, on page 372, December *Agriculturist*, gives a ease in point—many such eases have occurred. A young man was reclaimed from apparent ruin by the efforts of the temperance society, and was getting along finely, until he partook of brandy mince pies at a friend's house. This brought back his old appetite, and he is now a perfect sot. "If I can not have mince pies without brandy, I will not have them at all."

Cleaning Pigs' Feet.—J. W. Humphreys, Washington Co., Pa. Put the feet in cold water to soak over night. With a moderately sharp knife, scrape all parts thoroughly until the skin is clean and white. Hold the lower ends in hot water for a minute or two, to part the dew-claws and hoofs which can then be twisted off with the hand. Singe in a clear flame and they are ready to boil for soups or head-cheese.

BOYS & GIRLS' COLUMNS.

The Editor with his Young Readers.

A HAPPY NEW-YEAR to you young friend! I mean you who are just now reading this line, and not some other girl or boy.—Who spoke first this time?—When I was a boy, and it begins to seem a great while ago, though not so long that I have forgotten in the least how girls and boys thought, and felt, and acted, and I still enjoy playing boy with the little ones at home, for it is about all the recreation I have in these busy times—but I was going to say, that when I was a boy in years, there was a great strife to see who should say "happy New-Year" first. Sometimes we laid awake until the clock struck twelve, and then bounded out of bed and ran to papa and mamma's room, and waked them up so as to get the start of every one else. Well, I don't see that boys and girls are much different now. They have more books and papers to read, and probably know more of the world at the same age, but they have boys' and girls' feelings just as we had many years ago, and just as boys and girls did a hundred, and a thousand, and five thousand years ago. I don't believe there were ever more than two persons, who did not have nearly the same feelings, hopes, anxieties, love of sport and pastime, that you have. (Who were these two persons, and why did they have no childish sports?)—But I was speaking of the haste to wish the "Happy New-Year," first. Do you never, in this haste, forget what the words mean? If you really desire papa and mamma to have the happy year you wish them, how much will you do, to make it so to them? Will you do anything? Suppose you begin just now, to see how much happiness you can give them for one whole day. Will you? [I was going to tell some of the ways in which boys and girls may make their parents happy, but I see John and Mary have skipped over the rest of this, and have gone to the puzzles and stories. So I will stop here simply, expressing the hope that they will soon come back and in their own hearts, answer the above questions.]

A CHILD'S DEFINITION.—A little Sunday school scholar, when asked to define *Chaos*, answered, that it was "a great pile of nothing, and nowhere to put it."—Another when asked to define *slander*, said it was "when nobody did nothing, and somebody went and told on't."

A little girl of three years, who was born away beyond the Mississippi, where no orchards were as yet planted, was brought on a visit to Ohio, where she saw an apple tree in full bloom, covered with a profusion of white blossoms—a most beautiful sight by the way. Lifting her fat little hands in an attitude of devotion, she exclaimed: "See God's great big bouquet!"

A little boy whose mother had promised him a present, was saying his prayers preparatory to going to bed, but his mind was running on a horse, and he began as follows: "Our Father who art in Heaven—ma, wou you give me a horse—thy kingdom come—with a string to it?"

To rise early requires quickness of decision; it is one of those subjects that admit of no *turning over*.

A little girl, while rumaging a bureau-drawer, found her grandfather's eye glasses, and at once eried out: "Oh, mamma, ganpa has gone up to hebben widout his specs."



"IT'S COLD.

Do you smile at the plight of this poor urchin? Is there any fun in having such cold fingers, and ears nearly frozen? The boy thinks not; he is crying with cold. "The great lubber!" exclaim the sturdy boys who have just come in from skating or riding down hill, with cheeks glowing, and eyes flashing, and the blood dancing merrily through their veins, clear to their fingers' ends. "Cry for the cold! when a fellow has such fat cushions on his cheeks, and a stout pair of legs to run with; that is too ridiculous, he ought to be laughed at," say you. True enough. If he were doing his best in fighting the storm, pushing boldly ahead, and were then unable to keep from suffering, we should pity him. He would deserve pity.

It is pretty easy to foresee what kind of a man such a boy will make. If he has not pluck enough to bear up bravely against a wintry day, he will make but poor headway in the fiercer battles of life, when he must meet cares, trials, and disappointments. Usually those are least deserving pity who seek it most. The boy or the man who struggles on with a stout heart, no matter what difficulties beset him, will always command sympathy and respect; half of life's battles are won by going straight into the strife with a bold front. Command of one's own powers is in itself alone a great victory.

A Brave Boy and a Narrow Escape.

One day while the writer was in a steamboat crossing the ferry from New-York to Brooklyn, the pilot rang the bell for the engine to stop. On looking out to see the cause, there appeared a small sail-boat, just ahead, managed by a single boy, apparently not more than fourteen or fifteen years old. The tide was running strongly, and the headway of the boat could not be immediately stopped, nor could the little fellow quickly change his course, and it appeared almost impossible to prevent a collision and the sinking of the small boat. Did the boy lose his wits from fright, whimper and cry, and give up all for lost? Not a bit of it. Standing erect at the helm and doing his best to guide his boat, he sung out to the pilot of the steamboat "clear the track, or I'll run you down!" Such was the dauntless spirit of the little fellow, that the passengers cheered him loudly, and more than a dozen stood ready to plunge in to his aid, had his craft been overset. Fortunately this did not happen, though he escaped by only a few feet, and passed safely on, leaving all who had witnessed the occurrence in enthusiastic admiration of his presence of mind and intrepidity.

Girls Skating—Hints to Beginners.

A few years since any girl venturing to appear on skates, would have been called a "tom-boy" and frowned upon by her sex generally. But, for once at least, fashion has introduced a sensible change, and girls may enjoy this healthful and exhilarating exercise. The writer has had the pleasure of accompanying and assisting many young ladies in their first attempts at the art, and has seen the

good effects of proper indulgence in the sport. It has brought roses to many pale cheeks, strengthened weak nerves, sharpened poor appetites, and given new vigor for school and for household labors. Written instructions for learning to skate are worth little. *Go upon the ice and try*, is the only rule by which to acquire the art. It is very well to lean on the arm of a friend, during the first few attempts, but the sooner you trust your own powers, the quicker you will become a good skater. A few suggestions for choosing a pair of skates may be of service. For beginners, the runner of the skate should be about a quarter of an inch thick and slightly grooved, with the bottom nearly or quite straight from the heel to the upward curve at the toe. "Rockers," or skates having the bottom curved from heel to toe, are excellent for skillful performers on the ice, but a novice using them is likely to do most of his skating with his feet in the air. Never buy a skate with a long fanciful curve in front; though they are ornamental, many serious accidents have been caused by the ends of such runners catching in some obstruction. The straps should be stout, and so arranged as to hold the skate very firmly to the foot. The wider the strap the better, as it will be less likely to hurt the foot.

We have seen skates arranged to be fastened by screws to the sole of the shoe without the use of straps, but they did not appear to be held with sufficient firmness for good skating. Keep the ends of the straps well tucked away where they will not slip and get under the runner and thus give you a fall. See that the wood of the skate is strong, without cracks and checks, and that the runner is well fastened to it. Wear well-fitting but not tight shoes or boots of stout leather, and thick woolen stockings.

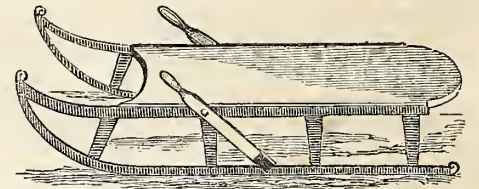


When warm with the exercise, do not stand still to 'cool off,' but move about more slowly, and after skating, always walk briskly home, to keep up active circulation of the blood, and prevent taking cold. Stiffness of muscles and lameness after skating may be prevented by thoroughly rubbing the limbs with a coarse towel or the hand, and putting on dry clothing if the garments are damp with perspiration. This should be done in a warm room, to avoid a chill. Do not make a business of this or any other recreation, sport, however innocent, to the neglect of home or school duties, but use it as a rest from them and a preparation for their more successful performance.

How to Save Your Shoe Leather.

Riding down hill on a sleigh is a fine winter sport. It makes the writer feel young again to think of the splendid times he used to have at it, when a boy. But he well remembers also that the fun was terribly destructive of shoe-leather. It was necessary to use the feet for rudders, and even stout cow-hide boots were soon whipped out at the toes. In the engraving below is shown an easily made apparatus for steering a sled, by which the feet are left at liberty, and the waste of leather prevented.

It is simply two stout oaken sticks shod with iron at the lower end, bolted one on each side of the sled. The hole for the bolt should be large enough to allow the sticks to move freely. By pulling on the upper end of the stick



the lower part is brought against the snow or ice, and acts as a rudder to turn the sled toward the side on which the stick is used. This will guide the sled more certainly than the heel or toe of the foot, and enable the rider to sit in an easier position, in addition to saving the shoes

The Statesman and the Horse.

Edmund Burke, one of England's greatest Statesmen, retired from London to spend his last days on his farm. While there, a report was started that he had gone crazy, that he went round his premises kissing the horses and cows. A friend immediately visited him to learn whether the report were true. He soon found that Mr. Burke had lost none of his mental faculties, and in a private interview with Mrs. Burke, he learned how the rumor of his insanity had been started.

Mr. Burke's only child, a young man of rare promise, had died a little while before, leaving behind him a favorite old horse. This animal, so endeared to him by association with his son, was turned into the field by Mr. Burke, with directions to all the servants that he should be treated as a privileged favorite. One day as he was taking his morning walk, the great man saw the animal at a distance, and noticed that he was recognized by him. The horse drew nearer and nearer to Mr. Burke, stopped, eyed him with a most pleading look of recognition which said as plainly as words could have done, "I have lost him too," and then the poor dumb beast deliberately laid his head upon Mr. Burke's bosom! Struck by the singularity of the occurrence, moved by the recollection of his son for whom he had never ceased to mourn, and overwhelmed with the tenderness of the animal, the illustrious Statesman clasped his arms around the neck of his son's favorite animal, lifted up that voice that had filled the House of Parliament with the noblest strains of eloquence, and wept aloud. It was not weakness of mind, but strength of affection, that bowed the man who had through life stood unmoved amid the fiercest storms of political strife.

LEARNED IT TOO LATE.—"Buy one of these superior razor strops Sir, and I will tell you a secret worth double the cost for only twenty-five cents." "I'll take one," said a bystander. Mr. Smith handed him a strop and a box of paste, and went on selling. "Look here," interrupted the purchaser, "you promised to tell me something worth double the price." "Ah, so I did," said Smith, "and it is this. If you had bought a box of the paste for five cents and put it on to your old strop, it would have made it just exactly as good as a new one."

EDITOR'S NOTES.—Being much occupied with business, I have left one of my associates to prepare this page, and must put in a word or two here, by way of query. *First.*—Is not that a poor boy in the picture, without clothes enough, or mittens, to keep him warm, and therefore to be pitied? *Second.*—Was that boy in the boat brave or reckless? *Third.*—Are there not other out-door sports quite as healthful, and appropriate for girls as skating? We do not say there are, for by all means girls should skate rather than grow puny in a hot room.—The skating and sliding down hill we can not write about from experience. Like thousands of our young readers at the West, we lived in a new, nearly level country without hills or ice ponds, and there were too many "chores" for us boys, out of school hours, to admit of skating or coasting. The work did not hurt us, but we are glad to see the boys and girls play—if they do not shirk all the work off upon their already overtaxed parents.—O. J.]

The person who received an injury from an accidental discharge of his duty, is in a fair way to recover again.

A Boy that will Never be a Man.

In New-York, as elsewhere, it is becoming quite customary to send home articles purchased at the stores; some "stuck up" people have even ordered a spool of thread sent home. Happening into a book store this morning, we saw a lady purchasing some books for her son who was with her—for Christmas presents probably. When put up they made a package about ten inches long, five inches high, and six wide. She ordered them sent to her residence about 3½ miles up town. The bookseller said to her boy: "Can't you take them up in the cars with you, my man? My porter is sick to-day, and it is quite inconvenient for me to send them so far home." "No! I don't carry bundles for a living."—We pitied that boy from our heart, and could not but feel that his mother was spoiling him by indulging him in such notions. Here was a boy 13 or 14 years old, who could not, or rather would not, carry a bundle of books for himself, that was not at all bulky, and weighed, perhaps, only five or six pounds. He was above "carrying bundles"—rather he was *below* it. He had not dignity or independence enough to be seen with a bundle, though it was for himself. He probably does not read the *American Agriculturist*, and so we can not speak to him directly, but to other boys we say, that if that boy lives to be forty years old, he will never be a man, in the true sense of that word. His parents may leave him money enough to keep him along awhile, but he will never earn or save much. He is coming up with habits that will unfit him for the real work which all successful men must go through with, no matter what their calling or business.—Two good illustrations are given in the life of Girard of Philadelphia, who rose from poverty to great wealth. While in a provision store, a man came in and bought a fish. Instead of carrying the fish himself, he offered a clerk a shilling to hire some one to carry the fish a few blocks. Girard at once offered to do it, and actually went by his side, carrying the fish, and received the shilling. You may guess the man's surprise when he afterwards learned who had carried his fish. Girard owned the entire block in which this man hired a dwelling.—At another time, two young men commenced the sail making business. They bought a lot of canvas from Girard, on credit, a friend having agreed to endorse their note. They each took up a roll to carry off, when Girard remarked: "Had you not better get a cart?" "Oh, no," they responded. "It is not far, and we can carry it ourselves."—"All right," said Girard, "but you may tell your friend he need not trouble himself to endorse your note. It's good enough without!" He well knew that men not above their business, not ashamed to do any honorable act, were the very men to succeed.

Answers to Puzzles and Problems in December No. (page 373). *Rebus.* No. 20. Key put our age 1 hoe awl bed ark: or by dividing the words a little differently, Keep up courage though all be dark.

Arithmetical Problem.—No. 22.—Paper money is at 24 8-33 per cent discount, reckoning gold coin at par.

Arithmetical Problem.—No. 23.—A. should have 80 cents, B., 20 cents of the dollar paid by C. for his share.

Riddle.—No. 21.—The engraving below is the answer to the riddle given last month, which reads: "A four handed rider, on a two legged steed, Whipped up the feathers and made very good speed."



No. 19.—Correctly answered by "R. G. F.", L. Lawrence Fisher, C. A. Veatch. No. 20, by George M. Kelly, "Random," Oren Stone, Mary Esther Parkin, Frank B. Conger, T. B. Cunningham, Jno. D. Talbot (and 21),

Wm. H. Tracy (and 23), Malissa Church, Jarvis H. Arnold, Walter E. Talmage, Lizzie Melcher, Arthur Gilbert, A. Martin. Rufus W. Weeks answers all. Isaac T. McLain, 22, 23; "C. C. C." 21; J. G. Bunnell, 22, 23, Cornelius Hoagland, Jr. 23; Frederic A. Fill, 23; A. G. I. C. Whitc, 20, 22, 23; E. M. Swan, 20; B. F. Nye, 22.

New Puzzles to be Answered.



Fig. 1.



Fig. 2.

No. 24 and No. 25. *Two Picture Puzzles to be guessed.* How does Fig. 1 represent an economical man? How does Fig. 2 represent an enterprising business firm; and can you tell how it also represents a fortress?

No. 26—Riddle.

I have no head, yet from my lips
Fall words of wondrous weight;
I mark the course of mighty ships,
And guide affairs of state.
Darkness pursues my winding track,
Yet nothing gives more light:
You'll find me when you answer back,
If this you read aright.



No. 27. *New Rebus* containing a truthful sentiment. This is one of the most difficult puzzles of the kind we have published, and it will require no little perseverance to find the correct answer.

To Sunday-School Teachers and Others.

The new Question Book referred to last month, is now issued, and is even better than we expected. The binding is superior to what was intended at first, the covers being stiff, and in the usual style of binding such books, instead of in simple paper covers, as first announced. (This increases the postage to 4 cents, as it weighs over 3 oz.) After the sheets were struck off, we concluded to issue an edition at the Office of the *American Agriculturist*, where it will be supplied to all desiring it, by the single copy or by the hundred, at the uniform price of 10 cents, or 14 cents by mail—which, at the present price of paper, will hardly pay expenses. A hundred put up to go by Express or otherwise, will weigh about 20 lbs. The book is thoroughly evangelical, but not at all sectarian. It is simple, yet comprehensive; 52 lessons, including the leading events in Christ's life, and in the introduction of the Gospel afterward, are arranged in the order of time. Each lesson is completed on two pages opening together. The scripture text of the lesson is printed in full, with the probable time and place of occurrence. A condensed history of the events between each two consecutive lessons is given, so that by reading the lessons, and the connecting history, one gets an outline of all the events of the Gospels and the Acts, in order of occurrence. Simple questions directly upon the lesson are given in larger type. With these are a considerable number of other interesting and instructive questions, having the answer printed in full, or more frequently with the answer indicated by reference to a passage of scripture which gives a full explanation. Many interesting items of information, not accessible to the common reader, are given, as will be seen on looking over the questions. The book is specially valuable to the great mass of teachers who have not access to commentaries and other helps. The pronunciation of the more difficult proper names, is indicated by an *accent mark*. We are perhaps the more partial to the book, as it is the carrying out of a plan of systematic lessons we have long been aiming at; the ex-

ecution of the plan was intrusted to abler hands. Mr. Beach, Editor of the *N. Y. Sun*, a life long friend of Sunday Schools and for years Superintendent of one of the largest and best schools in the country, who chanced to fall in with one of the first copies, said in the *Daily Sun* of December 16:

"The Sunday Schools of the whole country have suffered from the want of a question book suited to their requirements, more than from any other single cause. Every thinking person has remarked it, and hundreds of authors have made vain efforts to fill the need. In the little book before us, the practical work of a practical man, practically engaged in the Sunday School work, we for the first time discover something really valuable. It epitomizes the whole New Testament history in chronological order, and is both text and commentary, teaching the teacher and helping the scholar. That it will be widely adopted in Sunday Schools we do not question."

The Two Caterpillars.

"Patches and patches, I'm sick of patches!" exclaimed George Rider, as he sat watching his mother, who was repairing the knees of his old pantaloons.

"Mother," he continued, suddenly, as a new idea started, "why did God make us poor? I'm as good as Joe Berry, but his father's rich, and he don't have to wear patched clothes. And you ought to see what nice things he has for dinner every day—pies, and cakes, and candy—and he's just as stingy as he can be."

"Poor soul!" said his mother, in a way that made George open his eyes wide.

"Why, mother, what do you mean?"

"I was thinking about two caterpillars," she replied.

"What a funny mother you are!" said George; "what in the world have caterpillars got to do with Joe Berry?"

"I'll tell you the story, my son," said Mrs. Rider, "and you may then answer your own question."

"Two caterpillars lived in a large garden; they looked very much alike, only one was covered with brown hair, and had black rings around his body, and the other had black hair all over, without any rings. The brown caterpillar lived on a large cabbage. It was a real palace for him. There were the large spreading leaves, over which he walked with as much satisfaction as ever a lord surveyed his extensive parks. He had fine rooms among the openings of the leaves, where he could curl himself up for a nap, snugly sheltered from rain and dew. Right at the top of the cabbage was his dining-hall, filled with the tenderest, choicest morsels of crisp leaves, which caterpillars love so well. Oh! he was very rich, and had everything a caterpillar could wish for. The little ants that climbed up to his palace, and the humble insects that picked up their living along the lanes and streets of the leaves, all looked up to him with awe, and saluted him very humbly as he walked about his wide domain.

"The black caterpillar had his home on a humble burdock that grew in a corner not far from the great cabbage. It was only a small plant, for if it had spread itself like the cabbage, the gardener would have quickly rooted it out. This poor fellow had to work hard for his living, and often to go hungry, for there were but few tender sprouts for him to nip, and he had to roam about and pick up here and there a bite as he could find it."

"But why didn't he go to the big cabbage?" asked George, who was becoming much interested.

"He would have done so," said his mother, "but the gardener had placed a bright piece of tin around the stem of the plant to keep off the worms, not knowing that one had already taken up his quarters there. The tin was so smooth that, though the poor caterpillar walked round and round it, he could not crawl half his length upward, before back he would fall in the dust.

"One day, while he was looking wishfully up to the luscious leaves above him, his rich neighbor happened to peep over the edge, and the poor caterpillar eagerly exclaimed: 'Brother!'

"'Brother, indeed!' muttered the other, proudly curling himself, so as to display his rings; 'you've made a mistake, I'm thinking.'

"'I'm thinking so too,' replied the poor caterpillar. He had intended to ask his neighbor to nip off a leaf from the cabbage and drop it down to him, but he saw it was of no use, so he crawled sadly back to his humble quarters on the burdock, and continued to grub for his living.

"The Summer passed on; the brown lordling revelled at his full table until he grew as fat as a prize-pig, but the heart of the cabbage was spoiled by his greedy tooth. The humble black laborer worked so faithfully at his burdock that it grew but little, and so the garden was kept free from its seeds, which would otherwise have ripened and scattered.

"And now the Summer was nearly ended, and the caterpillars knew they must prepare for the winter's cold.

"They therefore each left off eating, as is the custom of such creatures, and sought a secure place where they could rest in safety. The brown caterpillar climbed a tree at some distance from the garden, and spun for him-

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These premium (13 to 18), will enable any one to secure the previous excellent volumes of the American Agriculturist, as far back as Volume XVI. These will be sent post-paid, in clean, new numbers, each volume by itself, with index. The whole five can be taken together, or one or more copies of any particular volume be selected, as desired. They will be presented as in the table above, viz: For 20 Subscribers at \$1 each, (or 35 at 80 cents each), we will present six volumes. For 16 Subscribers at \$1 each, (or 30 at 80 cents each), we will present five volumes. For 13 Subscribers at \$1 each, (or 25 at 80 cents each), four volumes. For 10 Subscribers at \$1 each, (or 20 at 80 cents each), three volumes. For 15 Subscribers at 80 cents each, two volumes. For 10 Subscribers at 80 cents each, one volume.—Let every one be careful to name just which back volumes are desired.

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20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of Windsor & Newton's Water Color Paints—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where in the United States within 3000 miles.

Premium No. 21—Paints.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of Osborne & Hodgkinson's Water Color Paints, consisting of 24 colors or shades, put up in a neat case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, will answer for ordinary practice by children or beginners, and for common sketching. Sent same as No. 20.

Premiums Nos. 22 to 26.

We have not space left to describe these particularly, this month. The Cylinder Plow was described in this journal last year. It is undoubtedly a great improvement. The Eagle Plow is well known, and so is the Hay and Straw Cutter, and the Steel-toothed Cultivator, one of the most useful implements on the farm. The Lard and Wine Press is a very convenient household implement, for pressing out lard or tallow, the juice of grapes, currants, berries, &c. For the prices, and subscribers required, see the table above.

Market Review, Prices, Weather, etc.

AMERICAN AGRICULTURIST OFFICE, New-York, Thursday, Dec. 18, 1862.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Table with columns: RECEIPTS, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 24 days this month and 27 days last month.

Table with columns: SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 24 days this month and 27 days last month.

2. Comparison with same time last year.

Table with columns: RECEIPTS, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 24 days 1862 and 25 days 1861.

Table with columns: SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 24 days 1862 and 25 days 1861.

3. Exports of Breadstuffs from New-York, Jan. 1, to Dec. 17.

Table with columns: Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1862 and 1861.

4. Receipts of Breadstuffs at Chicago, Jan. 1, to Dec. 8.

Table with columns: Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1862 and 1861.

CURRENT WHOLESALE PRICES.

Table with columns: Nov. 19, Dec. 18. Rows for Flour, Super to Extra State, Superfine Western, Extra Western, Extra Genesee, Snper to Extra Southern, RYE FLOUR—Fine and Snper, CORN MEAL, WHEAT—All kinds of White, All kinds of Red, CORN—Yellow, White, Mixed, OATS—Western, State, Rye, BARLEY, BEANS—Medium and Pea, bn, Marrow and Kidney, HAY in bales, per 100 lbs., COTTON—Middlings, per lb., Rice, per 100 lbs., Hops, crop of 1862, per lb., FEATHERS, Live Geese, p. lb.

Table with columns: SEED—Clover, Timothy, SUGAR—Brown, Molasses, New Orleans, p. lb., COFFEE, Rio, per lb., Tobacco—Kentucky, &c, p. lb., Seed Leaf, per lb., WOOL—Domestic fleece, p. lb., Domestic, pulled, per lb., TALLOW, per lb., OIL CAKE, per tun, Pork—Mess, per bbl., Prime, per bbl., BEEF—Plain mess, LARD, in blbs, per lb., BUTTER—Western, per lb., State, per lb., CHEESE, Brood Corn—per b., Eggs—Fresh, per dozen, Lined, per doz., POULTRY—Fowls, per lb., Ducks, per lb., Geese, per lb., Turkeys, per lb., PARTRIDGES, per pair, WILD PIGEONS, per dozen, WILD DUCKS, per pair, VENISON, per lb., POTATOES—Common, p. bbl., Buckeyes, per bbl., Peach Blow, per bbl., Mercers, per bbl., Sweet Delawares, per bbl., Sweet Jerseys, per bbl., ONIONS, Red & Yellow p. bbl., White, per bbl., Turnips—Rutagas, p. bbl., Marrow Squashes, per bbl., PUMPKINS—Cheese, per 100, CABBAGES, per 100, APPLES, Western, per bbl., Apples, choice, per bbl., Apples, River, per bbl., QUINCES, per bbl., CRANBERRIES, Cape Cod, p. bbl., Western, per bbl., DRIED APPLES, per lb., DRIED PEACHES, per lb., HICKORY NUTS, per bushel, CHESTNUTS, per bushel.

The condensed Tables, given above, present in concise form a summary of the transactions for a month past. These figures are laboriously prepared from a large mass of notes collected by us daily, in the markets and elsewhere. It is to be noted, however, that the past business month has been only 24 days, owing to the occurrence of Thanksgiving holiday, to there being one day less in November than in October, and to the fact that there were five Sabbaths in November, this year, the last two of which are included in the month ending to-day. Still, it will be seen that the receipts were 131,000 barrels of flour in excess of the previous month, equivalent to 655,000 bushels of wheat. The receipts of Wheat are very nearly the same, if we allow for the extra days last month. Corn, Rye, and Oats, have come in more freely. The sales of Breadstuffs have been considerably lessened, as shown in the second part of table 1. By reference to table 2, it will be seen that while the receipts (allowing for one day less) have been about the same as last year, the sales have fallen off materially. Inland navigation is now closed, and though the railroads will continue to bring forward considerable supplies during the Winter, the prices will depend much upon the amount of the supplies already here. These are not believed to be very large. During the past month there has been no exciting cause of activity in Breadstuffs, and the market has been very quiet. The variations in the value of Gold and foreign exchange, have had the most to do with changes in prices. As was shown in an editorial article in the American Agriculturist for November (page 328), a rise in the relative value of Gold and currency, produces a corresponding rise in Sterling exchange, in which case it is more advantageous to send abroad wheat than gold, and the export demand is consequently better. During the past four weeks gold has vibrated between \$128 and \$133, or a premium of 28 to 33 per cent, upon the standard paper currency, and the prices of Wheat and Wheat Flour, and Corn, have changed nearly in the same ratio. The financial policy to be adopted by Congress is not settled. On the one hand it is proposed to raise money for the expenses of Government and the war, by selling stocks at whatever price they will bring in the market. This would be a move towards returning to a specie basis. On the other hand it is proposed to increase the issue of currency. If the latter policy be adopted, and many financiers think it the only practicable mode of raising funds, the relative value of gold will be increased with the increase of paper issues, and the prices of farm products will rise correspondingly. Thus: should the premium on gold rise to 100 per cent, it would be just as cheap to send abroad Wheat at the price of \$3 per bushel, in currency, as to sell it at \$1.50 per bushel if gold were the par standard of valuation. As we showed in the article above referred to, farmers are directly benefited by this disturbance in the relative value of gold and paper currency, whatever may be the present or ultimate effect upon other classes and upon the country at large. If the currency be doubled, the prices of farm products go up accordingly. It is true that these prices are not on a gold basis, but if the double price be in a currency that is at par in paying of debts for land, or other liabilities, the increased nominal price is directly advantageous. The general

opinion is that further issues of currency will be made, and that the prices of breadstuffs will go up; and we find dealers disposed to hold on to their present stocks.... Rye has come in much less freely, while the transactions in stocks on hand have been much lighter than the previous month, and market prices average about 5 cents per bushel higher than at the date of our last report.... Barley has not been so largely dealt in; the fever heat of speculation has in a measure subsided, and prices have declined from \$1.45 @ \$1.60 to \$1.25 @ \$1.45 per bushel. Provisions have not been very active. Mess Pork has advanced fully \$1 per barrel. Live Hogs are coming forward, for packing at this point, more freely than ever before, the receipts for the past week being 53,778. This is caused by the unsettled condition of things at the Southwest, and by the scarcity of barrel-makers at the West. New-York city is just now the "Porkopolis" of the country.... Groceries, Rice, Tobacco, and Wool have been quiet, without material change in prices.... Hay, Hops, and Seeds have been in good demand. The present prices, and any changes since last month, are indicated in our table of Prices Current.

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been abundantly supplied during the past month, the average being 5,342 per week. Prices fell off a little Nov. 25., advanced 3/4 c. Dec. 2nd, and 1/4 c. more Dec. 9th. At the last general market, Dec. 16th, prices again declined 1/2 c. There were 6,276 heaves on sale, some of them very fine. Prices ranged at 10c. @ 12 1/2 c. per lb. for the estimated weight of the four quarters, for Christmas or premium bullocks; 8 1/2 c. @ 9c. for prime animals; 7c. @ 8c. for common to medium; while the poor grades, some of them genuine "scallawags" went at 5 c. @ 6c. The average of all sales was about 7 1/2 c.

Veal Calves.—Receipts have averaged 490 per week. Fewer calves are sent to market now than at any other season of the year. They sell quickly, at best for 6c. @ 6 1/2 c. per lb. live weight; 5c. @ 5 1/2 c. for good and 3c. @ 4c. for bobs and coarse overgrown calves.

Sheep and Lambs.—Receipts are falling off and prices gradually advancing. Average receipts 10,039 per week, with a demand exceeding the supply. Several thousand dressed sheep are sent in each week, which makes up in part for the deficiency of live stock. Quite a number of extra large fat sheep sent in for Christmas mutton brought \$15 to \$18 per head. Some of them weighed 240 lb. each. Good sheep at 100 lbs. are worth prices equivalent to 5 1/2 c. per lb. live weight and fair stock 5 1/4. Pelts are worth in quantity \$2.00 @ \$2.25 each.

Live Hogs—Were never before so abundant in this market. Receipts have averaged 47,166 per week, and numbered for the week, ending December 16, 53,778—the largest number ever received in a single week. In the face of such arrivals hogs are selling well and prices have advanced a little during the month. Prime fat, heavy, corn-fed hogs readily command 5c. @ 5 1/2 c. per lb. live weight; medium hogs 4 1/2 c. @ 5c., and distillery-fed 3 1/2 c. @ 4 1/2 c. Packing is carried on to an extent never before equaled in this region.

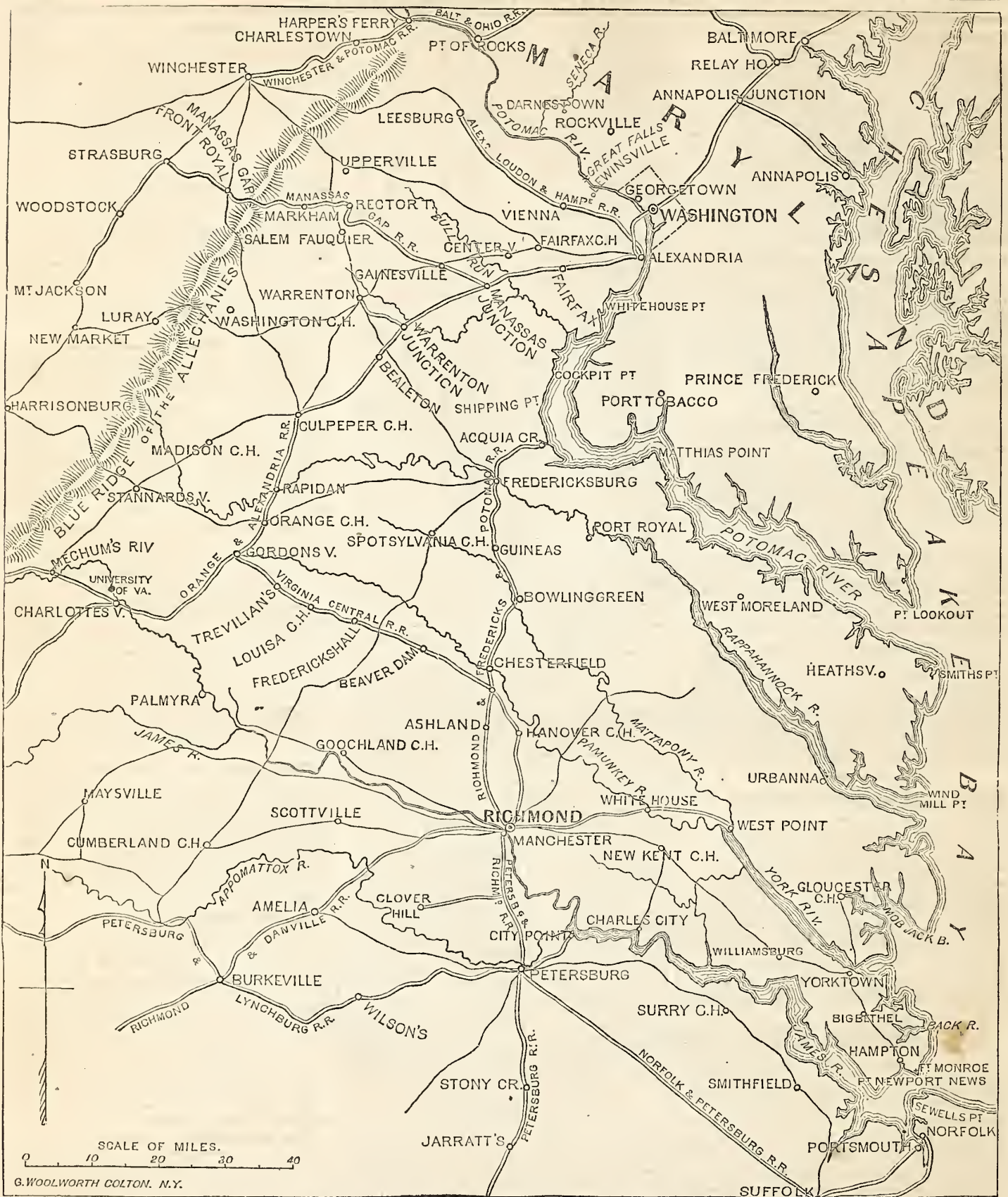
The Weather has generally been fine for winter with but little severe cold, the coldest day being 14° above zero. We have had comparatively but a light amount of rain and one fall of snow, an inch deep.—OUR DAILY NOTES CONDENSED, read: November 20, 21, heavy N. E. rain—22, cloudy, cool—23, 21, clear, windy—25, clear A. M., cloudy P. M., rain at night and on 26—27, 28, clear, fine—29, clear A. M., light rain P. M.—30, clear, mild.—December 1, light rain—2, clear, fine—3, cloudy A. M., and slight rain P. M.—4, cool—5, cloudy A. M., slight rain P. M., and 1 inch snow at night—6, clear, cool—7, coldest day of the season, mercury 14°—8, clear, cold—9 to 13, fine, clear, mild days—14 @ 15, fog A. M., clear and mild P. M. both days—16, windy with showers—17, 18, 19, clear, cool.

The Rain Fall and melted snow, for month ending Dec. 15, amounts to 4.03 inches which fell sufficiently to be measured at six different times, besides other light showers. The Barometer has shown marked and extreme variations, the range being nearly 1 1/2 inches, from 29.35 inches to the unusual height of 30.70 inches on Nov. 16.

Thermometer at G. A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrnheit).—r indicates rain—s, snow.]

Table with columns: NOVEMBER, DECEMBER. Rows for days 1-6 of each month with temperature readings.



Outline Map of Eastern Virginia.

The above map is inserted for the convenience of our readers, who are all doubtless interested in the momentous events now transpiring, and about to transpire in the region indicated.—A very large and very minute map of the whole of the State of Virginia, giving even the smallest towns, roads, etc., can be supplied at the *Agriculturist* Office for 25 cents. (Sent post-paid by mail for the same price.) The large map can no longer be afforded as a premium.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed upon our tables since our report in the November *Agriculturist*.
 FRUIT.—Apples.—Baldwin R. I. Greening, Vandevere, from M. J. Taylor, of Gloster, N. J. Sweet-sour apples, from Ich.

Pope, of Enfield, Mass. Gloria Mundi, from C. H. Lillenthal, of Yonkers, N. Y. Maiden's Blush, from Wm. E. Stiles, of Flushing, L. I. Hawthornden, Dutch Mignonne, from P. J. Ward, of Bloomfield, N. J. Mellow Heart, from Mrs. D. Lawrence, of Mt. Pleasant, N. Y. French Pippins, from F. C. Farley, of Milburne, N. J. Sweet-sour Apples, from C. J. Minor, of Woodbury, Conn. Baldwin, Hubbardston Nonsuch, Killam Hill, from Josh. T. Holt, Andover, Mass. Hawthornden, Granny Winkle, from E. Williams, of West

Bloomfield, N. J. R. I. Greening, from Edw. Brown, of Deer Park, L. I. Union Apple from Greenwich, Conn. Gloria Mundi, from P. F. Peek, of Yonkers, N. Y. Sweet-sour Apple, from T. Wileox, of Bennington, Vt. Iron Apples, from G. M. Usher, of Port Richmond, Staten Island. Gloria Mundi, from West Farms, N. Y. Gloria Mundi, from Robt. French, of Westfield, N. J. Penn Winter Apples, from S. W. Noble, of Jenkinstown, Montgomery Co., Penn. Collection of Apples, from P. H. Ashton, of Middletown,



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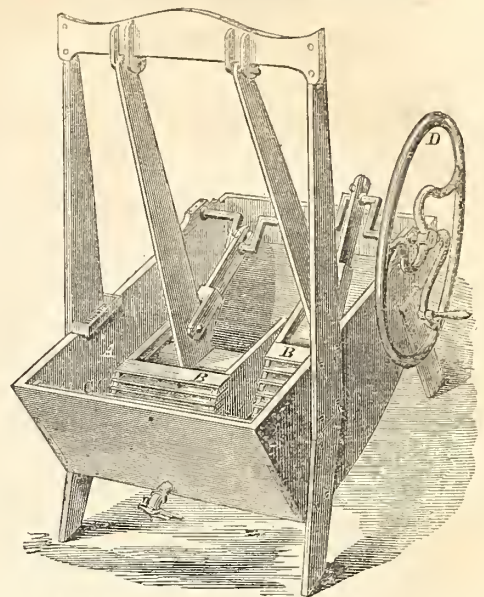
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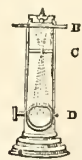
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Many Journals Have Gone Up.

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Some Have Gone Down.

A considerable number of papers in different parts of the country have been obliged to stop or to continue at a loss. The list of suspensions counts by hundreds already, and includes several Agricultural Journals.

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The Agriculturist is too strong to go down, and it will not go up in price. The standard rates for many years past, will be continued for 1863, viz: \$1 a year; clubs of six for \$5; clubs of ten or more, only 80 cents each.

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Another Reason.

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More Reasons.

But the strongest, and most numerous reasons, just now, are the multitudes of subscriptions coming in—both new and old. Twenty five per cent more names have been received, since September, than during the same period last year. Such generous patronage will do something toward meeting the increased expense of paper.

And Now

Our readers know just where and how we stand. The Agriculturist will go on with unabated vigor, and undiminished in value, and yet at no extra charge, notwithstanding the greatly increased cost of publication. Will it not be a pleasure, then, to all our readers to reciprocate and each aid in raising the subscription list to the highest possible point? The paper would doubtless be interesting and instructive to some friend or neighbor, if brought to his notice. A word from you will add his name to our list and the result be satisfactory, we trust, to all concerned. What say you friend?

American Agriculturist in German.

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VOLUME XXII—No. 2.

NEW-YORK, FEBRUARY, 1863.

NEW SERIES—No. 193.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. Other Journals are invited to copy desirable articles freely, if each article be credited to *American Agriculturist*.



Suggestions and Notes for the Month.

In England, where the influence of the surrounding sea water modifies the temperature of the atmosphere, plowing and even sowing of seed are frequently begun as early as February. Here, except at the far South, all field operations are suspended, though the continuance of such warm weather as has prevailed throughout the first half of the Winter season proper, would admit of plowing the lighter sandy soils, or all such as will not pack and bake if worked in a wet condition. Other field work, gathering stones and roots, draining, fence building, etc., could also be carried on with facility. But we can scarcely look for such weather in February. Maple sugar making, and cutting and hauling fuel, timber, and fencing materials, are the chief out-door employments, aside from the care of domestic animals, and the important work of increasing the manure heap as much as possible. This is the season for "manuring with brains," as our friend Tim Bunker would term it. Western farmers tell us they do not need so many chapters on farm manure; that they are about as much troubled to get rid of the stuff, as Eastern farmers are to procure it. But Tim Bunker's manure will certainly pay, even on their rich virgin soils. We can not too often enforce the fact, that "it is the mind that makes the man." It needs no argument to prove that of two farmers having equal health, equal physical strength, and placed in similar circumstances, the one having the most brains, the one who thinks most, and plans best, will achieve the greatest success, with the least wear and tear of muscle. Abundant examples in proof of this are to be found everywhere. We would impress upon farmers the fact that thinking and intelligence pay quite as well in soil culture, as in any other pursuit. Reading is an aid to thinking. That man is to be pitied who is so opin-

ionated, so self-sufficient, as to say in earnest, "I want none of your book farming." What is this "book farming" but the effort to collect the opinions and experiences of a great number of men, and convey them in printed, instead of spoken words. No one can read a sentence relating what some one else thinks of a particular crop or mode of culture, or describing another's practice, without being led into a new train of thought, and in the end his own practice will be improved thereby. Then, again, how much it lightens one's labors, how many weary hours of work pass away more pleasantly, if he have new subjects of thought to occupy the mind. How long the day is, when following the harrow, or swinging the ax from sunrise to sunset, if one have not a store of ideas to draw upon. Take as a single illustration, the article on page 52 of this number of the *Agriculturist*. Will it not relieve the tediousness of "sprouting potatoes" all day, to see in each tuber a beautiful arrangement of the stem and eyes? There are ten thousand such things to be observed and learned in connection with every department of farm life—more here than in any other business pursuit, because a greater variety of objects are constantly presented to the eye. Not only the trees and plants, but even the sticks and stones speak a language to him who learns to read that language. And this passing month of February is just the time to be reading, thinking, and planning; the time to be laying in a store of thoughts to be worked over in the mind next Summer while the hands and eyes are occupied with work. It may "please the flesh" to lazily while away the stormy days and the evening hours at the store, in trashy gossip, and in story telling; but the gathering of information from books and papers treating of field and garden crops, of animals, of improved implements, of the structure of soils and of plants, of the laws of vegetable growth, etc., will not only furnish food for thought while at hard labor, but will also lead to new plans that will put money in the purse.—As usual, we place together here sundry hints which are designed, in the main, to be merely suggestive.

Work for the Farm, Household, etc.

Animals.—Have the hints thrown out last month been acted upon? They will bear looking over again. A full grown horse, or working ox, or milch cow, may remain about stationary, if already in good flesh; but with these exceptions, every animal should be improving in condition from week to week. It is a mistake to suppose that animals must make their growth and lay on fat during the Summer, and merely be a bill of expense during Winter. If a calf, steer, heifer, sheep, or hog, be not plainly increasing in weight, there is some defect in the feeding, sheltering, watering, or salting, and the defect should be looked into and remedied at once.—The colt, calf, or lamb, to be dropped in

Spring, will be of greater value if the dam be well cared for now. It is well at this season to inquire whether the breeds of animals now kept, are the most profitable, and how improved blood may be introduced. If a colt from one stallion be worth \$20 more at birth than one from another, will it not pay to give \$10 more for the use of the former? The breeding and raising of a horse worth \$150 costs no more than for one worth only \$75 when grown. The same hints apply to other animals. "A word to the wise," etc.

Buildings.—For those already constructed, the directions of last month will nearly suffice. If the weather admit, painting may be done now, and during March or early in April; it is more lasting if dried and hardened during cool weather, than if applied when the sun shines brightly upon it. A coat of paint on weather beaten clapboards will add several years to their durability.—If new buildings are planned for, the sooner the lumber can be procured and set to seasoning, the better. Study convenience in the internal arrangement of dwellings. A slight change in the location of rooms and stairs may save hundreds of steps daily, for a life time. A cellar under the whole house costs only a little extra digging and two pieces of end or side walls, more than for half a cellar. A two-story house requires no more roofing and flooring, and but a little more siding up, and wall plastering, than does a story-and-a-half house.

Corn, in the crib, bin, or still in the sheek needs special care; it is one of the most difficult crops to keep in good condition, owing to the moisture in the cob and chit. A large amount of that brought to this market is sold as "unsound" at considerably less than the market price for sound corn. A very little extra care in the farm storage will often add ten to thirty per cent., or more, to the market value, which is all clear profit, as the cost of handling and transportation is not increased. There should be no dampness or heating in the crib, or wherever it is kept. Narrow cribs, with free ventilation, are essential. In preparing corn for market, it is advisable to break off the tips of the ears before shelling, and feed the small and imperfect kernels. These fill in the chinks in measuring, so as not to increase the bulk materially, and do not add their feeding worth to the weight, while the plump grain kept by itself, will sell more readily and for a higher price. Let seed corn for next year be selected from the largest, soundest ears, and be kept dry.

Corn Stalks, contain much more nutriment than is generally supposed, judging from the little care used to preserve them in good order. Cattle can not be blamed for refusing them when weather beaten by exposure to rains, and injured by heating in unprotected shocks. We know of an instance where a man kept a horse and cow all through Winter, from grass to grass, mainly on the stalks from 1½ acres of well

grown corn. The stalks were cut early, dried in small shocks, and then stored under dry covering. They were cut very fine, wet, and a little ground stuff sprinkled over. Less than half a ton of hay was used during the winter—a small bite daily. The animals kept in excellent flesh and the cow yielded a good flow of milk. Even in the dry state, corn stalks contain considerable saccharine matter which is a directly nourishing food.

Draining is always important. One half of all the farms in the country would be doubled in real value for cultivation, if freed from water, which shuts out air, keeps the soil cold, and by its expansion and contraction in freezing and thawing, tears and breaks the roots of winter crops. A single deep under-drain run through a field apparently dry, will show marked good effects upon the crops growing within twenty feet on either side. Draining may be attended to this month where the ground is not frozen, and often where only a few inches of the surface is hardened. Try one drain this Winter, if no more: it will speak in stronger language than we can write.

Grass Land, whether meadow or pasture, is injured by treading of cattle, especially when partly frozen, or in the soft state following thawing out. See "Basket" item on this subject, on another page.

Hogs.—The hints given last month are important, and no additions are needed this month.

Horses.—See notes last month, and under "animals" above. Good shoeing is important. There are plenty of blacksmiths, but very few skillful horse-shoers. There should be schools of instruction on horse-shoeing. An acquaintance of ours, bought a good family horse very cheaply because she appeared to be tender-footed, and was slightly troubled with the "heaves." He took her to another blacksmith who had skill enough to change the form of the shoe on the lame foot; and instead of using long dry hay, he cut and wet all her food. For a year past she has neither limped nor wheezed, and being just the horse wanted among a family of children, she is worth \$50, perhaps \$100, more than when purchased. It don't pay to employ a poor horse-shoer, because he works cheaply, and because his shop happens to be hard by.

Hired Help.—Now is the time to be looking after the summer laborers. To secure a good man, better take him a month earlier. It costs no more to board and care for a good hand, than a poor one. The *cheapest* man we ever employed cost us \$20 a month, he boarding at home on Sundays, while plenty of other men were to be had for \$10 or \$12 a month. A man that is "handy," that will set himself to work and keep himself and others at it, that will handle tools carefully and yet effectively, that will not injure the morals of your boys by profane or lewd talk, is cheaper at \$25 a month, than one of the contrary sort who will stay for his "board, lodging and washing."

Manure—Bones.—The collecting should go on vigorously this month. Stop that dark stream running from the yard; there is a good ear or two of corn in every pint of it. Read again the hints last month. *Bones* required for spring manure should be put to dissolving now. Take one or more wooden hooped tight casks—old meat barrels or molasses hogsheads will do, if tight—and set under cover, or shelter with a board. Put in say 8 gallons of water, then pour in, a little at a time to avoid great heat, 2½ to 3 gallons of Sulphuric acid (oil of vitriol) which can be bought by the carboy, for 1½ to 3 or 4 cents per pound, according to the distance from the manufactory. Then put in and punch down with a stick all the bones the fluid will cover, or even more. If the bones are closely packed, the fluid will rise to the top of the cask. Leave them to soak 5 to 8 weeks, stirring them well, and punching them down every three or four days, and adding fresh bones as there is room. After a few weeks the undissolved pieces may be taken out, and the fluid be mixed with a large quantity of muck or soil to dry it off. This will be a strong fertilizer—better and cheaper than

any thing to be bought in the market—if the bones and acid can be got at moderate expense. Keep a bucket of water and some weak lye or dissolved soda or potash, or thick lime water, standing near the cask, for instant use, should any of the strong acid chance to spatter upon the hands, feet or clothing.—Much valuable time will be saved in spring, if manure be hauled to distant fields now. If placed in small heaps, and covered with a few inches of muck or good surface soil, it will not be apt to fire-fang. The soil on it will shed off washing rains, and arrest escaping gases, and itself become quite a good fertilizer.

Maple Sugar.—For full directions, see article in this number, also in Vol. XXI, February No., p. 42.

Potatoes.—Those intended for seed should be kept cool in order to prevent their starting. Though those from which the sprouts have been rubbed will throw out others and grow, (see page 53,) yet there is no doubt that the first crop of sprouts will give the most vigorous plants. In some places the potatoes have rotted. If troubled in this way, procure seed from localities free from disease. Many farmers only plant one sort and that a late one. A few bushels of an early kind always meet with a ready sale, to say nothing of the luxury of having them upon the table in July. The seed can be looked after at this season.

Plowing may be done on light soils where the ground is open. A large Maryland farmer who visited us on January 15th, stated that his plows had hardly stopped up to that date. He turns over sod land, even when heavy soil and quite wet, and surface plows it in Spring when dry and warm. The sod keeps it open below, and plowing and harrowing in Spring pulverizes the surface for a seed bed. He says long experience has proved this plan to be advantageous.

Poultry.—The directions given in this department and elsewhere, last month, will be pretty certain to produce an abundance of eggs now. Eggs designed for hatching early chickens should never be chilled. As soon as laid, put them in a cool, dry place in the cellar, or elsewhere, so that they be not too warm or too cold. Handle carefully. New breeds are often introduced most cheaply by procuring eggs. We wonder why more persons do not provide and advertise eggs of the different improved breeds. Carefully packed in some soft elastic material, they can be safely sent by express or other conveyance.

Sheep.—The demand, at good prices, will continue large for wool, for mutton sheep, for spring lambs, and for growing sheep. The flock should have the best care and attention now. For sundry hints, see page 42.—Numerous complaints of dog depredations have been recently reported, even where the laws are good and strong. Stir up the public sentiment in favor of enforcing these laws. Shoot or poison every dog larger than a rat terrier that looks at your premises. The sheep already killed by dogs the present winter, are worth more than all the dogs on this continent. In view of the immense damage they have done to the sheep raising interest of our country, we heartily wish every dog could be treated as the Dutchman's dog was—had his "tail cut off short, close up behind his ears."

Tobacco.—If this is to be cultivated, the field it is to occupy, should be prepared by high manuring and deep working. A good loam, in a situation not liable to early frosts, is to be selected. Good barnyard manure at the rate of 25 to 50 loads to the acre should be plowed in deeply. As the planting will not take place until June, the work of preparing the soil may be done at any convenient time—the manure is to be looked after now. Tobacco makes a heavy draft upon the soil, and if cultivated year after year upon the same land, will inevitably ruin it. It should only be grown as part of a rotation. The culture will not be profitable in very windy localities, as the leaves are torn by high winds, and their value much diminished. The seeds are not sown until April, at which time seasonable directions will be given for the preparation of the bed. The kinds cultivated are the Connecticut

Seed Leaf, and the small leaved Cuba. The former is largely grown in the valley of the Connecticut, and elsewhere, and is especially valued for wrappers to cigars. The Cuba is used for filling cigars, making chewing tobacco, etc.

Tools.—See "Implements" last month. Now is the time to get them all in order, and to procure all new ones that will be needed next Spring. The best are the cheapest, without regard to prices. A good steel hoe, rake, plow, or other implement, will outlast several soft iron ones, and do their work better. As we have somewhere before illustrated, a man will cut as many cords of wood in a week with a first rate ax, as two men can cut with poor axes, while the cost of the two tools will barely vary 50 cents—hiring a week's extra work, to save 50 cents in the cost of an ax is not the best economy. The illustration holds good for all other implements—out-door and in-door as well.

Orchard and Nursery.

The directions for this month might all be condensed into "get ready for Spring work," as there are but few localities in which the season is far enough advanced to allow of much besides preparatory work. The hints and suggestions of last month apply mainly to this also. But a great deal of thinking and planning can be done now, to be executed at the proper time. Every little convenience prepared now, will save valuable time when the press of spring work is upon us.

Cions should be cut while there is abundant time to make a careful selection. Except when making experiments, do not graft an unknown sort merely because a neighbor says it is good. In grafting over an old orchard, select kinds which are known to succeed in your own neighborhood. Some of the finest fruits in one locality, do poorly in another place. Cut cions from trees which you know to be true to name, and label them so that there can be no confusion at grafting time. Select healthy, well ripened wood, cut when not frozen, and preserve in earth in the cellar.

Cleanse the rough and moss covered trunks and limbs of old trees by scraping; wash with strong soap suds or weak lye.

Fruit stored in the cellar or fruit room, should be looked over, and decaying specimens removed. Carry that required for the table to a warm room to ripen off a few days before it is needed.

Grafting.—Those who go about to do grafting, generally begin very early, in order to make their season as long as possible. Grafts put in long before the growing season commences, are exposed to drying winds, and are liable to accidents. Root grafting can be performed in the house, the grafts being kept in boxes of sand in the cellar until the time for planting out.

Insects.—Destroy the eggs wherever they can be discovered. They are often found glued to the twigs. Crush those in the cocoon or chrysalis state.

Manure.—A good top-dressing placed around the trunks, as far out as the roots extend, is of more benefit to the tree, than a quantity of manure piled around the trunk. Fruit trees should not be over manured. Make good use of ashes in orchard and nursery; pear trees are much benefited by them.

Orders.—If you failed to procure nursery stock in the Fall, attend to it at once. Nurserymen generally fill those orders first which are received first, and those who send late fare the worst. Look over the catalogues carefully, and have a full understanding as to the size and quality. Better pay a large price to a good, well-known, honest nurseryman, than to take as a gift, the trees of those who will fill your order any way—with some kind of trees, if they have not an abundance of what you want. Some of the nursery stock advertised at very low rates, is the most costly that can be bought.

Pruning.—Winter pruning is generally abandoned by good orchardists. The wounds made now are exposed to the weather, and do not heal over as readily as when it is done in early summer.

Planting should be done as early as the weather will admit. Have the ground well prepared, and don't hurry the job. Recollect that an orchard is for a life time, and extra care in planting is time and labor well invested. Stake the trees, to prevent them from being whipped about by the wind.

Stakes, labels, tallies, mats for packing, etc. See that these are ready and in abundance. Labels and tallies can be made at odd hours; have the latter strung and ready for use.

Kitchen and Fruit Garden.

Here, too, but little can be done except in preparing for the season of work. Where forcing is carried on, this is a busy month, but the number who grow vegetables in this way, is limited to a few professional gardeners who do not need our suggestions. The demand for early vegetables, which in England is supplied from forcing houses, is here satisfied by the products of more Southern localities, the West Indies and other Islands, and the Atlantic coast of the United States.

Cold Frames, need the same care as directed for last month—plenty of air on mild days, and protection from sudden changes of temperature.

Cuttings of gooseberries and currants may still be made: prepare them for planting, by carefully cutting out all the eyes from the portion which is to go below ground. Bury them in the cellar or open ground, if it is not frozen.

Grape Vines, should have been pruned in the Fall. Those neglected then, should be trimmed as early as possible now.

Fences.—Repair and make proof against stray animals. See that the gates have fastenings and will swing without dragging. A few nails driven in time will often prevent much trouble.

Hot-beds for the family garden had better be left till next month, except at the South. See that frames and sash are in readiness, and do all painting and glazing in season: read note for last month.

Horseradish.—Dig wherever the frost will allow. If more is taken up than can be marketed or used, cover with sand, to prevent wilting. If a new bed is needed, save the crowns for planting out.

Manure.—Have a supply of stable manure ready against the time for making hot beds. See that fertilizers from every source are saved. Compost heaps should be turned over and well mixed. For large gardens manure may be carted to the places where it is to be used, and placed in heaps.

Pea Brush and Bean Poles should be provided in sufficient quantities to meet all anticipated demands. The old stock that has been exposed to the weather, had better be burned.

Prune currants and gooseberries, if neglected in the Fall—cut judiciously so as to leave the bush well balanced. These are too valuable to be absent from any farm or other garden.

Rhubarb.—If new plantations are needed, make preparations to operate as soon as the ground can be worked, or the plants will get the start of you. Give room enough; 4 feet each way is none too much. Give plenty of manure; there is no danger of over-feeding. Remove the earth from the crown of the old plants, and take off with a sharp spade a bud with a portion of root attached. The roots are very brittle, and should be handled with care. Get early supplies by placing a few roots in boxes of earth in the green-house, or by covering some of the plants in the bed, with a box or barrel open at both ends. Fresh stable manure is piled around this, and the heat will soon cause the plants to start. The box or barrel should only be covered when there is danger of frost. If roots are not accessible, try the seed from our free distribution.

Seeds.—Overhaul and supply deficiencies—send orders to the seedsmen early. Those who can afford it, can try, as we have done for some years, every novelty that is offered. For the guidance of

those who have had no experience, a list is given on another page, of the varieties we have found to be of good quality. Better be at a little trouble to obtain seeds from reliable sources, than to buy from irresponsible peddlers, who too often carry old seed around, because they can buy it cheap. If a large stock of some favorite variety was secured from the garden last year, distribute freely to the neighbors and thus encourage raising good vegetables.

Seed Drill.—No garden of any considerable size should be without a machine for sowing seeds. Planting large patches by hand is slow and back-aching work, and it is not done as well as by a proper machine. There are several contrivances for the purpose. We have used the "Wethersfield Seed Sower" for several years, with satisfaction.

Tools.—Make all needed repairs now. Get out an extra supply of hoe and rake handles, unless it is cheaper to buy them. Paint all the wooden parts which need it, and have everything in readiness. In purchasing new tools get the best, at any price. A few hours of time gained will well repay the difference in cost between a good and poor implement.

Flower Garden and Lawn.

Unless the weather is mild enough to admit of transplanting, but little work can be done in these grounds. Still they should be watched to see that any damage from winds or snow be avoided or remedied. The borders present a dreary appearance at this season. Recollect in the planting season to provide against this, especially if they are where they are visible from the house. The borders may be made to wear a cheerful look, even in Winter, by a judicious introduction of evergreen shrubbery, the foliage of which will set off the flowers in Summer, and be pleasant to look upon in Winter. The Holly-leaved Barberry, Rhododendrons, Tree Box, Laurel, Daphne Cneorum, and others, according to the locality, may be used. Make all projected improvements on paper, and if the place is large, and the means warrant it, call in the services of a landscape gardener.

Cold Frames need to be properly ventilated. Give water only when absolutely necessary; remove decayed leaves. Guard against the entrance of mice, and cover from frost in cold weather.

Evergreens.—See that the branches are not broken down by accumulations of snow. Large snow banks will be apt to break the lower branches as they settle; avoid this by shoveling away.

Hot-beds.—Make all necessary preparation. Where early annuals are wanted, they may be started in the latter part of this month, but it is better to wait until the next.

Labels and Stakes.—Prepare an ample supply during the stormy days.

Manures may be collected and carted out.

Protection.—Inexperienced persons are apt to remove this as soon as they think the severity of winter has passed. Many things require protection, not on account of the severe cold of our climate, but from the sudden alternations of heat and cold in Spring. If the straw or other covering has been torn off by the wind, have it replaced. A warm spell this month may induce some things to start too early. Shade these from the sun. See article on straw mats p. 49.

Shrubbery.—Have an eye to it after a heavy fall of snow. In mild weather pruning may be done. Pruning does not mean an indiscriminate cutting at a bush. Those shrubs which flower on the new wood, should be cut in a way to induce a vigorous new growth. Many flower only on the wood of the previous year, and should be only sparingly thinned when the branches are too crowded.

Transplant shrubs and deciduous trees whenever the ground is in suitable condition for working. Determine beforehand, what the effect will be, before you plant out or remove a tree or shrub.

Trellises.—Repair old and make new ones. If

disposed to try your hand at ornamental work, choose simple and graceful forms rather than elaborate ones. Study what the effect will be when covered with vines.

Green-Houses.

These will require but little to be done beyond what was indicated last month. Now that warm days are likely to occur, care should be taken to air freely. The temperature should be maintained as uniform as possible, and should never get above 45°, where plants are merely kept, not growing at present. In case of a cold spell, fire heat will be needed. In giving air be careful to avoid a draft.

Bulbs which are growing, should be placed near the glass, to secure healthy growth and strong bloom.

Decayed Leaves.—These should be carefully removed, as they are not only hurtful to the plants, but detract from the neat appearance of the house.

Insects.—Keep up a constant war upon these, by fumigation with tobacco, solution of whale oil soap, and other destroying agents.

Mice.—These often cause great trouble in the green-house; they are very fond of carnations and many bulbs. Set traps or keep a cat.

Prune plants which need to be brought into shape.

Repot all plants needing it. Have plenty of earth and drainage material always in readiness.

Top-Dressing.—Loosen the surface of the soil in the pots, and where it is moss-covered, replace it with fresh earth.

Water.—Use but sparingly, increasing the quantity as the plants commence to grow.

Hot House and Conservatory.

If the weather continues as variable as it has been, extra care will be required to maintain a proper temperature. The sun's rays have now become more powerful, and as many plants have commenced a vigorous growth, great care should be taken to prevent checking this by a sudden cold.

Air should be admitted by the upper ventilators whenever the thermometer shows a temperature of 75° or 80°—currents of cold air should be avoided.

Annuals.—Those required for early planting or for growing in pots, may be sowed, such as Balsams, Rhodanthe, Nemophilas, Leptosiphons, Cobea, Maurandia, etc.

Azaleas are now in flower, and require more water and frequent syringing. Young plants should be repotted.

Bedding Plants.—A good stock of these should be propagated. Verbenas, Petunias, Pelargoniums, Ageratums, Gazanias, Lantanas, and the like, will be in large demand at the season for planting out.

Bulbs.—A constant succession of bloom should be kept up by bringing in from the reserve stock in the green house.

Camellias.—These should now be rewarding the care of the cultivator by abundance of flowers. Keep the foliage clean, but avoid wetting the petals. Look out for the red spider.

Carnations, need turning frequently to prevent them from drawing over towards the light. Give water more freely. Propagate by cuttings.

Fuschias.—These are now pushing their growth, and require an increased amount of water. Put in cuttings—especially of hardier kinds for bedding.

Insects need watching to prevent them becoming "masters of the situation." Freedom here is only preserved by eternal vigilance.

Pelargoniums need more water now than they are growing. Cuttings may be made. If attacked by the green fly, they need fumigation.

Repotting.—This will be necessary with quick growing plants. Gloxinias, Gesnerias, and others, require plenty of pot room in order to flower well.

Verbenas intended to flower in pots, will need their final shifting.

Syringe often to maintain proper moisture in the atmosphere. Wet the walks if the air be dry.

Water, should be given according to the demands made by the foliage. Recollect that an excess is as injurious as too little. Avoid the use of water colder than the air of the house.

Grapery and Orchard-House.

In this latitude, cold graperies and orchard houses will require little attention during the present month. The temperature should be kept low, and injury from dampness guarded against. In houses where a moderate heat is employed, the vines may be put up and the inside borders watered with liquid manure. When growth commences, it should be followed up by judicious pinching in. Sprinkle occasionally, and keep the temperature at 45° or 50°. In forcing houses the vines are in all conditions of forwardness, and it is not possible to give particular monthly directions for these.

Apiary in February.

Observe the directions given last month. Sufficient ventilation should be allowed, and the air passages kept open. During the warm days, the bees will be disposed to fly, and they should be permitted to do so, except where there is newly fallen snow. Weak hives should be protected against the raids of marauders, by closing the entrance so as to allow but a single bee to pass at a time. Cleanliness should be preserved by sweeping of the floors; thus saving the bees the labor of removing the rubbish themselves. Guard against vermin as directed last month. If a new bee-house is to be built, it should be done during the fine days of the present month. This is the proper time to purchase bees; the hives are most readily brought home when there is snow upon the ground. Hives weighing from 35 to 40 pounds are to be preferred to heavier ones, provided there is a good cluster of bees. The hive should be carried upon a spring wagon or sleigh, and should be inverted. A piece of thin muslin is to be tacked over the mouth of the hive. When they are placed upon the stand, the hives should be at least 4 feet apart; six feet would be better. Weak swarms need to be fed. It is best to take the hive to a dark warm room, and place the honey where the bees will be sure to find it.

Selection of Garden Vegetables.

The following list is given to aid novices in gardening, in making a selection. Many in looking over a large seed catalogue, are apt to be confused with the great number of varieties presented to their choice, and we enumerate such as we know from experience to be good of their kind, and worthy of cultivation. Those marked with a * are on our list of seeds for free distribution:

BEANS, DWARF OR BUSH.—Early Valentine, for string or snaps; Yellow Six Weeks, do. do.; Dwarf Horticultural, for early shelling.

POLE BEANS.—Large Lima, in warm locations; Small Lima, North of New-York.

BEETS.—Early Bassano*, fine and early; Long Blood, for main crop; Swiss Chard, fine for greens only.

CABBAGE.—Early York, small but early; Early Sugar Leaf*, large and early; Early Ox Heart, do. do.; Winningstadt, medium early, large, very hard heads; Flat Dutch*, for winter; Red Dutch*, for pickles; Marble-head Drumhead, very large; Green Globe Savoy, small and late, the richest of cabbages.

CARROTS.—Early Horn*, Long Orange*, for main crop. **CAULIFLOWER.**—Early Paris, fine; Thorburn's Nonpareil, superb; Large Asiatic, fine, late.

CELERY.—Early White Solid, for earliest; Giant White Solid, for late crops.

CORN.—Dwarf Sugar, small ears, 4 feet high; Darling's Early*, good; Stowell's Evergreen*, fine late.

CUCUMBERS.—Early Russian, small, early, and prolific; White Spined, best for table; Long Green, for pickles.

EOO PLANT.—Long Purple*, earliest; N. Y. Purple, large, but late.

ENDIVE.—Green Curled, for Summer and Fall salads.

KALE.—Green Curled Scotch*, winter and spring greens. **KOHL RABI***.

LEEK.—Large Flag, for soups.

LETTUCE.—Curled Silesian, for earliest; Neapolitan*, large and solid; Ice Drumhead, fine; Butter, superior. **MUSKMELON.**—Fine Nutmeg*, see Seed List, Jan. No., p. 4; Jenny Lind, very early; Green Persian, large and good; White Japan, the best.

WATERMELON.—Mountain Sprout, productive and early; Ice Cream*, very fine; Black Spanish, fine but later. **ONION.**—Large Red; White Portugal.

PARSNEPS.—Hollow Crowned*.

PEAS.—Princess, extra early and fine, 2½ feet; Daniel O'Rourke*, do. do. do.; Tom Thumb, productive, 8 to 10 inches; Bishop's Long Rod, fine dwarf, 18 inches; Champion of England*, for main crop, 5 feet; White Marrow-fat, later and fine, 5 feet.

PEPPERS.—Squash for pickling; Sweet Mountain, for stuffed pickles.

POTATOES.—Ash Leaf Kidney, early, productive, and good; Early Shaw, early, productive, and good.

RADISHES.—Early Scarlet Turnip*; Long Scarlet Short Top.

SALSIFY.—Vegetable Oyster.

SPINACH.—Round Leaved*, for early; Prickly, for wintering over.

SQUASHES.—Summer Crookneck, best early; White Scalloped Bush, early and productive; Boston Marrow, Fall and early Winter; Hubbard*, fine keeping; Vow-Vow, new and fine.

TOMATOES.—Large Round Smooth, early; Fejec, or Italian*, fine and productive; Pear Shaped, for preserves, etc.; French Tree, late, stocky, curious.

TURNIPS.—Early Dutch, very early; Red Top Strap-leaf*, for Spring and Fall; Yellow Swedish, or Ruta Baga, for keeping.

WINTER CHERRY.—For sauce and preserves.



Containing a great variety of items, including many good hints and suggestions which we give in small type and condensed form for want of space elsewhere.

Another Agriculturist Editor.—We are glad to be able to announce that the readers of the *American Agriculturist* will hereafter enjoy the benefit of the constant labors of Prof. Geo. Thurber, in addition to the previous editorial force. Prof. Thurber is well known as an efficient Botanist and Naturalist, engaged by the Government during the extended Boundary Survey between the United States and Mexico in 1850 to 1853; as editor of that valuable work, "American Weeds and Useful Plants;" and during three years past as Professor of Botany and Horticulture in the Michigan State Agricultural College. Some years since we solicited from Dr. Gray a series of elementary articles on plants, of a popular and useful character. His reply was, that his engagements did not admit of it, or he would gladly accede to our request, but that Mr. Thurber could execute the work better than any other one he knew of. We were then unable to secure the desired aid, but as soon as our new associate gets well into the editorial harness, we shall feel relieved of some labor at least, and our readers will doubtless be profited.—O. J.

Advertisements, "Vineland Lands."

Several subscribers write asking if they are to understand the admission of the Advertisement of the "Vineland Lands," as an endorsement from us of all that is claimed for them. We answer, No, we do not endorse this nor any other advertisement, unless it be specially done in an editorial notice. If we could visit every plot of ground offered for sale, and thoroughly examine the soil, the title, etc.; if we could look into every advertiser's books, and mode of doing business; if we could in spect every tree and plant and other thing advertised, then we might give a general endorsement. Our rule is: to exclude advertisements of articles or enterprises, known or supposed to be humbugs, though such usually can afford to, and do offer the best pay; all patent medicine nuisances; advertisements from unknown parties, unless they furnish references of their integrity; also from those who by public repute, or from our own knowledge, are suspected of dealing dishonestly with their customers. Our aim is to try to shield our readers from imposition and deception, even in the advertising pages as well as in the editorial columns. From the nature of the case, however, we can not always thoroughly sift all that goes into the business pages, though we believe the censorship in this department is quite as rigid as that of any other journal, not excepting the professedly religious press.—In regard to "Vineland," as stated in November,

we have not found it practicable to visit or examine the locality in person but hope to do so when the growing season comes round. After considerable inquiry we found no reason for excluding the advertisement, and therefore admitted it.

The Fruit Growers' Meetings are increasing in interest. Except at the Biennial gathering of the American Pomological Society, we never before saw together so large an assemblage of real fruit talent, with so little of charlatanism, as at the meeting held at the *Agriculturist* Office on Jan. 8th. The meeting on the 16th was also well attended, notwithstanding the rain storm. A President is appointed at each meeting for the next week, who calls the assembly to order, and takes charge for the day. Specimens of fruit, etc., are brought in and tried and discussed; committees report on the best varieties for culture, and their reports are thoroughly canvassed; modes of cultivation, etc., are talked over. In short, anything pertaining to fruit growers, and kindred topics, is in order. It is not a good place to introduce and advertise any man's personal hobby, though anything of a valuable or promising character is fairly treated. The discussions are in the form of familiar conversation. We cannot find room for full reports; all said at any one meeting would fill half a number of this journal. The results arrived at we will endeavor to give, from time to time, with occasional more detailed reports. A brief report is given on page 51, and another one of the meeting, on Jan. 15, is crowded out from this number.

Another Monster California Pear.

—Every one doubtless remembers the excitement over the great California pear produced a few years ago, in the orchard of E. L. Beard, Esq., at San Jose Mission; its weight was over three pounds. Rev. Dr. Bellows, President of the Sanitary Commission, has just received notice, via overland mail, that another pear, from the same tree, weighing an ounce more than the former one, has been forwarded to him by the steamer leaving San Francisco Dec. 20, together with other interesting horticultural products. Dr. Bellows has kindly proposed to place the pear, etc., on public exhibition at the office of the *American Agriculturist*, instructing us to receive the package from the Express Office on its arrival. We shall look for it with interest, but the steamer is already several days over-due, and we fear it may have met with some mishap—perhaps fallen a prey to the piratical "Alabama." If the box reaches us safely, the fact will be announced in the daily papers of the city. The interest Dr. Bellows has taken in the welfare of our soldiers, and the pleasant interchange of courtesies in connection with the munificent gifts of the Golden State to the Sanitary Commission, has doubtless led to the sending of these interesting horticultural products to him.

Agricultural College of Pennsylvania.

—We have received the Fourth Annual Catalogue of this Institution. The Faculty consists of five professors with two assistants. Besides these there are several superintendents in charge of the farm, garden, and other departments. During the last session it has had 110 students, nine of whom graduated. Upon looking over the titles of the theses of the graduates, we find that they are all upon subjects relating to practical agriculture. The catalogue gives the standing of each student in the different studies, and also in manual labor. The officers of the College feel encouraged at their success thus far. The next session opens on the 18th of February. The terms are \$100 in advance for board, washing and tuition for a term of ten months. Letters of inquiry should be addressed to Dr. E. Pugh, Agricultural College, Center Co., Penn.

Humbugs to be Avoided.

—Just at this season, or a little later, there usually appear extensive advertisements and printed circulars without number, announcing new seeds, "Egyptian Corn," "Japanese Wheat," "Tasmanian Oats," "Tree Cotton," "Northern Coffee," etc., etc. It will be safe to let somebody else go into the speculation and make his fortune first. Last year a new Agricultural paper was started in this city, claiming great age, and offering unprecedented premiums to Postmasters and others, and a few numbers were issued. We judge, from the numerous inquiries addressed to us, that a good many did not get the premiums, did not get the papers, and cannot get any reply to letters of inquiry about their money. Some parties, not in the best repute, are buying up grape vines, refuse trees, old seeds, etc., and offering them "dog cheap," or for no money. But the varieties of humbugs are too numerous to specify. The better way is to buy what is wanted, of parties of known reliability. The new plants from the Old World will not be first heard of from an out-of-the-way, unsettled place in the far West—nor always from New-York City.

American Short-horn Herd Book, Vol. VI.—Owing to the disturbed condition of the country, the Vth Volume of this standard work was not called for so extensively as expected, and the compiler had concluded to suspend the preparation of Volume VI, for the present. He writes, however, that numerous applications to have the work go on, have been received from the more spirited Short-horn Breeders, and that if a sufficient number of pedigrees are offered, and a corresponding number of books subscribed for, to warrant the undertaking, the Sixth Volume will be issued as soon as the pedigrees can be received and compiled. We hope this will be done; it would be a pity to suspend the regular biennial issue. The temporary depression in the value of this noble race of cattle will not long continue, and the purity of their breeds, and the perpetuation of their lineage should be carefully guarded. Every Short-horn breeder is interested in keeping the blood and lineage of his herd on an indisputable record. The form and terms of application will be the same as hitherto, and we hope every one interested in the matter, will speedily communicate with the Editor of the work, Hon. Lewis F. Allen, Black Rock, Erie County, N. Y.

Mangers Dangerous to Horses.—“S. E. G.” Norwich, Conn., writes that the manger for a horse should be boarded down to the floor, to prevent the possibility of injury to the animal by getting his head underneath it. The lack of such a precaution cost him the eye of a valuable horse, and three of his neighbors had their horses' heads caught fast under the manger.

To Prevent Over-reaching.—S. Edwards Todd, in the Boston Cultivator, after having tried the plan successfully, recommends to hold up the head of over-reaching horses with a check rein. This he says throws the center of gravity of the animal further back, gives more work for the hind legs to do, hence they are not thrown forward against the heels of the front shoes.

Many Pigs.—A correspondent writes that I. J. Halsted, Douglass Co., Ill., owns a sow that brought forth 19 pigs on the 18th of December last. He asks “Who can beat it?” The same mail brings a letter from Wm. B. Lord, Kendall Co., Ill., saying that he knew a sow in Windham, Conn., which had three litters between April 4th 1848, and March 1st 1849, numbering 17, 23, and 27!—67 pigs in 11 months!!! That's the biggest record yet; to beat it, some one will have to invent a story.

Pumpkin Seeds Medicinal.—“J. L. R.” Jefferson Co., N. Y., inquires why Pumpkin Seeds are more injurious to cattle than sorghum, green clover, etc., which also increase the amount of urine. For the reason that the seeds contain a medicinal principle which stimulates the kidneys, thereby causing an unnatural secretion of urine from the blood. They are often used as a diuretic in domestic practice. Succulent plants, as sorghum, etc., probably cause increased flow of urine, because of the large amount of water they contain.

Poultry Wanted.—We have frequent inquiries for fowls of different breeds, from those wishing to purchase, which we are often unable to answer, for want of time or of information as to where they can be procured. Those engaged in raising them for sale should advertise.

Drills Better than Hills.—T. J. Hollingsworth, Armstrong Co., Pa., writes: Last Spring I plowed nearly 2 acres of sod, part of which was mostly sorrel. I marked out the rows about 3 feet apart. As an experiment, we planted 8 rows in drills, the grains one foot apart. We also had 8 rows on each side planted in hills 3 feet apart and 3 grains in a hill. All received the same cultivation. At husking the 8 rows planted in drills turned out 10½ bushels of corn, the other 16 rows—8 on each side, turned out 8 and 9 bushels respectively.

Loam for Composting.—“R. G.” If dried peat or muck is not at hand, use virgin loam, as dry as possible, to mix with your putrescent manures. For a worn out soil, this simple loam is worth carting a long distance. Spread this alone upon a rod square of poor pasture land in the Spring, and its effects will be visible all Summer.... It is doubtful whether night-soil disinfected by sulphuric acid or sulphate of iron, etc., will produce as good and reliable a manure, as when mixed half and half with maiden earth.

Manure for Lawns.—L. D. Peters, Chautauque Co., N. Y. The constant mowing of the grass upon lawns makes it necessary to replenish it with manure. Yet nearly all manures bring in foul weeds and coarse grasses. To meet this difficulty, some gardeners use soot, scattering it broadcast and very thinly, in the

Spring. It is a powerful agent and should be used cautiously. Worms can not abide it. Charcoal dust may also be used to great advantage, and with more safety. This and ashes should be applied in the Fall, so that the snow and rain may wash down the gritty particles below the reach of the scythe.

Northern Rice.—We have had several inquiries for rice which can be grown at the north. A species which grows in India upon dry lands and upon the sides of mountains has been successfully cultivated in some parts of Europe. We do not know that it has yet been introduced into this country. It is a subject which might well receive the attention of the Department of Agriculture at Washington. The “Minnesota Rice” is a native plant which is not confined to Minnesota, but grows along the margins of rivers and in flooded localities, all over the country. It is known as “Wild Rice” (*Zizania aquatica*), is a favorite food of birds and of the northern Indians, who collect it in large quantities.

Chickory.—C. Allison, Jackson Co., O. The seeds of Chickory, or wild endives as it is sometimes called, are to be had at the seed stores. It is cultivated in deeply worked soil in rows 12 or 15 inches apart, and thinned to 8 inches in the row. The plant being a biennial, enough roots should be left in the ground to produce seed the second year. When allowed to escape from cultivation it proves a troublesome weed.

Quack Grass.—A. T. Northup, Otsego Co., N. Y. The plant known by this name, in this country, has a head somewhat like wheat, sometimes with a short beard, and at others beardless. It is sketched in Flint's Grasses and Forage Plants, which figures and describes many useful or troublesome grasses. See our book list.

Cotton from Illinois.—Rev. J. A. Bent, of Washington Co., Ill., sends us a sample of his crop, 10 lbs, of unginced cotton. He has had encouraging success, and thinks that in his latitude the cultivation will pay, when ginned cotton will bring 20 cents per lb. The staple of the sample is rather short, but an abundance of this quality would find a ready market.

Sorghum Syrup.—Very fine samples of clear, thick, honey-like syrup are on our exhibition tables, manufactured from cane grown by John Fleming, Hunterdon Co., N. J.

Diseased Pear Trees.—P. Walter, Jay Co., Ind. Your tree appears to be troubled by the leaf blight, which is not regarded as a permanent disease, but caused by some peculiarity of season. It usually occurs after a long warm rain followed by hot sunshine.

Pears—Soldat Laborer, and Duchesse de Berri &c.—“F. T. R.” Ottawa Co., Ohio. The former is considered, when well grown, one of the finest pears of its season—Oct. and Nov. The latter is ripe about the last of August; the tree is a free grower and bearer; fruit rather small but sweet and melting, but not yet sufficiently tested to be recommended for general cultivation. Both these pears are described in Downing's Fruits and Fruit Trees of America, a work which should be in the hands of every fruit grower. We can still supply it, post-paid, for \$2, which is very cheap in these times of high-priced paper, for an illustrated standard book of 760 pages.

Clay for Fruit Trees.—J. J. Joslin, Rutland Co., Vt., asks: “In transplanting fruit trees into a gravelly loam with coarse gravel subsoil, will a bed of clay in the bottom of the hole be beneficial?” We judge not. It would be likely to retain too much water. If danger from drouth be apprehended, it would be better to thoroughly mix a portion of clay with the soil in which the trees are to be set, which would enable it to hold sufficient water without danger of too great accumulation. Mulching around the tree as far as the roots extend will aid in keeping a supply of moisture.

Isabella Grapes in Winter.—Next to Dr. Underhill's, perhaps no Isabella grapes are better known than those produced by E. A. McKay, of Naples, Ontario Co., N. Y. That locality and soil seem to be peculiarly adapted to this old standard native variety. On January 2d, we received from Mr. McKay's city agents (Haley & Sayre), a box of the grapes in a good state of preservation, and which would be hard to excel in flavor, and especially in the size of the clusters, and largeness of berry. They were simply laid in a thick paper box, without cotton or other packing material.

Peach on Plum Stocks.—J. Webster, Marion Co., Ill. The peach grafted on the plum succeeds much better in cold damp soils than it does on its own roots. The wild plum is successfully used and makes a very hardy stock. The peach grown on plum stocks, is somewhat dwarfed.

Curculio—A New Remedy.—A. P. Richardson, Norfolk Co., Mass., thinks that his success in preventing the attacks of the curculio is such as to warrant him in suggesting his plan to others. As soon as the trees blossom, their trunks are surrounded by cotton saturated with Kerosene oil. This is placed a foot or two from the ground, and the oil is renewed once or twice a week as long as the curculio continues to appear.

Earth Worms in an Apple Tree.—A correspondent at Franklin, N. Y., writes as follows: “Standing under an apple tree, I discovered a rotten spot in the trunk, above my head, where a limb had formerly been cut off. I commenced digging out the rotten wood with my knife, when, presently, two earth-worms fell from it. How came they there?” A bird may have inadvertently dropped one in a crevice, and the second one may be its progeny; earth containing the worms may have been thrown there. In absence of positive knowledge, one guesses about as good as another. They certainly did not originate there spontaneously.

What Grapes to Plant.—Daniel Chillas, Del., (and several other inquirers,) is informed that the subject of grapes is under consideration by the Fruit Growers' Meeting, held each Thursday at the office of the *American Agriculturist*. We shall publish a list of the varieties they fix upon, in season to be of service to those who intend to plant next Spring. For cheap graperies see *Agriculturist* for September, 1861, p. 272.

Wine from Grapes Only.—At the recent session of the Illinois State Horticultural Society, a committee, to whom was referred the consideration of the expediency and economy of making Wine from Rhubarb or Pie-Plant, recommended that the juice of the Grape alone be designated as wine, and that all liquors, the result of vegetable compounds, be known by such names as will not be likely to confound them with grape products.

Cucumber and Tomato Seeds.—S. R. Parsons, Maine. These seeds may be readily freed from the surrounding mucilage by allowing the fruit to partially decay. If placed in heaps and allowed to heat, the seeds would be injured. The best way is to place them in a box or tub and keep covered with water until sufficiently decayed to allow the seeds to be washed clean.

Vegetable Bouquet.—This must be seen to be appreciated. A finely arranged basket, from B. Stevens, Washington Market, this city, represented camellias, roses, dahlias, etc., cut from vegetables. A turnip, beet, carrot, parsnip, or onion, has one end rounded off, and with a jack-knife, petals are cut out, so natural as to deceive a person at first look. The different colored flowers are then neatly arranged in a flat turnip scooped out for a basket, and with a few green leaves, cranberries, etc., tastefully arranged, they form an interesting and attractive ornament. They soon fade, however.

Dahlias and Asters from Seed.—“E. C. P.” Caledonia Co., Vt., says that where dahlia roots can not be obtained, many have fair success with seeds. A ten cent paper furnished, in four months from planting, a number of very perfect varieties, as well as many worthless ones. The same correspondent adds that double asters, which generally produce very few seeds, may be made to seed freely by pulling out some of the center florets or petals, as they are often improperly called. This practice gives the seeds the needed room to develop.

Mignonette without Fragrance.—S. E. Warner, Fairfield Co., Conn. The trouble seems to be that you grow it on too rich a soil. Use more sand, or work in some poor earth, and the Frenchman's favorite plant will be as odoriferous as you can desire.

Arranging Hyacinths.—John D. Eastwood, Essex Co., N. J. A very satisfactory way, is to prepare a circular bed, say five feet in diameter. Set the bulbs in circles, one color to a circle, and the bulbs about three inches apart. Put the reds in the outer circle, the whites in the next, and the blues in the center. Such a bed viewed across a lawn, has a very striking effect, far superior to a mere melange of sorts and colors. The ground may be filled with annuals or bedding plants, as soon as the foliage of the hyacinth decays.

Cattle Tramping—Curious Figures.

—A wild heifer belonging in the neighboring village, that ought to have been "impounded" for sundry previous misdemeanors, ran through our gate the other day, as it was opened for a carriage to pass. She galloped as if mad, up and down the garden, over the beds of bulbs, across the lawn, among the shrubbery and elsewhere. We called the owner to account for letting this animal loose for the third time contrary to law, and pointed to her deep footprints that spoiled the grass and plants wherever she stepped. He insisted that she had done little harm. The incident set us to figuring the amount of injury done in this case, and generally, when cattle or other heavy animals are allowed to run upon meadows, or fields of grain. Suppose a cow walks once around a square field of ten acres, taking five steps to a rod, and making a separate track with each foot. If the foot tramp down or spoil a surface equal to six inches square, the single journey round will injure 800 square feet. Nine cattle going three times round would spoil half an acre! Let the arithmetical reader of the *Agriculturist* carry out these figures, learn the lesson inculcated by them, and act accordingly, especially while the ground is soft, as it will often be between now and settled weather in Spring.

Too much Kindness to Sheep.—S.

Randall, the well-known sheep breeder and author, gives, in the *Country Gentleman*, his views concerning the great mortality among young lambs in the Spring of 1862. In many sections, particularly of Western New-York, these animals appeared to be wanting in physical development at their birth, and thousands died in a short time thereafter. Mr Randall is of opinion that the difficulty was largely owing to the too close confinement and high feed of the pregnant ewes during the month of February. Fullness of flesh in the mother is unfavorable to the well-being of the offspring before birth. They should be strong and healthy but not fat. It is recommended to allow animals in this condition, succulent food, as roots; to feed sparingly with grain, and not to crowd them in poorly ventilated sheds. They need protection from storms, particularly rain, with plenty of exercise and pure air.

Rabbits in Nursery and Orchard.

L. Vories, Madison Co., Ill. Trap the rabbits and make "pot pies" of them. They are easily caught in a common box trap with sweet apples or potatoes for bait, or they will catch themselves without bait if the trap is properly arranged, as they will run into anything that promises them shelter. Where trees have been gnawed by rabbits, bank up earth about them or blind up with clay or cow manure.

Fruit Stock.—J. H. Creighton, Zanesville, O. The Siberian Crab is of too slow growth to make a good stock for the apple. The pear will not do well on the common or Doucain apple stock.

Fruit Queries.—J. Brownell, Washington Co., Pa. The Bartlett Pear does not succeed as well on the quince as upon the pear stock. Apple orchards should be pruned where the limbs are crowded. June and July are the best months. We have already published a list of pears, and shall do so with other fruits, as soon as they can be determined on. Your best course is to rely upon the judgment of successful fruit growers in your district.

Staking Apple Trees.—Subscriber, Coffey Co., Kansas. Doubtless your trees might be staked without injury to the roots. Trees for such windy countries as yours should be grown with branches very low, in the nursery.

Chenango Strawberry Apple.—T. H., Wayne Co., Mich. This is not much known at the East. One of our best pomologists considers it a good third-rate apple, but worth cultivating on account of its remarkably fine appearance.

Trees on Prairies.—Several subscribers in the far West make queries upon this subject. The answer would be too long for a basket item, and, as all the other pages are filled, the reply must wait till the next month. See article on the Willow, on p. 39.

Grafting the Grape.—L. C. J. Townsend, Mass. The grape is so readily propagated from cuttings and layers, that grafting is seldom practised. The clons should be cut before vegetation starts. The grafting is done when the vine is in leaf, and danger of bleeding has passed. The earth is removed from around the vine, which is cut 3 or 4 inches below the surface. The stock is split and the clons inserted in the usual way of cleft grafting. No wax or other composition is applied but the earth is merely replaced. Another mode has

been recommended, which is to split a large vine at intervals of one or two feet, and insert the ends of the clons, which are cut to a wedge, in the slits. The vine is then buried horizontally so as to leave one or two buds of the clons above the surface. The vine so layered throws out roots during the season, and in the Fall or following Spring may be cut up so as to leave a share of roots to each graft.

Salt for Insects.—"W. C." Wankesha Co., Wis. We very much doubt if sufficient salt can be used to destroy any kind of insects without injury to the vegetation, while the cost would be enormous. A ton spread over an acre would be only a pound on every twenty-two square feet, and that amount worked into the soil would hardly be heeded by insects. A positive statement put forth by a professedly agricultural journal, that a bushel or two of salt on an acre, would destroy the wire worm and other insects, has gone the rounds of the papers for years. This is the third time we pronounce it nonsensical. When land is plowed in the Fall, the frosts of Winter will generally kill great numbers of them.

Green Manure.—L. Z. Snyder, Montgomery Co., Pa. Millet or oats will make a good crop to turn under before sowing fall wheat. At the present price of oats, millet seed will be much the cheapest. If the soil is infested by weeds, buckwheat may be used. Sow early and plow in as soon as it is in flower, and then sow for another crop to be plowed under first, before sowing the wheat.

Chinch Bugs.—"A Reader," Winnebago Co., Ill. The eggs of this troublesome insect are not deposited in the corn, but in the ground, where the young are sometimes found in great numbers. As they are most numerous in dry weather, and disappear after a rain, it has been proposed to shower the crops to destroy the bugs, by means of a fire engine, but this would not be practicable on a large scale, even if it were effective.

Obtaining Seeds from Washington.

—Several inquirers are informed that their best way to procure seeds from the Agricultural Department at Washington, is to make an application through the representative of their own districts, as the seeds are mainly distributed through the Members of Congress.

Seeds Received.—C. H. Howard of Utah sends us seeds of the currants of that Territory, and Wm. Holley of Hall Co., Nebraska has furnished us with the stones of a dwarf cherry of that region. All these have been placed for trial with one of our most experienced cultivators of small fruits.

Seeds for a Name.—W. G. Fowler, O. The plant is *Lunaria biennis* and is called Satin Flower and Honesty. It is cultivated for the delicate membrane which is left after a portion of the pod falls away; this is used in making dry bouquets. It flowers the second year from the seed.

Hubbard Squash.—Robt. Hutchingson, Ashtabula Co., O. The usual shade is a dull, clay blue color. It sometimes is of a dark olive green. Both colors are considered by the introducer as equally pure.

More Beans.—W. C. Comstock of Fairfield Co., Conn., writes that among his beans raised last season, was one plant with 83 pods, containing 456 merchantable beans, of the kidney variety. He planted in drills 10 inches apart, in rows two feet distant.

Red Cabbage.—N. C. Laughlin, Ct. This variety is always small, but should grow larger than the first. The pickle is made by slicing the cabbage, adding spice and pouring cold vinegar over it.

Crimson Clover.—J. F. Rucklman, Munroe Co., Pa. We have only seen this cultivated on a very small scale, and the account to which you refer is the only one we have seen of any extensive experiment. The plant is very showy when in flower. The seeds can be had in this city.

Daphne odora.—Mrs. J. W. H., Charlestown, Mass. This is an evergreen green-house shrub which bears clusters of white or pinkish, very fragrant flowers on the ends of branches. It belongs to a widely different family from the Tuberose and resembles it in odor only. If grown as a house plant, it should not be in too hot a room, and should have plenty of air.

Gloxinias and Petunias.—A Reader, New-Hartford, Conn. These are raised from seed and the varietals continued by propagation from cuttings.

Gloxinias can be successfully raised only where there is a green-house. Petunias are readily grown in the open air. The seeds may be had at the seed stores, and a paper may give you some fine double ones, but if you wish to be sure of these, the best way is to get the plants from commercial gardeners.

Camelina sativa.—A. K. Laughlin, Vt. We have no knowledge of the culture of this plant for its oil in this country. The article in the Patent Office Report was copied from an English journal. It is known by the names of False Flax, Wild Flax and Gold of Pleasure, and is only known in this country as a not very common weed in old fields.

Nemophila maculata is the plant sent by Mary Rider, Holmes Co., O. It is a native of California. The vulgar name is Spotted Lovgrove. This, with the *N. insignis*, *discoidalis*, and others, are among our most beautiful annuals.

Truffles—Tuckahoe.—Geo. H. Gilbert, of Cheshire Co., N. H., in response to the query, whether Truffles were ever found in this country, says that 12 or 14 years ago he was living in Mississippi, and there frequently saw a kind of root that grew in the ground entirely unconnected with any plant or leaf above the surface; it was about 1½ inch in diameter, and 3 inches long, looking quite like a sweet potato. Pigs were fond of them, and he supposed they were a species of Truffles. The substance he refers to is doubtless the "Tuckahoe," or Indian bread, a thing which has been a great puzzle to naturalists. It has been classed with the Fungi (Mushrooms) and has been called *Lycoperdon solidum*, but as no vegetable structure has been discovered in it, its real nature remains unsettled. The Tuckahoe has been found as far north as New Jersey.

Dairy Farmer.—California subscriber. There was such a paper published, but owing to the times it was obliged to suspend—temporarily we hope.

Ag'l. Library Association—A Good Move.—J. J. Joslin, Rutland Co., Vt., writes that an Agricultural Library Association has just been formed in the town where he resides, and agricultural works amounting to \$250 are already purchased. A "Farmers' Social Club" for discussing appropriate subjects, is connected with the association.

Economical Food.—"Diffidence," of Middlebury, Vt., writes as follows: "In these times of patriotic sacrifice and diminished incomes, many of us would like to learn how to live comfortably on a small sum. No doubt you have many subscribers like myself, not farmers, who take your paper for its other valuable contents. Will not some kindly disposed lady reader, who has to purchase everything for the table, with little enough money to do it with, give a list of the 21 meals, such as are eaten in her family for a week? With such a list in the *Agriculturist*, no doubt many of us would be much benefited." [We shall be glad to have responses to the above.—Ed.]

How it Paid.—The letters on business, and other topics, received at the *Agriculturist* office, number from 75,000 to 100,000 a year. A single morning's mail, sometimes brings in more than five hundred. These letters very often convey hints and suggestions which are of indirect aid in preparing the paper, when they are not used directly. The letters for two months past have, more than ever before, abounded in kind words of approbation and encouragement, indicating such a spirit of friendly feeling on the part of our readers, as we greatly appreciate and enjoy. Hundreds, perhaps thousands, have recently given an account of some special way in which a single hint from the paper has paid them far more than the cost of it for a year. We take the liberty to give the substance of a private note from a subscriber (J. M.) in Shiawassee Co., Mich. "... Three years ago an auction of bees was to be held, which I had no thought of attending, until just before the sale I happened to read an article on bees in my *Agriculturist*, which led me to buy 13 swarms that averaged \$3 each (\$39). The two heaviest I traded for a 3-year old steer which I sold for \$24, leaving the cost of 11 swarms, \$15 net. The first two years I took up 7 swarms, and last Autumn 12 swarms more, and a nice lot of cap honey which altogether paid more than five times over for the care of the bees, and I now have 26 swarms left, which I would not sell at \$4 each or \$104; so much for the \$15 invested. This will pay for the *Agriculturist* longer than I shall live. I am wholly indebted to the paper for my bees, to say nothing of many other good ideas obtained from it, too numerous to mention. The paper is certainly a good investment at \$1"

The White Willow Excitement.

Numerous letters have been received at the office of the *Agriculturist* asking our opinion on the use of the White Willow for hedges. Our Western exchanges contain loud advertisements of nurserymen, and those who have the cuttings for sale, and the papers have frequent articles for or against its use. We have watched this discussion with interest, in the hope of finding some reliable information on the subject. From all we can gather, and from what we know of this plant, we judge that, as a screen to break the force of sweeping winds, it will answer a good purpose, but that its value as a hedge plant is as yet rather problematical. As it is destitute of thorns, and the small branches are always weak, it can only serve as a hedge by presenting a barrier of trunks. Whether the willow, or any other tree, will grow when planted near enough together for this, we are inclined to doubt. A given area of ground will only sustain a certain amount of vegetation, and the strongest plants will choke and kill out the weaker ones. This happens in nature, and is within the observation of every cultivator. As a timber belt, to serve as a wind screen, there is no doubt it may be employed with benefit.

The following is the method of planting for hedges: Cuttings about ten inches in length, cut at the lower end with a slope, are stuck into the soil, in a slightly inclined position, at six inches apart. The plants are hoed and weeded the first year, and the cattle kept away until they become large enough to resist them.

The white willow makes a large tree, 50 to 60 feet high. The wood is valuable for charcoal, and makes a tolerably serviceable timber. Taking advantage of the present excitement, some persons have cut up the common willow of the swamps, to sell as the white willow. Those purchasing should be on their guard against this imposition.

The Remarkable Winter—Its Effects upon the Wheat and Rye Crops.

Thus far the present Winter has been noteworthy, we might rather say, there has been a remarkable absence of Winter. At the time of this writing, it is past the middle of January, and yet, with the exception of a very few days, early in December, we have had no snow to speak of, and but little ice in the vicinity of this city. Overcoats have been worn more as a safeguard against expected cold that might come on suddenly, than as a necessary protection from cold actually experienced. Similar weather has prevailed over the country generally, though in a few localities snow has fallen more abundantly. In two respects this weather has been highly favorable to farmers and others. There was so short a crop of hay in many places that apprehensions were entertained in regard to the possibility of carrying the usual stock of animals through the Winter. But mild weather has saved an immense amount of forage, for it is a well understood fact, that in very cold weather, a large proportion of the food consumed by man and beast, is required to keep up the heat of the body. An animal needs nearly double the quantity of food when the thermometer is at zero, than is required when the temperature is at summer heat. Should the season continue thus mild and open, hay will be abundant and cheap during the spring months. "Winter never rots in the skies," is an old adage that generally, not always, holds true, and it will be fortunate for those having short supplies in their hay mows or stacks, if we do not have severe cold weather all through February and March, and late into April. In the Eastern and Middle States, where coal is extensively used, the supply was unusually short last Autumn, and prices were nearly double what they were a year before. This mild weather has greatly favored all who depend upon coal for fuel. Owing to the small amount of fire needed, it has cost less than in ordinary years to keep the dwellings warm.

But we entertain serious fears concerning the effects of this weather upon the winter grains,

wheat and rye. A continuous frozen condition of the soil does not injure these crops, while a mantle of snow maintains a somewhat uniform temperature, and is highly favorable. The alternate freezing of the surface at night, and thawing out by day, which has been the order for two months past, must have done great damage to the wheat plants. Many of them have doubtless been killed already, and should this weather continue, we fear the result will be disastrous. Little can be done to help the matter. Those having an abundance of manure, or of straw that will not be used for feeding or bedding, may find it advantageous to cart it out and spread it upon the wheat fields, if they chance to be frozen sufficiently at any time to prevent injury from the treading of teams, and cutting by the wheels. A mulch of this kind will partially prevent the frequent changes of temperature. If our staple crop of wheat is to be in part cut off, as it may already be, it behooves farmers to lay out their plans for putting in the largest possible area of spring wheat, where it will grow well, and of other summer crops.

Tobacco Culture—\$30 Offered for Practical Information.

Our assistants report that in at least a thousand letters recently received, there is a call for articles, and especially for a book on tobacco culture. We know of no such work, are destitute of practical experience with this particular crop, and scarcely know where to get the best practical information desired. In order to call out information, we therefore propose the following cash premiums:

For the Best Essay on Tobacco Culture..... \$15.00
For the Second Best Essay..... \$10.00
For the Third Best Essay..... \$5.00

The essays to be written by those who speak from practical experience or observation; to contain full directions for culture and treatment; from the securing and sowing of the seed to the harvesting, curing and marketing of the crop; the best variety, etc. Fifteen pages or less of foolscap paper will suffice for this; the less space occupied, the better, if particulars are given sufficiently full to meet the wants of those entirely inexperienced. The essays in our work on Onion Culture, (see page 61), are good examples of what is wanted. Any illustrative engravings required, will be made at our own expense, if the outline sketches be furnished by the parties who write. The essays to be delivered at the *Agriculturist* office on or before March 1st. The sooner they can be on hand, the better, that the Committee may have time to look them over. The essays will be submitted to a competent Committee, and the prizes paid according to their award. One or more of the best essays will be published in the April *Agriculturist*, and, if a sufficient number of good articles are offered, they will be issued in cheap pamphlet form, early in March, to meet the requirements of the present year. In order that we may do this, we make it one condition of the offer of the prizes, that we have the right to publish any articles submitted. (Ten copies of any pamphlet or book issued, will be at the disposal of each person whose contribution is inserted, whether he obtain one of the prizes or not.) The writer of each essay will please enclose his name and full Post Office address, in a sealed envelope, along with his manuscript. Fine literary style is not so much desired as to have the directions fully and plainly given;

we will put the writing into proper shape for publishing. If those who wish to compete will notify us at once, we can probably announce next month whether a pamphlet will be issued.

Maple Sugar.

This product, which, if properly made, always commands a good price and ready sale, will this year be especially valuable, owing to the high cost of every kind of sweetening. Those having even a few trees, will do well to make the most of them, by commencing to tap as soon as the sap will flow. In many localities a large run may be had the latter part of the present month, unless the Winter should be protracted unseasonably.

Immediate preparation should be made for the work, particularly where there is a large sugar-grove. In such cases it will doubtless pay to procure one of the evaporators intended for Sorghum syrup, but which are equally fitted for sap boiling. Cook's is certainly good. It was used in this way to some extent last year, with entire satisfaction. Samples of sugar and syrup made with it, received at the *Agriculturist* office, were of the very finest quality. (See advertisement in Jan. No.) Shallow sheet-iron pans, which can be made at the tinman's, will be found much more economical than the deep kettles frequently used. Provide a good supply of dry fuel convenient to the boiling place. A shed to enclose the arch and kettle will add to comfort and cleanliness. Buckets of tin are lightest to carry, but are apt to be rusted during the year, which would impart a dark color to the syrup and sugar. Unpainted pails, of cedar, pine or white-wood, are generally preferred. These, with the evaporator, the spouts, and everything connected with the manufacture, should be kept scrupulously clean. The need of clarifying syrup, arises mainly from neglect in this respect; the best specimens we have seen were made without the use of any substance to remove impurities—none were suffered to be mixed with the sap.



Fig. 1.

Spouts are readily made by removing the pith from pieces of elder, or from foot lengths of inch square pine. For the latter, remove the upper half to within two inches of one end, bore or burn a one-quarter inch hole through the thick part left, and cut a groove from the hole to the other end, as in fig. 1. If elder stalks are accessible, good spouts are made as illustrated by fig. 2, by sawing half through at *a* and *b*, and splitting between the cuts. Each piece then makes two spouts.



Fig. 2.

A three-quarter inch auger bit is best for tapping, which should be done on the south side of the tree, boring the hole about one inch deep.

It saves time after the boiling is commenced, to have a constant stream of sap trickling into the evaporator, and the thickened syrup discharging into a second vessel for "sugaring off." Otherwise, the sap collected must wait until the first lot is finished. In the latter part of the season it readily sours, and may soon spoil. It is well to add a little lime to the sap during the last running, to neutralize any existing acid.

No Time to Run in Debt.

An Ohio Reader asks: "Would you consider it prudent for a farmer having a hundred acres paid for and well stocked, and out of debt otherwise, but not having a comfortable domicile, to incur a debt of five or six hundred dollars in building a dwelling house?"—We think not. In the November *American Agriculturist*, we referred to the effect of the increased relative value between gold and currency, and showed why farmers should seize upon this time to get out of debt and keep out. The recent further advance in gold gives additional force to the reasons then set forth. Currency that will pay debts is now very abundant and will probably be more so for a time. The moment the war closes, or bids fair to close, the country will begin to turn to a specie currency; and then look out for breakers. What now is called \$150 will begin to recede toward \$100. A debt of \$100 contracted now, when wheat is at \$1½ per bushel in this city, will probably have to be paid, when wheat will be worth only \$1. This will not probably take place at once, for there will be a large amount of "legal tender" currency to be retired from circulation before specie will be the legal standard, but the change must sooner or later take place. If the old house is at all tenable, or can be made so with a little outlay, better put any surplus funds aside, where it will be absolutely safe and can be called in dollar for dollar. Then when prices of labor, of timber, and of other materials fall, the money and its interest can be used to far greater advantage. If there be a mortgage upon the farm or house, poor crops and low prices may perhaps not enable you to meet it. This flush period is just the time to get out of debt, keep out, and lay by as much as possible.

Mutton Trade of New-York.

145 MILES OF SHEEP.

Few persons are aware of the extent to which sheep are sold in this city. Including those received at the four public market places, and those sent directly to butchers, an average of over 10,000 live sheep per week were slaughtered in this city during the past year. Besides these, there are at least 1,000 dressed carcasses received weekly. If the whole number were driven in at one time, three abreast, allowing four feet of space for each sheep, the line would extend from New-York to Albany, a distance of over one hundred and forty-five miles.

Since the commencement of the war, the demand for wool has so greatly increased that farmers are adding largely to their flocks. They find that, with the high prices of wool and the good demand for lamb and mutton, sheep-raising is one of the most profitable branches of farming, and they are now holding back their stock. Prices vary somewhat with the supply, but well fed sheep, which will weigh 100 lbs., alive, have been selling at \$5½ a \$6 per head for a month past; they are now (Jan. 15th) worth \$6½. The rise in wool has added largely to the value of pelts, mixed lots of these selling at \$2½ each, and selected pelts at \$2½ each.

In former years the thin ewes have been bought up by farmers for store sheep, at \$2½ a \$3 per head. Of late this class has been mostly kept in the country. Those sent to market have been bought up by butchers at \$3½ a \$4 each. Contrasting with this class are a limited number of extra large fat sheep, usually sent in about

the holidays and sold at high prices. A few have brought as high as \$15 a \$20 each. Three full blooded Leicester sheep, from Canada, were recently sold to a butcher of this city for \$70. They dressed 471 lbs. The pelts would bring \$2½ each, which would leave the cost of the mutton a little over 12 cents per pound. In view of these figures it is safe to advise the raising of more sheep and fewer dogs.

Breadstuffs, Meat, etc., for 1862.

All classes of readers will be interested in the two statistical articles given on pages 58 and 59. The tables have been specially prepared for the *American Agriculturist*, with great care and no little labor, and they are arranged to show at a glance the amount of transactions in some of the leading articles of farm produce in the great central market of the country for the year 1862. A comparison with the previous three years is also given, together with tables showing some of the transactions in breadstuffs at Boston, Philadelphia and Chicago. The following table shows the receipts at New-York of the leading articles of Grain, with the prices and total sums paid for them. This table includes only the amounts received through regular channels and recorded at the Corn Exchange or Custom House. Large amounts, not here included, having been sold "to arrive," have gone directly to receivers without being recorded, while other amounts have come in by irregular routes. The prices in this estimate are the average of the average prices on the 20th of each month, as given in the second table:

RECEIPTS AT NEW-YORK FOR 1862.

Kind.	Amount.	Average Price.	Value.
Wheat Flour.....	5,757,608 bbls. at	\$5.71	\$32,875,941
Wheat.....	27,079,259 bushels at	1.37	37,098,584
.....	17,290,234 bushels at	.64	11,065,748
Rye.....	932,084 bushels at	.63	773,629
Barley.....	1,151,818 bushels at	1.05	1,209,406
Oats.....	5,051,874 bushels at	.50	2,525,937

Total for Flour, Wheat and other grains.....\$83,549,247
Total amount for same articles in 1861.....\$81,216,567

PRICES IN 1862.—The following table gives the New-York prices of leading articles on the 20th of each month, the date of making up our monthly reports. A careful estimate indicates that for the average of all sales of the different grades, we may take: for *Wheat Flour* the highest quotations for "Extra State;" for *Wheat* the highest quotation for "All Kinds of Red;" for *Corn* the highest quotation for "Mixed;" and for *Oats* the highest quotation for "Western."

NEW-YORK PRICES ON THE 20TH OF EACH MONTH IN 1862.

1862.	Flour.	Wheat.	Rye.	Corn.	Flour.	Meal.	Corn.	Oats.	Rye.	Barley.
	\$ c.	\$ c.	\$ c.	\$ c.	c.	c.	c.	c.	c.	\$ c.
Jan. ...	5.90	1.45	4.30	3.30	66	42	84	80		
Feb. ...	6.10	1.50	4.25	3.30	65	41	85	90		
March...	5.70	1.45	4.25	3.25	60	39	83	1.00		
April ..	5.10	1.35	4.25	3.15	59½	39	82	1.00		
May ...	4.85	1.15	4.25	3.20	51½	41	76	85		
June...	4.75	1.20	4.00	3.20	54	44	75	75		
July ...	5.25	1.28	4.10	3.25	70	47	78	..		
August	5.40	1.40	4.30	3.75	62	51	83	..		
Sept...	5.70	1.31	4.40	3.75	60	58	83	..		
Oct ...	7.90	1.46	4.75	4.00	63	59	84	1.25		
Nov...	6.40	1.45	5.75	4.25	71	69	90	1.60		
Dec...	6.40	1.47	5.05	4.50	77	70	97	1.45		
Av'ge..	5.71	1.37	4.54	3.57	64	50	83	1.05		
Av'ge in 1861.	5.30	1.37	3.46	3.05	60	36	70	68		

It will be seen by the tables and remarks on page 59, that the receipts of wheat and flour, taken together, were lower in 1862 than in 1861, but the higher prices the past year raised the total product of sales here, to a greater sum.

The *Live Stock Table*, as exhibited on page 58, is also interesting. The total number of live animals destined for slaughter received at the regular yards, reached 1,845,605, or nearly two million head! Of these more than one-half (1,098,712) were live hogs, or about twice

as many as were ever brought to this market in a single year before. But the items are so fully set forth in the article on page 58 that no further explanations are needed here.

The Department of Agriculture.

The doings of the Agricultural attachment of the Patent Office, were so severely criticised by this and the other agricultural papers of the country, that a new Department was created to manage the agricultural operations of the government. With the change we looked for a new policy, one which should be of actual benefit to the agricultural country, and which should not interfere with the legitimate business of seedsmen, nurserymen, and others. Thus far, there does not seem to be strong reason to hope for a change for the better. Two small pamphlets emanating from this Department are before us. One of these is mainly devoted to informing the world what a great country this is, and the other is a catalogue of the Plants, Bulbs, Tubers, etc., which are ready to be sent out from the "propagating garden," of this country noted for its immense resources.

Upon looking over the limited list we find it to be composed, with but very few exceptions, of plants which can be obtained at any nursery. It is gratifying to know that there are ready, 80 varieties of gladiolus—why we have not hyacinths and tulips, and the rest of the bulbs is not mentioned. Then there are 100 specimens of the Mist-bush or Smoke tree (*Rhus Cutinus*), which was introduced into England in 1856, and is to be found in almost every old garden in the country. "A rare old plant is the ivy green," but the U. S. has managed to propagate 600 plants. That novelty, the Chinese Yam, can be found at Washington, and the common Prickly Pear is to be had in small quantities. For the credit of the country, we call upon the authorities to burn up or quietly dispose of their old rubbish, and to stop distributing plants or seeds until they have something which comes within the letter and spirit of the law, and are able to "distribute among the people, new and valuable seeds and plants."

Brine Poisonous—A Caution.

During past years we have published in the *Agriculturist* occasional reports of bad effects from feeding to animals salt from meat barrels. In a recent number of the *Honesdale* (Pa.) Herald, we find an account of the sudden death of several valuable imported hogs after eating food mixed with brine from a beef barrel. In this case the evil effects are attributed to salt-peter (nitrate of potash) used in curing the beef. Whether it was the nitre, or the salt, there have been a sufficient number of instances reported, to render it hazardous to allow any animal to consume either the salt or brine, from any kind of meat. Salt food of any kind is destructive to fowls, and care should be taken to keep them from house slops containing salt. But refuse brine and salt are excellent on the asparagus bed, applied in Autumn or Winter, or at any time except in the cutting season. It even pays to put on a good layer of new salt. Refuse brine or salt is also good on most soils, and on most field or garden crops, and should not be wasted.

Kindness is a language, which not only the dumb can speak, but the deaf can understand.

The Indian's View of Agriculture.

We doubt if a better argument for improved agriculture can be given, than is found in the speech of an Indian chief to his tribe at the West. It ran thus: "Do you not see the whites living upon seeds, while we eat flesh? That the flesh requires more than thirty moons to grow up, and is then often scarce! That each of the wonderful seeds they sow in the earth returns them an hundred fold? That the flesh on which we subsist has four legs to escape us, while we have but two to pursue and capture it? That the grain remains where the white man sows it, and grows. That Winter with us is the time for laborious hunting—to them a period of rest. For these reasons, they have so many children, and live longer than we do. I say therefore unto every one that will hear me, that before the cedars of our village shall have died down with age, and the maple trees of the valley shall have ceased to give us sugar, the race of the little corn-sowers will have exterminated the race of the flesh-eaters, provided their hunters do not resolve to become sowers." History shows the truth of these prophetic words.

A Double Action Root Cutter.

Farmers are beginning to learn the value of root crops, and their increasing consumption has led to the invention of several machines for slicing or reducing roots to a condition for feeding. We present an engraving of a very good one, lately introduced from England. Its novelty consists in the cutting knives. These are of steel, placed on a wrought iron cylinder, (Fig. 1) which revolves in the box of Fig. 2. At the lower part of the cylinder as represented in the engraving, is seen one of these knives extending the whole length,—it has an irregular cutting edge elevated about an inch above the cylinder, and an opening below, which communicates with its interior. The box in which the cylinder revolves has cast iron sides. If the hopper is filled with roots and the cylinder turned in the direction of this cutting edge, they are rapidly sliced by the knife, the pieces passing into the cylinder and falling through its open ends below. There are two knives of this kind which divide the roots into rather large slices, suitable for cattle. For cutting

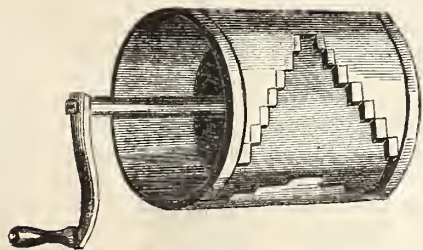


Fig. 1.

smaller, or finger pieces, for sheep and calves, there are two other sets of knives, one of which is represented in the engraving, at the side of the cylinder. These are stout blades about an inch long, and are placed in the form of

a letter V, with their cutting edges facing those of the large knives. By rotating the cylinder in the direction of these blades, the roots are reduced to quite small fragments. By turning to

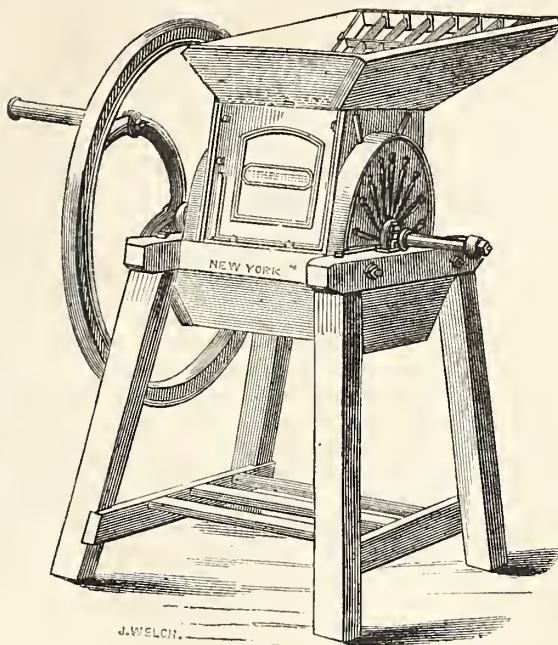


Fig. 2.

the right or left, the pieces are cut large or small as may may be required. The roots when fed to the machine, are thrown upon an inclined iron grating, which forms one side of the hopper, through the openings of which any loose dirt or small stones may fall out. The machine will readily cut a bushel of roots in from 10 to 15 seconds, is substantial in make, and requires no adjusting, as it cuts fine or coarse by merely reversing the direction in which the crank is turned. The N. Y. manufacturers' price is \$35.

Mulching Wheat.

H. M., of Kent County, Maryland, writes to the *American Agriculturist* as follows: In 1853 I had a field seeded, part of which was a basin of loamy, spongy, black soil. On this portion of the field the frosts of Winter did their work so effectually, that I did not get my seed at harvest. During all the freezing weather the soil looked like a honey-comb; and in the Spring, the wheat which the land had thrown out, might be gathered up in handfuls. In the fall of 1861, I sowed the same land, and immediately covered the whole basin with old wheat straw; last harvest this was nearly the heaviest of the field. Now, for the science of this: I imagine it consists in the fact that the straw serves not to keep the land from freezing, or the wheat from being thrown out, but to protect it from the air and sun, and afford moisture to the roots until they can again fasten upon the soil. It may, however, be that the mulch acts in some degree as a protection from excessive cold. (a.)

One of my neighbors having similar land and looking about for a remedy, was told by a Pennsylvania farmer to sow one and a half bushels of gypsum to the acre on such land after being seeded. He tried this with good effect, the supposition being that the weight of the gypsum kept the soil more compact and prevented the throwing out of the plants. What think you? (b.)

I suppose, of course, that thorough drainage would operate as a permanent cure of such soils; but with us, where stones are not to be had, and

tiles are very costly (owing to transportation), the next best plan seems to be the one I have suggested, giving, besides, a coat of manure. (c.)

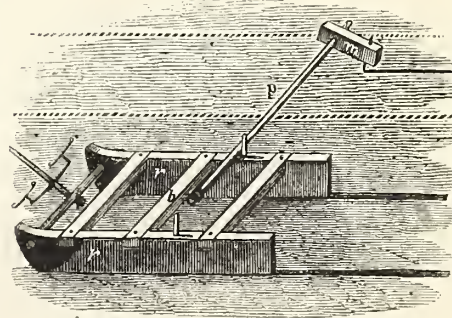
(a.) Excessive cold is less injurious to winter grain, than the alternate freezing and thawing by which the roots are broken and the plants "thrown out" on wet soils, by the repeated expansions and contractions of the earth around them. Any covering of light material capable of holding considerable air, as snow, straw, leaves, etc., serves as a regulator of the temperature. Thus, on a warm day the air contained in the mulch being a poor conductor of heat, will partially prevent the soil beneath it from thawing, and during the cold nights it will partially retain the warmth gathered during the day, and prevent hard freezing. The mulch may also protect some of the roots from being killed, until they can fasten upon the soil, as suggested by our correspondent, but its chief value is probably due to the facts noted above.

(b.) One-and-a-half bushels of gypsum, sown broadcast over an acre of ground, would have no appreciable effect on the compactness of the soil. In the case mentioned above, the grain was probably stimulated to strong growth by the plaster, and the Winter being very favorable, the yield chanced to be better than ordinary.

(c.) Yes, draining is the cure. Where neither tile nor stone drains are available, wood drains as described in the June *American Agriculturist*, 1861, (Vol. XX, page 169) will usually answer a good purpose, for a few years at least.—Ed.]

A New-Jersey Corn Marker.

P. S. Brokaw, of Somerset County, N. J., writes to the *American Agriculturist* as follows: I propose offering your Iowa correspondent (C. J. Rhodes, in Jan. No., p. 15) a New-Year's present, in the form of an improvement on his corn marker. When about dispensing with the common plow in marking for corn, some years ago, we tried his plan among other things; but by perseverance in experimenting, we have found the common block sled, with the improvement represented in the annexed sketch, far superior. 1st. It is much lighter, and requires less room in housing; 2nd. there is no need of stakes, set up in the field as guides, especially if



there are two straight sides to the field; 3d. the marks will all be of uniform width, which is of great importance in the after cultivation of the crop by horse power. In making the implement, the runners, *r, r*, are, of course, set as far apart, as the rows of corn are intended to be. To the middle of one of the beams, *b*, a guide-pole, *p*, is attached, so as to admit of its being swung over to operate on either side of the sled. This pole is made twice the length of the distance between the runners: thus, if the rows are to be four feet apart, the guide-pole must be

eight feet long. On the outward end of the guide-pole, a shoulder is cut, to enter a hole in the block, *m*, which is to serve as a marker. The block turns on the pole, when the latter is changed from one side to the other of the sled. A stout pin is set in the lower end of the block, at right angles with it, to make a distinct mark on the surface of the ground. Two pins are also placed in the top of the runners, to keep the guide-pole in place, when in use.

In operating with the marker, the driver takes his place upon the sled, and marks the first two rows by following guide stakes, or the line of the fence. The guide-pole being swung over on the side of the unmarked land, the marker traces a line in the center of the space between the next two rows, and on reaching the end of the field, the horses are turned, the guide-pole reversed, and the team is driven so as to keep the guide-line exactly between the horses, and thus the rows are made parallel with those previously marked.

Winter Management of Sheep.

The old practice of leaving sheep to shift for themselves whenever the ground was bare, is now abandoned by all good flock masters. It is not denied that they can gather a good deal of nourishment from the meadows, if they have not been picked too bare, but the grass is of poor quality, frost bitten, and is insufficient in quantity. It interferes with the regular habits of feeding the flock, which is a matter of some importance with the shepherd, and a good deal more with the flock. After they are once yarded in the beginning of Winter, it is better to keep them in confinement, unless it be for a run of an hour or so, on very pleasant days.

Sheep want shelter from the storms and protection from bleak winds, and no man should attempt to keep them in the Northern States, unless he can furnish covers for them. These need not be expensive. The instinct of the sheep prompts it to seek high, dry lands, especially for lodging, and such a locality should be selected for the barn. They want protection from the snow and rain more than from cold. They will bear a very low temperature without inconvenience, if their fleeces be dry. A barn-cellar in the side of a gravelly hill, with a yard attached, is a very good arrangement for them. If this is not upon the premises, cheap sheds may be built with board or thatch roof. The shed should be deep and open toward the south. It will not be expedient to confine more than fifty in a single shed and yard; and if the flock be not uniformly vigorous, it will be better to reduce the number to twenty five, assorting them according to size and vigor, so that all may have an equal chance at the fodder. If this matter be overlooked, the stronger animals will push away the weaker, and take the choicest portion of the food.

The barn-cellar, or shed, should have a good layer of muck or loam at the beginning of the feeding season, and should be kept well littered with straw or refuse hay; then the manure will not become prejudicial to health, and may remain until they are turned out to grass. The sheds should be furnished with convenient racks for feeding hay, grain, and roots. The sheep demands a greater variety of food than any other domestic animal. It is said that Linnæus, the distinguished botanist, offered a variety of fresh plants in succession in feeding horses, and found that they ate 276 species and refused 212; cattle ate 276 species and refused 218; while sheep took 387 species, and refused only 141.

This shows that a good many plants that are rejected by other animals, may be turned to profitable account in sheep feeding. We may save the small shrubs and weeds and coarse grasses which are often burned in clearing brush pastures, always taking care that the poisonous Low Laurel be not gathered with the fodder. We can safely feed them once a day with this coarse fodder, and it is perhaps better that it be given at night. In the morning they should have nice short hay, the best the farm produces, and all that they will eat up clean, and no more. The same rule is good for the noon-day meal, which should be of roots or grain. The grain should be given whole, as sheep are furnished with good masticators, doing their work as perfectly as any mill. Nearly all the grains and their straw may be fed, changing occasionally from one to the other. Turnips, beets, carrots and potatoes are excellent food for sheep. It is a matter of a good deal of importance that they be fed regularly. No animal knows better the appointed hour of feeding, or is more impatient under disappointment. The stomach must be kept quiet by regular feeding, if we wish the flock to thrive. They should also have the same amount of nutriment every day, as nearly as it can be calculated. Each animal wants about three per cent. of its live weight in food, a little more if fed upon hay and roots, exclusively. If a sheep weigh a hundred pounds, it should have, say half a pound of corn or an equivalent in other grain, a pound of good hay, and two pounds of straw, the three being nearly equivalent to three pounds of good hay. A little observation will soon fix the quantity needed, and prevent over or under feeding, both serious errors. Water should be carefully supplied to the flock, and if it is spring water that never freezes, brought in a pipe to a trough in the yard, it is all the better. If a sheep falls off in flesh or grows weak, it should be immediately removed where it can have a full supply of food, without struggling with stronger animals. Salt should always be kept in the yard, where sheep can have free access to it. By attention to these small matters at this season, the flocks will be kept in good health and come out robust in the Spring, with full fleeces.

Lustre Woolled Sheep—The Lincolnshires.

The term lustre wool, is applied to fleeces of long staple, possessing a bright or lustrous appearance. The Cotswold and Leicester breeds are the best known of this class, in this country. The wool is in large demand, particularly for the manufacture of what are termed alpaca fabrics. These derived their name originally from the animal (alpaca) producing the silky hair, that gives a lustrous appearance to the goods. The fitness of lustre wool for the above purpose, gives it a value above what it would possess, if graded only by the standard of fineness, and it is worthy the attention of sheep breeders to inquire whether coarse-wooled sheep of this class may not bring a better profit than the favorite Merino and Saxony breeds, or even the middle-wooled South Downs. The latter breed is rapidly and deservedly becoming popular, particularly for supplying superior mutton; but some of the coarser woolled varieties may be equally profitable by greater weight of carcass. In England, considerable attention is being attracted to the Lincolnshire breed, for which their advocates make special claims as lustre-wooled sheep. A recent writer in the *Mark Lane Express*, gives figures which will in-

terest sheep-breeders. He states that the clip of six flocks of Lincolnshire long-wools, numbering 2,289 fleeces, yielded 24,917.66 lbs., or a little over 10½ lbs. per head, which at present prices of wool of that grade would yield nearly \$5 for the fleece of each sheep. These are said to be "good clips," but by no means the best to be met with. As to weight of carcass, extraordinary instances are mentioned, of 261, 284, 364, and 386 lbs. persheep, of two to three years old, and 50 to 75 lbs. per quarter is said to be common.

The writer of the above statement is of opinion that the Lincolnshires can be successfully introduced, wherever good natural pasturage can be found, and good turnips, or good clover can be produced, but that it is useless to attempt their introduction into mountainous or even very hilly districts. They are particularly suited to rich valleys of those districts not subject to frequent changes of weather.

Due allowance must of course be made for the enthusiasm of one who makes this or any particular breed of animals a hobby, but the facts set forth are worthy of consideration. We are not aware that the Lincolnshires have been tried to any extent in this country. If any readers of the *American Agriculturist* have experimented with them, we should be pleased to have their notes for the benefit of the community. *

For the *American Agriculturist*.

Improvement of Pastures.

The condition of the pastures in many of the older dairying districts is a sad spectacle. Farms that would once carry forty cows, and make eight thousand pounds of butter, will not now support half that number. In the familiar language of these districts, the land has been "cowed to death." The pastures have been fed by cows from time immemorial, receiving only the manure dropped by the animals during the day. Three fourths of all that the land produced was carried away to the yard, and none of this came back. The soil grew thin, and the grasses died out for want of nourishment. What can be done to bring up such pastures?

An ounce of practice is said to be worth a pound of theory. It is, undoubtedly, if of the right kind. In the Spring of 1860 the writer came into possession of a two acre lot of run-down meadow. It was used as a pasture because there was not grass enough upon it to pay for cutting. As it was convenient to the house, I used it for yarding the cows at night. They were pastured elsewhere a part of the time, and thus all the products of these two acres, and nearly four more beside, were dropped upon the soil by the cattle. There has been a very great improvement in the yield of grass the past season, and the lot, if used for meadow another year, will probably cut twice as much hay as it did in the Summer of 1860. The whole secret of the improvement is, that more has been returned to the soil than has been taken away.

A similar improvement is witnessed in pastures devoted to sheep, if they are not fed too closely. Every thing the land produces is returned to it by the sheep, together with a good deal the land would not get, but for the intervention of the feeding animals. It is sometimes claimed that nothing is gained to the land by passing the crops through the bodies of animals; that a hundred pounds of hay rotted upon the land, is worth just as much as the hundred pounds fed out and returned in the shape of manure. But this can not be so, for the animal draws some elements of its body from air and water, as well

as hay, while the manure quickens the energies of the soil, as the rotted hay would not.

It is well known in the districts devoted to the feeding of fat cattle, on the ridges of Dutchess and Putnam counties, and the western part of Connecticut, that lands once poor, or nearly run out by hard cropping or pasturing, have been brought up to very great fertility, by plaster and feeding animals. From one to two bushels of plaster per acre are sown every year, and fattening cattle three years old and upward are kept in them from Spring until Fall. When the animals are turned in they have their frames already made, and there is no great draft upon the soil for bone earth. The whole grass is returned to the soil in the manure, except the little carried off in the gain of the cattle. Some times a change of stock from cows to fattening bullocks, or to sheep, will be all that is necessary for improving a worn out pasture. If cows are kept, there must be top-dressing, or alternation from pasture to hoed crops, with heavy manuring. If the land is not arable, top-dressing with compost or with plaster in districts where it does good, will be sufficient. CONNECTICUT.

Manuring or Mulching.

There is much to be said in favor of top-dressing grass-lands in the Fall with coarse manure. It protects the roots from the severity of frost, also from the cold drying winds, which often prevail when the land is bare of snow. Meadows so protected come out in the Spring earlier, brighter and stronger. This no one will deny. But is this result owing chiefly or altogether to the action of the manure as a fertilizer? Doubtless some of it finds its way to the roots in liquid form, but not much in Winter. The benefit comes largely from its action as a protecting mulch. And if so, the question arises whether this is good economy, at least where the land is poor and manure so expensive as it is at the East. When practicable, why not dress the grass-lands with a thin coat of straw, leaves, or sea-weed? Meanwhile, let the manure be carefully housed under sheds near the barn, where it will be improving all Winter, and be in a perfect state for application in Spring. Perhaps some of our progressive farmers will try the experiment, on a small scale. Mulch one piece of sward this Fall with straw, and another with manure. In the Spring see which looks best. Give both the same amount of manure in the spring-plowing, and see which yields the best crops. The subject is an interesting and practical one.

Farm Notes from Minnesota.

H. A. Farmer of Goodhue Co. gives to the *American Agriculturist* some notes on farming in Minnesota, from which we extract the following: Having to stack a part of his corn, he adopted the following expedient for loading and unloading shocks: "I had thirteen ropes, used for tying cattle; one of these I would slip-noose around a shock, draw it up snug, pass the end of the rope to the man on the load, and then, with a vigorous toss and pull, land on to the wagon a shock, that would turn out a bushel and a half to two bushels of ears, leaving the rope on every shock—thirteen making a load. To unload, drive to the end of the rick, run a wide plank to the wagon rack, take hold of the rope, shoulder arms, and walk the plank."

The following is his method of managing his

straw stack: "I keep thirty head of cattle, young and old, and my straw is quite an item for their winter forage, but I dislike to force them to eat it. I had thirty-seven acres of wheat handy to the cattle yard, which I drew up and stacked in two stacks, and while topping out, I sprinkled salt over every layer of bundles. When it was threshed, of course, the salted straw was at the bottom of the straw stack. The result was, that my stock ate the straw with avidity, and made themselves very comfortable sheds about the straw stack. The salt made no difference with the grain."

For the American Agriculturist.

How Much Pork in a Bushel of Corn?

It is important that hog raisers should know how many pounds of pork can be made out of a bushel of corn, that they may decide whether it will pay best to sell their corn or feed it to hogs, at the existing prices of each. I have been making some experiments and taking some notes which may interest many of your western readers, as it would interest me to see similar notes of plans and results of others.

On the 13th of September last I had on hand 120 head of hogs, various sizes, from sucking pigs up to 250 lb. hogs. The lot weighed 8,500 lbs., and all run together in an 8 acre lot, about 6 acres of which is set with white clover and blue grass. I fed them from September 13th to December 1st, 660 bushels of corn, by throwing it to them dry on the ground, together with all the stove coal ashes and salt they would eat, (the coal was fed to neutralize any acid in the stomach, caused by high feeding, and prevent cholera or other diseases.) They were furnished a dry place to sleep in. On the first of December I sold 7,806 lbs. of fat hogs, and found the entire lot had gained 9,702 lbs., or 14.7 lbs. for each bushel of corn fed. They are mostly a cross between the Berkshire and Suffolk, with the Berkshire predominating; some few have a cross of the Chester White.

HOG RAISER.

Ridge Farm, Illinois.

Notes on Flax Culture.

The numerous inquiries upon the subject of flax culture received at the *Agriculturist* office, from different sections, show that the attention of many cultivators is already turned to this crop, which at present promises to be a remunerative one for the coming year at least. The following information derived from many sources will be of value to those inexperienced in growing flax, and we trust that any difference of treatment called for by peculiar circumstances of location and soil, and additional suggestions from those experienced in the business may be communicated in time to be of use to our readers before putting in the spring crops.

Flax prefers a rich sandy soil, but grows well upon any land that will yield good corn. A fine deep tilth of rich soil with good draining will give the best crops. It is almost useless to attempt the cultivation of this plant on a wet field. It is essential that the ground be free from weeds. In Europe, where labor is cheap, the flax fields are regularly weeded; here, the process would be too expensive, and hence the cleanest land should be selected. Flax may well follow corn or oats, or be sown directly upon a clover sod. In the latter case especially, it would be better to plow the land the previous Autumn, leaving it in ridges, to allow the vegetable matter to decay, and be more thoroughly

mingled with the soil by reploting and harrowing in Spring. Heavy manuring is beneficial in increasing the yield of seed, but it makes the fiber coarser and less valuable. Flax will doubtless do well after any previous culture that has left the land "in good heart" and free from any troublesome weeds.

The quantity of seed per acre varies with the purpose of cultivation. If the object be to secure seed only, three pecks per acre is ample. When sown thus thinly the stalks throw out more branches, and a larger quantity of seed is produced. Where the crop is grown for the fiber alone, from one and a half to two bushels per acre is used, according to the strength of the land. In some districts of Europe where the finest linsens are produced, as high as three bushels per acre are sown. It will probably pay best to sow with reference to raising both seed and fiber; then one bushel, or on strong land, five pecks per acre will be the proper quantity. The seed may be obtained at almost any city seed store. That of good quality will be smooth, slippery, and will sink in water. It should taste sweet when chewed, and being broken, should appear of a light yellowish green color, and very oily. If large quantities are required, it would be well to correspond with those in the trade at Cincinnati or St. Louis, which are commercial centers of the large flax growing districts, where the seed is chiefly the object of culture.

The time of sowing, of course, varies with the latitude; the rule is to get in the crop as early as can be done without danger from frost. In Rensselaer and Washington Co.'s, in N. Y. State, about latitude 43°, where large quantities are cultivated annually, it is usually sown from May 1st to 10th. The seed is thrown broadcast, and it requires considerable care to scatter it evenly. Calm weather should be chosen for the work, or if that be not possible, the sower should always work with the wind at his side, blowing alternately on his left hand and on his right as he paces up and down the field. A more uniform distribution of seed could be secured by going over the ground twice, and sowing half the amount of seed each time. The quicker the flax germinates and appears above ground, the better the crop is likely to turn out. On this account, it is a great advantage when the sowing can be done immediately before a shower. If there be drouth at the proper time for putting in seed, its effects can be partially guarded against by a deep thorough harrowing immediately before sowing. The seed is to be harrowed in lightly, and the use of the roller after this last harrowing will be beneficial especially on light soils. Details as to harvesting and subsequent treatment of the crop, will be given in a future number.

We will add a few items in answer to those asking special information on the subject: The average yield of an acre of good land is a ton of rotted flax, and from ten to twelve bushels of seed. A ton of rotted flax properly treated, will give from 450 to 500 lbs. of dressed flax, about 70 lbs. of coarse tow, and 12 to 15 lbs. fine tow. It would not pay to transport flax in the straw to any great distance; if properly broken, some 60 per cent. of the woody part may be separated, and then it can be profitably baled and sent to market. The brake for this work described in the January *Agriculturist*, (p. 12), can be as readily moved from one neighborhood to another as the ordinary threshing machine, thus enabling the farmers of a large district to prepare their straw for transportation.



American Jute.

At the present time there is great interest in every plant which promises to be available for fiber. In the January *Agriculturist* a brief notice was given of the American Jute: which has called out numerous queries as to the appearance of the plant which furnishes it; we give an engraving of the flower, leaf and seed vessel. This sketch, which is about half the natural size, will enable any one to recognize it among our wild plants. The flower is generally rose-colored, but is sometimes white, with a crimson centre. The lower leaves are more irregular in outline than those represented in the engraving, and all are covered on the lower side with a light-colored, velvety down. The plant varies somewhat in different localities, and it was formerly supposed that there were two species, which were named *Hibiscus Moscheutos*, and *Hibiscus palustris*; but they prove to be the same plant growing under different circumstances, one on the sea-shore and the other inland, and the former name (*H. Moscheutos*) is retained.

Though the plant grows most abundantly in the neighborhood of salt water, it is not very rare in the interior. It will probably grow almost anywhere, but will doubtless flourish best in low grounds. We have for several years cultivated it for ornament, in a very sandy spot, where it grew with great vigor. The plant may be raised from seed, or by dividing the large clumps of roots. All our knowledge of its alleged value as a fiber producing plant is obtained from the statement of the patentee employing it for that use. We only notice it as one of the articles now claiming a share of public attention.

Flax Cotton.

An interesting sample of batting made from flax has been placed on the *Agriculturist* Exhibition tables. It is intended for quilting dresses, comforters, and such other purposes as cotton batting is employed for. The specimen was made at a factory in Lockport, N. Y., which is the center of a large flax raising district. The flax straw is first pressed through a brake, the invention of Stephen Randall, of Rhode Island, which consists of a series of fluted rollers so geared that they run at different speeds, thus producing a motion by which the fiber is freed from the woody portion. After passing through

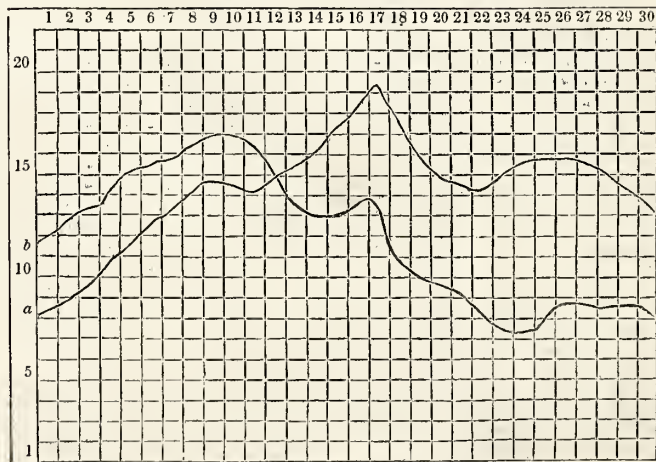
a duster, which further cleans it, the fiber, if required white, is bleached, dried and carded. In making yarn or twine, suitable machinery, similar to that used in the manufacture of cotton, is employed. It is the intention of the company to supply an article which may be mixed with wool or cotton in fabrics, to make twine, crash, bags, railroad car backing, and similar goods.

About the Weather.

The remark is often made, that this or that month has been unusually cold or warm. A few very hot or cold days are apt to give the impression, that the month or season has been very different from the average, with respect to temperature. But the same month through a series of years shows a great uniformity of temperature, and the years, taken one with the other, vary but little. The following table of observations, taken by Mr. H. T. Haviland, at Brooklyn, N. Y., gives a striking illustration of this. Here, but one observation each day is made use of—from May 1st to Nov. 1st at 6 A. M.; and from Nov. 1st to May 1st, at 7 A. M. It will be seen here, that the average of January and July together, give very nearly the average of the year; and so with the other opposite months. It must be borne in mind, that the average of 47° is not the mean of the year, but only that of the morning observation. Observations taken in New-York city six times a day, during nine years, gave never less than 53°, nor over 55°, as the average temperature of each year:

	1858.	1859.	1860.	1861.	1862.
{ January....	33° Av.	28° Av.	29° Av.	27° Av.	25° Av.
{ July.....	67° 50'	66° 47'	65° 47'	66° 46½'	65° 46½'
{ February..	24	31	27	31	27
{ August....	65 44½	65 48	66 46½	65 48	66 46½
{ March.....	32	39	37	34	33
{ September.	59 45½	59 49	58 47½	59 46½	61 47
{ April.....	44	43	43	43	42
{ October...	52 48	47 45	50 46½	53 48	52 47
{ May.....	50	54	53	49	53
{ November.	38 44	42 48	43 48	39 44	41 47
{ June.....	65	61	61	62	60
{ December.	33 49	30 45½	29 45	32 47	32 46
Year's Av'ge.	47	47	47	47	47

COLDEST DAYS.					
1858.	1859.	1860.	1861.	1862.	
17 Feb. 11°	10 Jan. 10 h. 0.	1 Jan. 8°	13 Jan. 6°	5 Jan. 10°	
24 " 10 "	11 " 4 " 9 "	7 " 7 "	14 " 10 "	25 Feb. 17 "	
5 Mar. 10 "	21 Feb. 18 a. 0.	2 Feb. 5 "	8 Feb. 4 b. 0.	7 Dec. 14 "	
	28 Dec. 19 " 8 "	3 " 8 "	9 Feb. 4 a. 0.	20 " 10 "	
	29 " 8 "	17 " 12 "	7 March 15 "	21 " 7 "	



Valuable Record, for Farmers and Others.

The accompanying diagram shows a simple and very satisfactory plan for keeping a record of matters which are subject to variation—as, for instance: the height of the thermometer, the rise and fall in price of grain or other products, the amount of yearly produce on the farm, etc. It has long been in use among scientific men,

but is so admirably adapted for operations on the farm and elsewhere, that thousands of the readers of the *American Agriculturist* will be interested in examining its working, and in making it useful in their own business matters.

Our illustration was prepared some time since, to exhibit the method as actually used in our office, for noting the changes in the barometer; but in a recent number of the *London Gardeners' Chronicle*, a similar plan is shown, for exhibiting the increase and decrease of the flow of milk in a number of cows, and that being a matter of very general interest, we will illustrate the working of the record so applied.

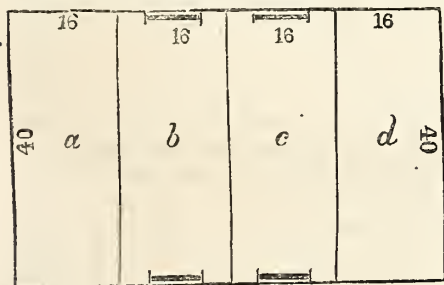
The numbers at the top of the diagram designate the days of the month, to each of which is assigned one of the spaces made by the perpendicular lines. The figures at the sides, 1, 5, 10, etc., stand for quarts of milk, each space between the horizontal lines representing one quart. The daily yield of milk by each cow is shown by the irregular lines, running from left to right. Thus: it appears by the above record, that on the 1st day of the month, one cow (*a*) gave 8 quarts, and the other (*b*) 11¼ quarts. On the 2d day there was an increase in each, *a*, yielding 9¼ qts., *b*, 12 qts. The increase continued with *a*, until it reached 14½ qts., on the 8th of the month, when there was a slight decline for a few days, after which the amount rose to over 19 qts., on the 17th day, and then rapidly fell away. Now, if notes were made in the perpendicular spaces under the dates, of the different kinds of feed given, change of pasture, and other circumstances supposed to affect the flow of milk, a glance at the record would determine whether the change were favorable or otherwise. The cases noted above are imaginary ones, but they serve to fully illustrate the method. The horizontal spaces can also denote degrees for the thermometer or barometer, bushels for grain, cents for the price of commodities, or any other denomination required; and the number of spaces can be altered to suit any business or other matter. The perpendicular spaces can also be used to represent as many weeks, months or years as are desired. Where several records, liable to become confused, are marked on one sheet, they can be kept distinct by using different colored pencils or ink, or by making dotted, or broken lines.

As remarked above, the changes of the barometer are recorded in this manner at our office, and it perfectly demonstrates the usefulness of the plan, to notice how exactly the rise and fall of the mercury correspond with the variations in the atmosphere. Where the indicating line rises, the accompanying notes read: "Fine weather," where it falls, there is recorded: "Cloudy, rain, snow, or wind," etc. A few years of such records, pertaining to various farming operations, would be invaluable as exhibiting the success or failure of different methods of treatment. They would be like charts, pointing out paths to be followed, and rocks to be avoided. Whatever appeals directly to the eye, produces a stronger impression than any written statement can do. One who, upon consulting his chart, should find his lines continually running down hill, would be strongly incited to a change of his present management.

For the American Agriculturist.

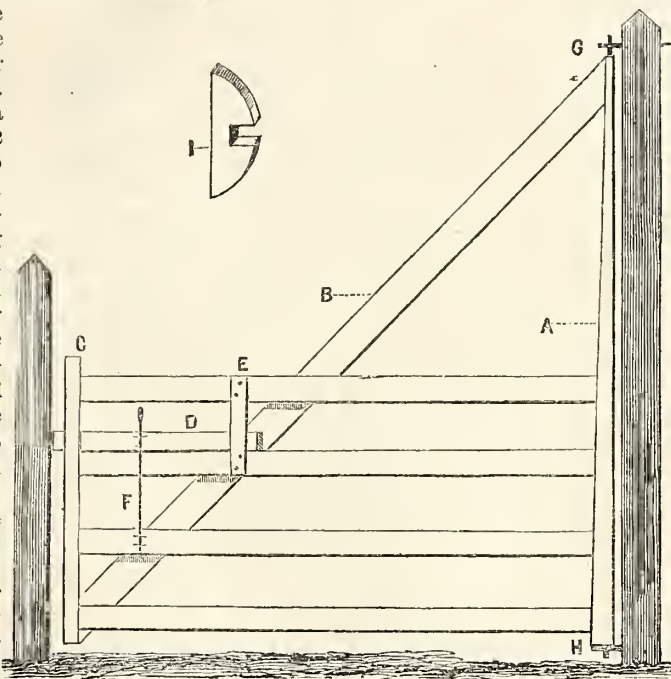
Cheap and Convenient Barns for New Countries.

Where durable timber can be procured, such as locust or cedar, cut posts four feet longer than the height desired for the barn; frame a tie on the tops of each four posts; let the tie project eight inches beyond each outside post, (i.e., let the ties be one foot and 4 inches longer than the width of the barn). On top of the ties cut in a boxing or groove, 1½ to 2 inches deep, for the plate to rest in. Now sink holes in the earth, three or three and-a-half feet deep, bringing the bottoms of the holes all to the same level; which holes are to receive the lower ends of the posts. Raise the bents one by one, tamping the earth firmly around the posts as the holes are filled up; pin the plates to the top of the ties; and finish the roof as for a frame barn. For side covering, take 2x4 inch scantling, and spike them on the posts firmly, with 6 inch spikes, as far apart as is desirable, (say 4 feet), and nail the siding to them. If the two end ties and the two plates are allowed to project two inches over the posts, outside, it will save scantling in those places. For the floor foundation, lay down three or four pieces of hewn timber across the width of the floor-way; on top of these lay a sufficient number of hewn timbers lengthwise of the floorway; and lay the flooring plank across them. A piece of timber framed in the posts just under the plates, and over the floorway, will receive and hold fast the top end of the posts to which the doors are hung, while the lower ends are mortised in the floor foundation. Hang the doors and the barn is finished. Though so little of a carpenter that I do not know the names of the timbers to a barn, I have just erected one, without aid from a carpenter.—In this connection I would suggest a plan for a convenient and economical barn, for a large farm, viz.: 40 by 64 feet, divided into four bays, each 16 ft. wide, by 40 ft. long. Make threshing floors, and hang doors, to the two middle bays (b, c).



Drive on one floor (b), and unload the hay or grain in one bay (a) at the end of the barn: close the doors to that floor, and drive the loads on the other floor (c); fill up the other bay (d), and the floor first used (b), and still there is a threshing floor (c) for use. A stable can be made in the bay (d) at the end of the barn next the unfilled floor, and by building the same floor a little higher from the ground, a convenient cellar for roots, can be constructed. I have seen

thousands of barns, but have never seen any which economize space like one on this plan. Such a barn, built with posts set in the earth, would require 20 posts; which planted 3½ feet deep, with the soil well rammed down, would withstand any wind, without braces; for there would be 20 trees (posts) to be upturned. *Seattle, Washington Territory.* ECONOMY.



Farm Gates.

Among all the improvements which have been made in farm conveniences, there is still a lack of a simple, cheap gate; one which will be sufficiently strong to stand constant and rough usage, and yet not so heavy as to sag. Nothing is more annoying than to be obliged to carry half the weight of the gate in the hands, every time it is required to be opened or closed.

Isaac P. Allen, Whiteside county, Ill., sends us a plan of a gate, which he claims is free from the usual objections. It is certainly very simple, and can readily be made by one of slight mechanical skill. The head piece, A, is made of 4 inch scantling. The brace, B, and the bars are mortised into this and secured by pins or bolts. The heel piece, C, is made of two pieces of inch boards, fastened one on each side of the cross bars. The latch D, is a simple bar of hard wood, sliding on the cross bar and between the boards of the tail piece, and kept in place by the strip placed at E. The latch is kept closed by means of a hickory spring F, which is fastened by staples to the latch, and to the gate; the end of this spring projects above the latch and serves as a handle by which to draw it back. To hang the gate, pins of ½ inch iron are placed in each end of the head piece, and irons G and H, with a hole punched in the end to receive the pins, are fixed in the gate post. These are fastened by an iron wedge driven in by the side, or what would be better, may have a nut fitted so that they may be secured in place. The catch is represented at I; it should be made of hard wood, and be bolted to the post at the proper height to receive the latch. This will allow the gate to be opened both ways. There are now several weeks in which much can be done in making gates and similar work. They should be made of hard wood and well seasoned, the mortises put together with a tight fit, and every tenon thoroughly pinned or

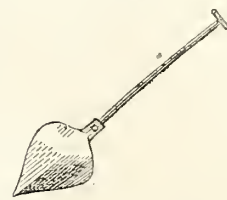
bolted. The slats and brace may be ¾ of an inch thick and 4 inches wide. The posts should be well seasoned, with all the sap-wood cut off and the portion which enters the ground well charred. They should be set at least 3, and better 4 feet in the ground, with the earth well pounded in to hold them firm.

Brush-harrowing Potatoes.

Mr. Jonas Weed, of Fairfield Co., Conn., writes to the *American Agriculturist*, that much time and labor may be saved, and weeds effectually destroyed in potato culture, on dry, light soils, by turning furrows from both sides upon the rows when the potatoes first appear, following immediately with a brush harrow, which he constructs as follows: In a stick of timber about 4 inches square, and 8 or 9 feet in length, he bores 2-inch holes 18 inches apart, and fastens the butt ends of tough saplings, or brush, in these holes. The timber follows the team at right angles, the brush projecting behind it. The draft should be attached to the underside of the timber, so as partially to raise it from the ground and throw its weight upon the brush. The covering of dirt kills the weeds, while the potatoes are not injured by it. Mr. J. further says that an implement made in the same manner, with the exception of substituting a plank, instead of the timber, so arranged as to incline forward, is excellent for preparing for clover, and other fine-seeded crops.

Implement for Cutting Hay.

An unknown correspondent, modestly signing himself "J. C. M.," sends us a neat model of the implement illustrated below, of which he writes: "It has long been in use in England and in some parts of this country, and is so much superior to the common hay-knife that it ought to take its place. It is called the Hay Spade. It is made of steel plate about ¾ of an inch thick, or less, cut in the form here represented, and thinned from the middle to each side until the edges are sharp. When finished it measures about 10x14 inches, more or less, as desired. The socket for the handle is bent slightly forward, to prevent rubbing the back of the hands against the hay when cutting. The handle is



of wood, about 2 or 2½ feet long, made wide at the end for the socket, and about the size of a stout fork handle at the upper part, with a piece the same thickness about five inches long, across the top. The handle is fastened in its place by a screw nail from the back of the socket. I would not give mine for a cart load of the common kind, if I could not replace it with another; it saves time, hay, and labor, is cheap, strong, durable. One will last a lifetime if used with care."

SPLITTING WOOD.—S. Parsons, says, the boys engaged in splitting the year's fuel, can make it easier, and lessen the danger of cutting their feet by the following arrangement: Take a large block of hard wood, say two feet or more in diameter, and of convenient length; set it up endwise, and in the middle dig out a hole seven or eight inches in diameter, and about six inches deep. This will hold the sticks upright, and they can be split into several pieces without handling. The hole can be easily made in a very little time with an auger and chisel.

Sorghum Culture.

The importance which is attached to Sorghum, especially at the West, is shown by the holding of two Conventions of those engaged in cultivating the plant, and manufacturing its products. The one held at Rockford, Ill., Dec. 3, was attended by over 150 practical men, whose experience on various points, as elicited in the discussions, will doubtless be of value to the country at large. The subjects proposed for discussion were: 1st. Best seed and its preparation; 2nd. Best soil and its preparation; 3d. Mode of cultivation; 4th. Machinery for working up the cane and preparing its juice. The discussion upon the first topic shows that great difficulty is experienced in procuring good seed, and that this is liable to deteriorate. The following is the report of the committee on seed, which was adopted by the convention.

REPORT OF THE COMMITTEE ON SEED.

Your committee, to which was referred the subject of seed, beg leave to report, that in consequence of the great diversity of opinions and experience of different producers, they find it difficult to designate any one variety of cane to be preferred to all others. It appears from accounts given by various members of the convention, that any one of the canes grown in the country, when raised from the pure seed, with proper culture and care, produces good results. In the selection of seed, therefore, special regard should be had to the question of its purity or freedom from amalgamation with other plants which tend to its deterioration. The production from the yellow Imphee, or African cane, has more frequently resulted in crystallization, than any other. This variety is also desirable on account of its habit of early maturing. Of the different kinds of Chinese cane known in this country, the committee infer from all the information before them, that neither the smallest, earliest varieties, nor yet the largest and later sorts, but a medium between these two extremes—the committee know not by what name to designate it—is most desirable for cultivation. As a means of success in the business, the committee urge careful observation on the part of all growers, and recommend the selection of such crops as the experience of producers has proved most profitable, always guarding with the most scrupulous care against every appearance of mixture with all and any of the plants, with which the cane will hybridize.

The committee would also recommend the importation of seed from time to time, from localities where the climate is more congenial to the perfection of the cane, peradventure the deterioration in its quality, sometimes noticeable, may thereby be obviated. All of which is respectfully submitted.

C. A. HUNTINGTON, } Committee.
E. H. SEWARD, }

Mr. Murtfeldt offered the following resolution:

Seeing there are so many names given to the different kinds of cane, according to color of seed, or any other peculiarity, in order to secure a more uniform designation, I offer the following:

Resolved, That in the estimation of this Convention there are only three kinds of cane, viz.: Chinese Sugar Cane, having black seeds, growing in prongs from 2 to 7 inches long; the second or tufted variety to be known as African; the third, lately introduced, to be known as the Otaheitan, having long heads, 7 to 12 inches long, and 1 to 2 inches thick.

The uncertainty with regard to seed appears to be one of the greatest difficulties of the cultivator, and it is doubtful if sending, as some propose, to more southern localities, will permanently better the matter. What is needed, is a variety suited to a northern latitude, which will maintain itself year after year. The Sorghum is, like the Indian corn, liable to great variation, and a permanent variety, or race, can only be established by careful selection and cultivation. The fact, that one cultivator raised

twelve varieties from one kind of seed, shows the want of stability in the varieties. There is no doubt that by cultivating for the seed alone, and carefully rejecting that from inferior plants; a variety may be established, which will be superior to any now in cultivation. There is needed careful observation as to what relation, if any, the saccharine quality of the cane bears to the color and marking of the seed, and the form of the heads. Whoever will conduct a series of experiments with a view to improving the Sorghum, will do much to remove the uncertainty attending its culture. The opinion of the members of the convention upon the preparation of the seed, was divided, some preferring to plant it dry, and others soaking and sprouting previous to sowing. Mr. Pardee found it advantageous, to soak the seed 24 to 30 hours in a solution of "chloride of lime and vitriol" (proportions not stated,) he then puts it in bags, and covers in warm ground, until it sprouts.

With regard to soil, nothing especially new was brought forward, the prevailing opinion was that any soil being suitable for Indian corn, would do for Sorghum. Manuring, and deep plowing in the Fall, were generally advocated, and a number of speakers gave their experience in favor of ridging the ground, by throwing two furrows together, and planting on the ridges.

Inquiries for Sorghum Seed.

We are sorry to be unable to respond to a multitude of inquiries as to where pure seed can be obtained in quantity for next year. We made diligent efforts to get a lot from France for distribution last Spring, but found that there was the same deterioration there as here, owing to similar carelessness in keeping it free from hybridization. Learning that Messrs. Vilmorin, Andreux & Co. had sent to China for new seed, we called upon them while in Paris last Summer, to try and secure some; but they informed us that they would probably be able to procure only a small quantity, and that they should most likely propagate all they did get, so as to obtain a supply for the season of 1864. They kindly promised, however, that if they could possibly spare even a small quantity, they would send it to us—but held out little encouragement. We shall be glad for any reliable information as to where pure seed may be obtained, as there is now a great call for it.

The publisher of the *Agriculturist* feels no little gratification at the result of his efforts a few years ago, when he scattered freely over the country tens of thousands of parcels of sorghum seed. Though we charged nothing for the seed except the postage, and advised a trial of but a small quantity at first, yet not a few contemporaries cried out "humbug." This same seed laid the foundation for the immense crop of sweetening grown at the West the past year. Probably three-fourths or more of all the sorghum grown in our country as yet, has come from the seed originally sent out from this office.

GOOD FOR THE NEW-HAMPSHIRE GIRLS.—In Rockingham County, N. H., an aged farmer has sent three sons to the war, leaving himself short of help. Fourteen of the young women of that place recently collected together and husked a hundred bushels of corn for him. Their "lily hands" may have been roughened by the work, but the good hearts going with such hands, will be a treasure to the fortunate winners, worth far more than delicate fingers.

Blinks from a Lantern...XXXII.



DIOGENES VISITS RICHARD BULLION ESQ.

"It is capital that makes good farming," said Mr. Bullion, as he bowed me into his parlor, and pointed me to such a seat of silky, downy softness, as Diogenes rarely sees in all his visits. "With capital," continued Bullion, in that self-satisfied air which he assumes when he remembers that he is worth a hundred and fifty thousand dollars, "a man can make the land do pretty much as he pleases. He has only to tickle the soil with a hoe, to make it laugh with such a harvest as the barns can hardly hold."

Bullion has never seen better days, has never enjoyed himself so entirely as he now does. He has run his race in the city, has got money enough to satisfy a man of his reasonable tastes, and has retired to the country to enjoy the evening of his days—a pretty long evening it may be, for he is now but just turned of fifty. He was a farmer's boy, but precious little good did his birthplace do him, for he left it for a country store at fourteen, strongly bent on merchandise and a fortune. Though he never acquired any skill in husbandry beyond learning to milk, churn, pick stones, and ride on horseback, he learned to love country life, and always cherished the dream of returning to the paternal acres to fix up the old homestead, to keep fat cattle, sheep, and pigs, to drive a good horse, and take premiums at the County and State Agricultural Fairs. It is not improbable that he might have made a farmer, if his father had been a good one. But he managed every thing upon "the penny wise and pound foolish" principle, worked hard himself, and never had half help enough to make his farming profitable. Every thing was done on a small, mean scale, and young Bullion left home early with the parental consent, determined that when he got ready to farm it, he would not be cramped. He succeeded in the city, so far as the making of money was concerned, but never took that social position which his wife coveted for her family. She longed to be invited to Mrs. Gingerwell's parties, in the Fifth Avenue, but never quite accomplished it. She got invited into the Second Avenue frequently, and lived in the Ninth herself. For her part, she could never see why folks who lived in the Fifth Avenue, should feel so much above people who lived in still higher Avenues. She left the city without being able to solve the mystery.

But Bullion did not share his wife's sympathies in this respect. He did not care a snap for Mrs. Gingerwell's parties, so long as old Gingerwell bought his groceries of him and paid his bills. He felt as well in the purchase and sale of tea, coffee, wines, and sugars, as Mrs. Gingerwell did in the use of them, and the aristocratic notions of his customers never troubled him. Richard Bullion was not going to bother his head about such women's notions. Not he!

Well, Richard had realized his dream, at least in part, had got back to the old homestead, had reared a handsome monument to his parents in

the grave-yard, and another to himself on the site of the old house, the first done in marble, and the other in Granite. This granite house is a good notion, and I wonder people who have the means, do not oftener use it for building. It is a classic material, and suits the esthetic taste. It is very durable if properly put up, and will last a thousand years as well as wood will a hundred. We are having now, in the older parts of the country, the third generation of houses, and the most of those now upon the stage will not long survive their hundred years. Is it not about time that we began to have some permanent houses in this country? The material is abundant in most parts of the land, either granite or limestone, and is easily wrought. In some localities stone would be the cheapest, and when once erected, it is a monument to the builder for a thousand years at least. Some are troubled to find traces of their ancestors who have died only two hundred years back. The grave stones have crumbled, and no one can tell what was carved upon them. But granite will not crumble so readily. It makes a very warm house in Winter, and is much cooler than wood in Summer. Bullion admires his house quite as much as his farm, though it was the farm more particularly that I was invited to visit.

"This is the best house in the county," said Bullion, after he was seated. "It cost me the sum of eleven thousand one hundred and twenty three dollars thirteen cents, all complete. It has thirty rooms in it, and I can entertain all my friends that are disposed to visit me. The carpets cost me five hundred dollars, and the mirrors nearly as much more." The house did not need the self complacent owner's eulogy, for it was very richly furnished, though the furniture was not very tastefully arranged, or selected so as to match. The pictures were tolerable, though the gilt frames cost more than the paintings. They did not hang in a good light; but they were upon the parlor walls, and were the evidences of Mrs. Bullion's social position, which was the main thing she cared for. I do not suppose she ever looked at them five minutes in her life. She had a good deal of sense but not much sentiment.

Richard Bullion Esq., was proud of his farming—and it was this I was particularly expected to admire. "I have raised this year," said he, "200 tons of hay, 1000 bushels of corn, made three tons of pork, five tons of cheese, and have taken premiums on the best swine, and the best cows in the county. The sales from my farm foot up about \$3,300, besides all that has been consumed on the farm."

"Well," said I, "let us look a little at this premium farming. How much corn did you get off of your best acre?"

"Just ninety bushels and three pecks, for I measured it because I entered it for a premium."

"And how much did the corn cost you?"

"Well I can tell pretty near," said Bullion, "I put on plump fifty cords of manure for I meant to get the premium any way, and I dropped about ten dollars' worth of superphosphate in the hill. The manure, I suppose, was worth two dollars on the field. I calculate that the corn fodder was just about a fair offset for the labor of plowing and tilling, and gathering. Well, the corn must have cost about \$1.25 a bushel."

"And what can you buy good corn for in the market?" I asked.

"Corn ranged from 60 to 80 cents last year."

"And do you call that good farming, to raise corn at a cost of forty cents a bushel above what it would bring at the extreme market price?"

That was manifestly putting the matter in a new light, and Bullion scratched his head. I saw abundant evidence in my further conversation with him, that every thing was managed upon the principle of great crops at whatever cost. Now Bullion will unquestionably make a grand farm out of the old homestead, but it will not be done economically. Land in good heart can be so managed as to pay for its own improvement. A farm is a *machine* for making money, that does not wear out if it be skillfully worked. Corn ought to be produced at the market price, pay the raiser a profit, and at the same time leave the soil in better condition. It is not good husbandry to lay out four thousand dollars to secure crops that will sell for only thirty-five hundred. Farmers, in many instances, want more capital, but they want more skill quite as much. Money without skill can raise big crops, build big barns, and fine houses, but money alone does not make good farmers.

Seeds—How Long will they keep Good.

There is no general answer to the question, as seeds of different kinds, collected and preserved with equal care, will vary in the length of time they retain their powers of germination. Some seem to be good after an indefinite period, while others are not to be depended upon after they are a year old. The seeds of some trees will not germinate at all if once allowed to dry, and others will only appear the second year after planting. Works upon horticulture are generally deficient in information upon the raising of seeds and the length of time they may be safely kept. While it is safest to keep them at a uniform temperature just above freezing, there are many which will bear great extremes of heat and cold. Plants have been raised from seeds taken from raspberry jam which must have been exposed to a heat of 220 degrees. When buried in the earth, below the reach of those influences which induce germination, there seems to be no limit to the vitality of some seeds.—Among plants commonly cultivated, the seeds of carrots, onions, parsnips, and salsafy, are not to be relied upon when over a year old. Beets, spinach, lettuce, celery and parsley, will keep 2 or 3 years. Radishes, cabbages and turnips, 4 or 5 years. Melons and cucumbers may be kept for 10 or more years; old seeds of these are preferred by some gardeners, as the vines are said to be more prolific and less luxuriant than those from fresh ones. Good seeds being heavier than water will generally sink in it, but this is not applicable to those with a hairy or spongy seed-coat; such seeds will float even when sound. The only sure test is to try to sprout them in boxes or pots of earth. If they do not germinate there, they should be rejected.

For the American Agriculturist.

Good Winter Butter from Roots.

Every person who has an acre of good land, and good cows, may have butter in January and February, equal, or even superior, to that which is made in September. Though not a farmer, the writer subscribed for the *Agriculturist* in 1860. An article was published, recommending rutabaga or Swedish turnips as food for cows. In the Spring of 1861, seed was obtained, and planted in rows 3 feet apart, and 5 inches distant in the rows. The ground was not the best for roots, yet I obtained from 4 rows, each 100 feet long, roots enough to feed

two cows, once a day, five weeks. The cows had commenced to decrease in the quantity and quality of the milk, after having been taken from the grass, and before feeding the roots, but in a few days there was a marked increase in both respects. The butter was equal in quality to what was made in June, and in quantity to that made in October. It was worth 3 or 4 cents per pound more than the white, oily *substitute*, generally found on farmers' tables at this season of the year, in places where neither roots nor grain are used. Those who have even small plots, would do well to raise roots next year. Begin in time; select good soil, manure during the Winter, and have the ground ready by planting time. The profit on the few bushels raised this year, far exceeds the cost of the paper which led me to make the experiment. K.

Union Cheeses.

A "Union Cheese House" has been for some time in successful operation at Oriskany, Oneida Co., N. Y. The milk from a large neighborhood is collected and converted into cheese by the aid of the best machinery and appliances. The manufacture on an extensive scale by those who make it their sole business is done much more cheaply, and a more uniform product obtained than is possible in the small way. Believing that a similar enterprise would be successful in other localities, we quote an account of this one from the *Utica Morning Herald*:

"The main building is one hundred and seventy-six feet long by about forty feet wide, and two stories high. This is used principally as the drying room, and is furnished with framed tables running the entire length of the building. Upon these tables the cheeses are placed when taken from the "hoop," and are turned daily, as in ordinary dairies. Besides this, there is a press room, and vat room, some twenty feet square, each. There are six vats, each holding about 500 gallons, in which the curd is prepared for the hoops. There are nine "pressure hoops" for 300 lb. cheeses; one for cheeses of 700 to 800 lbs. each; and one for 1,000 pounders. The concern receives and manufactures the milk of nine hundred cows, the most distant being four miles from the factory. As the milk is brought in it is carefully weighed and the owner credited with the number of pounds received.—One cent per pound is charged each customer for his cheese making. In addition to this, the parties furnishing the milk, pay a ratable proportion of the expense of salt, cloth for bandages, and for boxes. The whey is an important consideration. This belongs to the company; it fattens two hundred hogs. Shoats are purchased by the company, when weighing, say one hundred lbs. each, and put into the yards attached to the establishment, in the Spring. They are turned off in early November, weighing three hundred pounds and over.

Hogs are "boarded" (fed) for 12½ cts. per week each, for those who do not desire to have them "live with the family." The swine have a large field in which to take their morning and evening walks, and pursue their amusement of "rooting."

Everything is conducted in the neatest manner, and it does one good to witness the difference between the order and cleanliness of this model institution, and the suspicious and slatternly surroundings of some home dairies. We counted seven cheeses upon the table that weighed *ten hundred and forty pounds each!* and ten, that weighed seven hundred and thirty pounds each. The average weight of the cheeses is two hundred and seventy-five pounds each.—The whole product of the manufactory was sold in November, and brought fourteen cents per pound, except the seven large ones which brought seventeen cents per pound, realizing the sum of forty thousand dollars or over. This sum paid a very handsome dividend to those who patronized the establishment.



“THE COVEY.”—FROM A PAINTING BY J. WOLF.
Engraved for the American Agriculturist.

The birds represented in the above beautiful engraving are among the most popular with the sportsman and the epicure. It is counted no small feat to bag a dozen brace of grouse in a day's hunting, especially in settled portions of the country, and enthusiastic gunners frequently travel a hundred miles or more to find the favorite haunts of this game. There are several species of grouse in America, the most common of which are: 1st. Ruffed grouse (*Tetrao umbellus*), called pheasant at the West, and partridge at the East; 2nd. the Pinnated grouse (*Tetrao cupido*), or “prairie hen or chicken.” Both of these are sent to city markets in large quantities during the Fall and Winter, and almost always command a ready sale at from 75 cents to \$1 per pair.

The Ruffed grouse is found in every State and Territory of the Union, but is most abundant in the portions North of Maryland. These birds delight in craggy mountain sides, and rocky borders of small streams, among thick growths of evergreens, or tangled underbrush, but will breed in other localities, even among canebrakes. They do not pair permanently, their habits in this respect being like those of the common fowl. In Spring the male attracts the female by the peculiar and well known drumming sound made by beating his wings against his sides with increasing rapidity, until it sounds like a continued roll of distant thunder. After pairing time, the males wander together, apart from the females, until the approach of Winter, when young and old of both sexes congregate in flocks or coveys. The female makes her nest among dried leaves beside a fallen tree, or in the shelter of a low bush. She lays from 5 to 12

eggs of a uniform dull yellowish color. The young follow the mother the moment they leave the egg, and are able to fly several yards when a week old. They are naturally the shyest of birds, and at the slightest cluck of danger, the little ones will hide so as to almost defy detection. They feed upon seeds and berries of all kinds, and when these are scarce, they pick the buds and leaves of several kinds of evergreens. They are very fond of grapes, strawberries and dewberries. They remain near their place of birth the year round, unless compelled to emigrate by scarcity of food. The peculiar whirr made in the flight of grouse only occurs when they are disturbed by the approach of some foe; at other times they pass through the air on the wing as quietly as other birds.

The Pinnated grouse, “Prairie hens or chickens,” which are now confined almost wholly to the West, were formerly found throughout the whole North; and a few yet remain in some portions of New-Jersey, on the “plains” of Long-Island, at Martha's Vineyard, Elizabeth Island, and Mt. Desert Island in Maine. Years ago they were so abundant in Kentucky, as to be considered a nuisance, not worth shooting, except to prevent their depredations upon orchards and grain; but civilization has driven them westward with the Indian, and since becoming scarce, they are highly esteemed for the table. Their habits bear a general resemblance to those of the Ruffed grouse, except that they live more in the open country, sheltered by grass. They congregate in flocks in Winter, and in Spring separate into parties of fifty or more. When the love season commences, the males of a flock all resort, early

in the morning, to some particular locality known as the “scratching ground,” where they engage in the most desperate battles, a dozen or more at a time often taking part in the general conflict. The victors fly away to enjoy the caresses of their mistresses, the vanquished to console themselves as best they may. During this season the males, instead of drumming, utter a peculiar note, called “tooting.” It is made by drawing air into a bladder-like receptacle in the neck, resembling a small orange, and emitting it forcibly at short intervals. The noise is like the beating of a muffled drum, and can be heard at a distance of nearly a mile. Unlike the first mentioned species, the Pinnated grouse are easily domesticated, and raised with as little difficulty as common fowls. Grouse not being insectivorous birds, may be considered fair game; but the indiscriminate slaughter of them at all seasons of the year by roaming gunners, can not be too severely reprehended. They are fit for the table from September to the middle of February or a little later, depending on the season, after which they should be left unmolested to propagate their species. Game laws for their protection exist in some of the States, but from neglect to enforce the penalties for violation, these birds are yearly becoming more scarce.

ECONOMIZING TIME WITH HENS.—C. N. Beament writes to the *American Agriculturist*: “All who are familiar with rearing chickens, know that very few hens will allow newly hatched chickens to be committed to their care. This is probably because the mother hen has become acquainted with her own chickens, from color,

marks, etc., and considers the new comers as intruders, which she too frequently punishes with death. To avoid this, confine the first hen that hatches, in a coop with her chickens, until another brood is hatched; then substitute the second hen for the first, relieving the charge of the former. When a third hen hatches, put her in the place of the second, with all three broods; if the aggregate number does not exceed thirty, a full sized hen will take good care of the whole.

The Measure Worm.

The habits of this pest, which, besides annoying those who travel the streets of our cities, threatens to destroy many of our ornamental trees, have been specially studied by Messrs. H. A. Graef, and Ed. Wiete. They have published, with the sanction of a Committee of the Brooklyn Hort. Society, a pamphlet containing a history of the insect, and a plan for its destruction. Among the trees usually planted in streets, the following are most frequented by the worm—they are named in the order of their liability to attack: *European Linden*, *Silver Leaved Maple*, *Sugar Maple*, *English Elm*, *Horse Chestnut*, *Weeping Willow*, *Silver Leaved Poplar*, *English Ash*, and *Honey Locust*. The trees found to be free from young insects, and only visited by the old ones when other food becomes scarce, are: *Ailanthus*, *Catalpa*, *Cypress*, *European Larch*, *Tulip Tree*, *Paper Mulberry*, *Paulownia*, *Buttonwood*, and *Locust*. The authors propose to save the trees of the infested district in Brooklyn, by a systematic onslaught upon the insect in its various stages, beginning with the eggs, which are deposited on the trunks and branches, and continuing it upon the worm in its various stages of growth. They propose to arrest the worm in its progress from the egg to the twigs by means of tar rings, to syringe with tobacco water to destroy the young ones, and to knock off the old ones by jarring the limbs by means of apparatus for the purpose. Wrens are to be encouraged to build their nests in the trees and lend their aid to the work of extermination. There is no doubt that killing the worm will be sure to save the trees, but whether their plan can be systematically put in operation over large districts will depend upon the public spirit of the inhabitants and their love for shade trees.



To Get Leaders for Evergreens.

It frequently happens that evergreens, of the rare and expensive kinds, are propagated from cuttings or layers from the side-branches of the parent tree. The young plants so raised, are quite slow to form central leading shoots. We have seen such young trees spreading and sprawling about upon the ground for several years, as if they did not know how to rise, having no central spire around which the other

branches clustered, and not worthy the name of tree. This perverse habit can be brokeu up, and the straggling bush can be forced to throw up a leader. To do this, after the plant has made a vigorous root-growth, peg down all the branches to the ground, as illustrated above. This will so check the flow of sap through them, that a new and vigorous shoot will start up from the base, which will grow erect, and form the nucleus for a new and better tree. After this central shoot has become well established, cut off the old stragglers. Keep the soil well enriched and well tilled for several years.

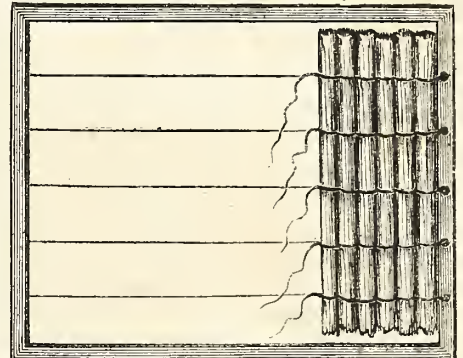
Farming for Old Age.

Every one with his eyes open has seen many men, farmers and others, make great mistakes in "retiring" early from business. After one has spent the best of his days in active employment, it is quite unnatural for him to suspend all work, fold his hands, and sit down idle. The fancied pleasure flies from him; he was never so miserable before. How much better is it to retire slowly, to give up labor and care by degrees, and never to give them up entirely. Activity, bodily and mental, is necessary to keep one's faculties bright and in a healthy condition. To the farmer especially, we would say, prepare for old age by degrees. If your farm is large, lay off a portion of it for fruit culture. Plant an orchard of the choicest varieties of apples, pears, plums, cherries, and peaches. If a good proportion of the apples are Fall and Winter sorts, they will always be marketable, and will yield a handsome income with only little labor. Plant also a vineyard. The care of it will furnish pleasant occupation for an old gentleman, and the grapes and wine yield considerable income. This point deserves more consideration than it commonly receives. The profits of a farm are never too large, even after the hard labor of one's prime applied to it. But one can not expect to plow and hoe, and hoe and plow forever. Why, then, should we not put our farms into such a condition that when our limbs become stiffened by age, our lands will yield us nearly the same income with less work? That a large and well selected fruit orchard will do this, no intelligent person will deny. A fruit-tree when young costs but a trifle, it occupies but little space, does not exclude hoed crops or grass, and when grown to maturity, yields an annual income of from \$15 to \$40. And besides the orchard and vineyard; let the old man have his garden. In this way, he will have enough to do, and yet not be oppressed with care and labor. Committing the larger part of the farm to his grown-up sons, he can give them the benefit of his experience, while both parties will rejoice in their prosperity and their independence.

Straw Mats—How to Make Them.

Now is the time to make a stock of straw mats, an article useful in every garden. They serve to cover half hardy shrubs during the Winter, are handy to throw over tender plants to shield them from frosts, and where there are hot-beds, they are almost indispensable, to protect them during the cold nights of Spring. They may be made of any size, but it will be found most convenient to have them of a size to cover a single sash. Make a rough frame one foot larger each way than the required mat; lengthwise of this, stretch pieces of large, strong twine, to serve as the *warp*, which may be tied to the frame itself or fastened to pegs placed in

it for the purpose. The pieces of twine should be 8 or 10 inches apart, and the distance between the two outer ones about 6 inches less than the width of the mat. A piece of smaller twine 3 or 4 feet long is to be tied firmly to each thread of warp, close to one end of the frame; these are to serve as laers or binders to hold the straw in place. The frame being laid flat at a convenient height upon horses or in some other way, the workman stands inside of it facing the end where the binders are attached, he takes a small handful of straw and lays it with the butt ends projecting about 3 inches beyond one of the outer pieces of warp, and secures it by passing the second binder over it and tying this by means of a half hitch to the warp. Another handful is similarly placed on the opposite side, the small or grain ends of the straw will then overlap one another in the middle of the mat; all the binders may then be fastened.



Layer after layer of straw is put on in this way, the operator working backwards, until the mat is of the desired length. The binders may be lengthened as required, by knotting other strings to them. Care is required to maintain a uniform thickness by putting on the straw in equal quantities, and compressing each layer to the same degree by the binders. When finished, the mat is to be cut from the frame, and the ends securely fastened. The sides are trimmed with a sharp knife, using a straight edged board as a ruler. Mats of this kind, if properly cared for, will last several years. They should, of course, be thoroughly dried before storing away. The engraving given above shows how the successive portions of straw are bound to the warp.

Public Parks.

As some of our readers doubtless have occasion, in their several localities, to superintend the planting and arrangement of public grounds, we venture to suggest a few ideas on the subject.

Large public grounds should be provided with roads for carriage-drives and for horseback riding. These should be wide enough to admit of turning round and turning out easily, and they should be hard and smooth. There should be one main drive, laid out near the boundaries, though not running continuously on the same line, nor in sight of the fences. From this main drive, cross-roads may occasionally diverge, to allow of shorter and more varied rides to such as may wish them. But these subordinate roads should be narrower, and they should be made as inconspicuous as possible. Walks may also be laid out by the side of the main road, for the use of pedestrians. A more desirable place for walks, however, will be found in the interior portions of the ground, away from the dust and exposure of the traveled road. These should be arranged so as to command as great a variety of scenery as possible; now ascending eminences

to get views of distant hills, or spreading country, or sheet of water; then descending into quiet valleys, rolling over grassy lawns, skating ponds or streams, or winding among rocky dells. Whoever wishes to examine some of the finest examples of road and walk making, should visit the Central Park in this city, especially the "Ramble," and he will learn more in a few hours than we can teach him in many pages.

The planting of such a park will require less study than a smaller piece of landscape-gardening. A leading object will be to secure shade. Of course, then, the borders of the drives and paths should be fringed with trees. Yet they should not be set in continuous lines and close together, thus excluding free views of the grounds. In addition to this, wherever fine prospects can be had of distant scenery, the outlook should be left open and unobstructed. Here and there, also, groups and masses should be planted, running out into the park, to break up the monotony of the single line.

If the space is large enough, groups and scattered trees may be planted at intervals; but they should be set sparingly, as too many serve to contract the ground and shut out pleasing views. Nothing, however, can be finer than a few choice single trees, set in the open lawn, with ample room to develop and exhibit their perfect forms. Wherever the land is rocky and hilly, spiry-topped trees are specially appropriate; on fat, rich plains, those of broad, rounded heads; by water-courses, willows and other pendulous trees are most desirable.

The boundary fences should be concealed by hedges and low trees. Mr. Loudon laid it down as a general rule that, "whatever the height of a tree or shrub may be, provided it be greater than that of the human eye from the ground, it ought to be placed at such a distance from the walk or road, as that the eye may see the top of it at an angle of from 30° to 40°. A tree that grows forty feet high, ought to be placed about fifty feet from the walk." Here he is speaking of trees set in parks for observation rather than for mere shade. Another excellent rule was this: "Every tree or shrub, however low, ought to be placed at such a distance from the walk, that its branches, when fully grown, shall not reach nearer to it than from one to two feet." A rule that ought to be printed in letters of gold, and hung daily before every tree planter!

We need hardly add that the soil in which the trees are to be set, should be properly enriched, subsoiled, and drained. They will then make a vigorous growth from the outset. That the ground around the trees should be worked over annually with hoe and spade, and kept free from weeds for several years, is another obvious fact. For the first year or two, the roots should be mulched with coarse litter.

A park is not complete without convenient seats. These should be made of the plainest materials, solid and not likely to get out of repair. The appropriate places for them are, both under the shade for Summer use, and in the sunshine for Spring and Fall; in quiet, retired nooks, and on high points commanding views of surrounding scenery. Set anywhere and everywhere, they will hardly come amiss.

THE NORWAY MAPLE differs considerably from the common rock-maple. Its bark is smoother; the buds in Winter are larger and blunter; the leaves are larger, darker, and there are more of them. They are not white on the under side. The flowers in Spring are yellowish. The tree is a rapid grower, and easily

adapts itself to all soils. In Europe, the wood is highly valued for cabinet work; it resembles, somewhat, our birds' eye maple. Plant it.

Seedling Fruit Trees.

It is singular that the majority of our most valued fruits are chance seedlings, originating without the intervention or care of the cultivator. This is especially true with pears and apples, which are so long in coming into bearing that few have the patience to make the trial. Peaches, apricots, and other stone fruits, which fruit comparatively early from the seed, are often multiplied in this way. The raising of seedling pears has received a new interest from the labors of M. Gregoire Nelis, in France, and of the veteran pomologist Thomas Rivers, in England. The former has devoted 32 years to his experiments in raising pears from the seed, and has in that time raised 150 varieties worth perpetuating, and of course, at the same time, thousands which were rejected as unfit for introduction. M. Gregoire Nelis' method of hastening the fruiting of the seed, is to transplant annually; this gives them a compact growth and promotes the formation of fruit buds. In this way, fruit is obtained in 6 or 8 years from the seed. The experience of Thomas Rivers is given in the Gardeners' Chronicle, in an article which is so interesting that it is a matter of regret that its length prevents us from re-printing it. He cultivates the pear seedlings in pots in the orchard-house, keeping them in 10 inch pots, and root-pruning and re-potting every season. Treated in this way, the trees may be expected to come in bearing in six years. A general tendency is found in seedlings from late pears, to mature much earlier than the parent. His results with the progeny of well known varieties, is full of interest to the pomologist, but would not be so to the mass of our readers. Peaches and nectarines grown in pots will produce fruit in three years from the seeds, and those raised from late kinds show, like the pears, a tendency to produce early varieties. In the course of Mr. Rivers' experiments he found that nectarines were produced from peach stones, and that the stone of the nectarine would sometimes produce a peach tree, thus confirming the fact, which has been doubted by some, that the two fruits are only varieties of the same species.

The improvement of our various fruits by seedlings from good sorts may well claim the attention of those who have time and means to devote to it, yet there are still "native fruits" in many localities which should be brought into notice. Several of these have been presented at the Fruit Grower's meetings held each Thursday at the office of the *Agriculturist*, and we invite those who have seedling fruits, possessing desirable qualities, to bring or send them to these meetings for examination of their merits.

Trees for Nurses.

A good deal is said in books and papers in favor of setting out a surplus number of trees in a plantation, (afterwards to be removed) for the sake of sheltering those which are to remain permanently. They are planted, also, partly for the sake of giving immediate effect.

But experience is beginning to testify against the practice. It is found that when the ground is so thickly filled up with trees, the soil becomes quickly exhausted, and the permanent trees make only a slow growth. Moreover the nurses overgrow and shade the permanent trees so

as to injure their shape. The lower branches make a much feebler growth than they would if exposed to abundance of light and air, and the higher branches run up in a spindling manner. Evergreens especially suffer when crowded by nurses. Their base branches, which it is so important to preserve, soon die out. And yet, if caution be used, such trees may be sometimes employed. For instance, they may be set on the most windy and exposed side or sides of a favorite tree, if they are planted at a considerable distance, and if they are removed after the first or second year. The danger is that they will be left standing several years, until they have injured the tree beyond recovery.

Managing Trees in Windy Places.

Various plans have been tried to keep newly set trees erect in bleak places, and to preserve their branches from being blown and whipped out of shape. Stakes of several kinds are used. Some are set close to the trunk and bound to it by wisps of straw or bands of leather; but these are soon displaced, or the tree gets badly chafed. Then, a stake is often set a foot or more from the tree, and the two are fastened together by cords of some kind; yet here, too, the cords may be broken before the planter is aware of it.

We have tried a plan lately, which has some merits. It dispenses with stakes altogether. After the tree is planted, four or five stout pegs are driven into the ground, in a circle around the tree, and about under the ends of the branches. Flat leather bands, or stout pieces of listing are tied to the branches on opposite sides of the tree. Strong cords are then drawn from these to the pegs and tied. This keeps the tree from swaying in any direction. On the most windy side, double the number of cords are used, to preserve the branches in good shape. To this we have added, for weeping trees, light weights suspended from limbs which, on account of the wind, did not take the pendulous habit that was desirable. *

For the American Agriculturist.

Northern Spy Apple.

I think "Pomologist" has extolled this apple too highly on page 367, December *Agriculturist*. My experience with it is not favorable. In the Spring of 1850 I set out four young trees of this variety, and grafted the tops of three old trees with cions cut from the young trees. None of the trees showed even a bloom until 1860. They bore well the two following years, but there were not two barrels of marketable fruit from the seven trees. The soil on which the trees stand, is a sandy or gravelly loam, which produced over fifty bushels of corn per acre. I do not find the Spy keeps any better than Esopus Spitzenberg, and not as well as R. I. Greening, Baldwin, Roxbury Russet, etc. The flavor is good, and the fruit retains its freshness for a long time, which is about the only thing I can find in its favor.

In the Spring of 1855 I grafted an old tree with Baldwins, and had two barrels of fruit from it the third year, seven barrels the fifth year, and six the seventh year, making fifteen barrels of saleable apples in seven years from grafting.

A. G. PERCY.

Wayne Co., N. Y.

REMARKS.—The Northern Spy is one of our most variable apples, though nearly always of good flavor. It is not suited to a wide locality, but in many places, on rich soil, it does remark-

ably well. It is certainly late in coming into bearing, and it does not show all its good qualities at the first fruiting. It continues to improve with age. In some localities, however, and on poor soil, it often proves quite refractory, and on this account it has not received the universal commendation, which an apple of such fine appearance, and agreeable, sprightly favor would appear to deserve.

Experience with Peach Trees.

To the Editor of the American Agriculturist.

Ten years ago I bought and transplanted two hundred peach trees, which netted me two years ago, \$200. The soil was too rich, and they are now nearly all dead. Four years ago, I bought an orchard of 900 peach trees, and 300 apple trees set between them. These trees are now 10 years transplanted, and last September they netted me \$500. They were set on thinner soil than the first lot, except in one corner where they have all died. I am satisfied that peaches require the same kind of soil that potatoes do, to prevent their rotting—thin, or poor upland. Cultivation is necessary to fruit-bearing. If the orchard be seeded, you need not expect many peaches. The kinds I like best, are: old Mixon, Crawford's Early, Crawford's Late, Melocoton, Smock, and Morris White.

The peach borer is an inveterate enemy, but the "yellows" is the great destroyer. Perhaps this disease is superinduced by rich soil and common farm yard manure. I think mineral manures only are necessary, and little of them if the land is properly cultivated by raising potatoes, or other low crops—or without crops.

Fairfield Co., Conn.

G. W. B.

Fruit Growers Meetings.

Excepting during the holidays, these meetings have been kept up regularly, and are increasingly interesting. They are held at 1 o'clock P. M. each Thursday, and all interested in fruits and kindred subjects, are invited to attend. A standing committee consisting of Chas. Downing, S. B. Parsons, W. S. Carpenter, A. S. Fuller, and Dr. I. P. Trimble, has been appointed for naming new fruits, identifying old sorts, and investigating whatever is about being sent out with high sounding names and large claims upon the credulity of the community. This will guard against imposition and fraud. After the adoption of a list of 20 varieties of pears recommended for planting, as published on page 17, January *Agriculturist*, a committee was appointed to bring forward lists of the 6 best grapes for outdoor cultivation. Several discussions have been had over the grape question, and sundry lists have been presented, but no selection has yet been adopted: the decision will soon be made and published in ample season for Spring planting. A similar committee to bring forward apple lists has also been appointed, and will agree upon a report in a week or two. The list will probably be adopted in season for publication in our next number.

A great many winter pears have been sent in from time to time, among which the Vicar of Winkfield is most abundant. When well grown and ripened with care, they are really good; some members expect to have them until February 1st. The Lawrence, however, is pronounced to be among Winter pears what the Seckel is among the Autumn varieties. It was advised to plant it on the pear stock. The

specimens of the Glout Morceau, frequently brought before the meeting, proved very fine. Though this variety is proverbially slow in coming into bearing, one member reported a barrel of fruit picked from a standard tree planted nine years ago.

W. S. Carpenter questioned whether the so-called dwarf trees retain any of the quince roots after being planted a few years. Nurserymen universally advised to plant dwarfs a little below the junction of the pear with the quince, so that the pear might put out roots of its own. These roots soon become the leading ones, and and from disuse and *deep planting* the quince roots soon decay. Out of a large number of dwarfs planted some years ago, and recently moved, only one tree retained any quince roots.

Prevention of Sap Blight.

John Grable, Doniphan Co., Kansas, writes to the *American Agriculturist* on this subject as follows: "Heart and Bigarreau cherries, that have been planted in north-western Missouri for 15 years past, have come to nothing, while Morellos do well. This is owing to their being killed by sap blight, which I have noticed to occur in February. It is caused by sudden thaws, followed by hard freezing, which loosens the bark on the tree, except a little on the north side. A tree under these circumstances will survive for a while, but when the blight extends around the trunk, it is 'done for.' This happens, on an average, every four or five years. As far as my experience goes, the best remedy is, to prune the trees to low heads, and wrap the trunks with strips of old drab-colored cloth, which preserves them from sap blight, and from rabbits. Two years ago, I planted 23 apple trees in October, and thirteen of them were ruined by sap-blight in February. This seemed to prove to me, that Fall planting was more critical than Spring planting, as there were many trees of about the same size, planted in the same locality in the Spring previous, and not one of them suffered from the blight."

Rotation in the Garden.

Probably many readers of the *Agriculturist* are puzzled when they see a plant spoken of as belonging to a certain family. By this is meant that different plants, though unlike in many particulars, have some points in common, and have, as it were, a family relationship. Those who make an especial study of plants, group all that are known, into a not very large number of families; their reasons for doing so are sometimes drawn from something in the flower or fruit which persons in general would not notice, and again upon resemblances which are sufficiently striking to be observed by every one. Thus, the bean and the pea are so nearly alike in flower and fruit that we naturally suppose them to be related, while carrots and celery do not seem to go together so readily, because we are not accustomed to see the flower and fruit. Plants of the same family, being made on the same general plan, are commonly very much alike in their properties, and take up very nearly the same substances from the soil. In the rotation of crops it is desirable that the soil should be occupied not only by a different plant, but by one of another family from that which it previously bore. In farm cropping, the number of kinds are so few, that there is no difficulty in fulfilling this condition; but

in the garden, where a number of sorts are grown, the arrangement of a proper rotation requires some forethought. The following grouping of the common garden vegetables will assist in making out a proper system of succession. Turnips, cabbages, cauliflowers, borecole, broccoli and radishes belong to one family—parsnips, carrots, parsley and celery, to another—and so with lettuce, endive, salsify and scorzonera—beets and spinach—cucumbers, watermelons, and muskmelons—potatoes, egg-plant and tomatoes—beans and peas—onions, leeks and shallots. Onions are an exception to the rule of relations, and are successfully grown year after year upon the same soil. Root crops, which grow mainly in the soil, should be followed by some crop cultivated for its leaves, etc. To illustrate—in the above enumeration, it will be seen that carrots should not follow or be succeeded by parsnips, parsley or celery, as they belong to the same family, nor by beets and other root crops—but may precede or follow anything else. Where circumstances render it necessary to plant a crop successively upon the same ground, the soil should be well manured and deeply and thoroughly worked.

Garden Walks for Exercise.

A friend writes us that, in his large grounds, he has laid out a series of walks so arranged that by going over one track a certain number of times, the extent is a mile. Against a wall he has affixed an iron strap pierced with holes, by the side of which is a pin suspended by a small chain, so that the pedestrian, by moving the pin from one hole to another every time he passes it, knows exactly the extent of his walk.

This is all very well, when one can't do better. We have known persons exercising by the clock in their rooms, or pacing back and forth over a few rods of pavement, and amid the same scenes, by the hour. But it strikes us that when one wishes a smart walk, he had better launch forth from his garden, and perambulate the public street, so that he may see new faces and new scenes. Or, if there is work to be done, put on the garden outfit, and with hoe and water-pot or other implement, he will soon get pleasant healthful exercise. This is the writer's experience.

Grape Vines.

When the demand for choice grape vines is greater than can be supplied by the ordinary modes of propagation, some nurserymen multiply them by cuttings of the *green wood*. It is the experience of many of the best cultivators that vines propagated year after year in this way deteriorate and become less hardy. The Delaware is cited as having especially suffered from this mode of treatment. It seems very likely that continued propagation from unripe shoots would produce weak plants. We should not think of sowing from seed so immature that it is just capable of germinating; a feeble plant would be produced—and, though the circumstances are not precisely the same with cuttings, there is no doubt that strong well-ripened wood will give plants of greater vigor than can be raised from green cuttings.

LILIES FOR CITY GARDENS.—These showy flowers are worthy an occasional place in even small collections of plants; but all are not well adapted to growth in the smoky city atmos-

phere. The large white, and the speckled orange do well; the latter will thrive under trees. The Martagon, Thunberg's, the tiger-streaked, and Cateby's, require the freer air of the country.



Miniature Rustic Plant Stand.

While recently at the Horticultural warehouse of our friend, C. B. Miller, who is well known in this vicinity, as the Secretary of the Brooklyn Horticultural Society, we observed the beautiful miniature rustic plant stand, represented above, devised by him we believe, and its appearance was so pleasing that we ordered an engraving of it to be made. It consists of a simple oval shaped box, with slips of wood tacked around the sides, the bark still adhering, and an arched frame of vine-work raised above it, the whole being nicely varnished. A shell containing a trailing plant rests upon the top; underneath this is suspended a miniature globe filled with water in which swims a small gold fish. Ferns and other plants are grown in soil covered with moss in the box at the base, and delicate vines are trained to the side frames. The whole forms a unique and tasteful ornament for the sitting room, costing but little to make or to purchase.

City Gardens.

Gardens in towns, especially when of considerable age, are apt to become sodden, sticky and infertile. The trees and plants set out in them do not grow well, but become mossy, cankered, and even die outright from no apparent cause. It is not generally from want of manure, but oftener from too much of it; not from want of water, but oftener from an excess of it; not because the soil is too new, but because it is too old.

But to be more particular: whoever has such a sickly garden, should look first after the drainage. Very likely, he will find the pipes choked up, and consequently the pores of the soil flooded and clogged with matters which ought to pass off through the sewers. Water and ma-

nure are good enough in suitable quantities, but too much are hurtful; just as food and drink are good for the animal frame when moderately used, but in excess are injurious. Standing water fills up the interstices of the soil, preventing the needful free circulation of air to the roots.

The drainage having been overhauled and cleaned, take the soil itself. Most likely, it will need trenching, and bringing up some of the subsoil to mix with the worn out top-soil. Or, cart off some of the surface earth, and bring in an equal quantity of maiden loam from the meadows of the suburbs. By some means or other, change and freshen the soil. An occasional syringing of the foliage of trees and plants will be useful, to clean off the dust and smoky deposits of the city, but it is most important to put the soil in proper condition, and keep it so.

Walls for Gardens.

The custom of surrounding gardens with substantial walls, prevails in England and Scotland, more than in our own country. The principal reason is, that there the light and heat of the sun are not intense enough to ripen some of the choicer fruits in the open ground; these need to be concentrated by some artificial means. With us, if peaches, pears, plums, and grapes, are trained close upon the sunny side of a wall, they are very apt to be dried up and injured, both in foliage and fruit. Yet, there are uses to which walls and high fences may well be applied. In all elevated and bleak places, they are serviceable in breaking the force of winds, and preventing the too rapid radiation of heat from the soil. For this purpose, they are especially useful in the early Spring. In a garden so protected, grape-vines, cucumbers, melons, etc., may be brought forward much earlier than in one exposed to cold breezes on all sides.

Such walls are very useful in protecting grape vines against unseasonable frosts. We now recall a locality near the center of this State, where it is almost impossible to raise grapes, on account of the untimely frosts in Spring and Fall. Sometimes the late spring frosts destroy the fruits in the flower, or the September frosts freeze them before they are ripe. Not to be outdone by King Jack, a few enterprising fruit-growers have built walls, mostly of brick, on the north side of their gardens, on which they raise grapes with considerable success. The accumulated heat of the day radiates slowly during the night, and preserves the vines from harm, even when other tender things in the open ground of the garden are cut off. These walls are also furnished with a coping, about a foot wide, sustained by brackets like the cornice of a house. This coping is removed during the mid-summer, to allow the foliage the full benefit of rain and dew. To prevent the vines from being scorched by the sun, they are trained upon a trellis which is set off several inches from the wall; this allows the free circulation of air behind. Upon a wall, facing in almost any other direction than due south, there would be little danger from sun scald.

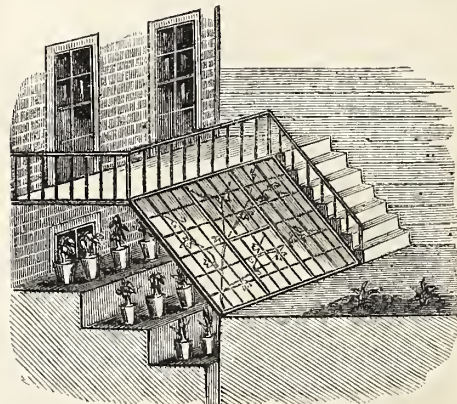
The California Pitcher Plant.

The locality for that rare California plant, the *Darlingtonia Californica* has been visited by Prof. Brewer of the Cal. State Geological Survey. It grows in a small swamp near Mt. Shasta, at an altitude of 2,500 feet. The leaves are somewhat like those of our common pitcher plant

(*Sarracenia*), are about two feet long, and have the opening of the pitcher partly covered by a curious two-lobed appendage, shaped somewhat like the tail of a fish. Though the plant was first discovered by the botanists of the U. S. Exploring Expedition some fifteen years ago, it has never yet found its way into cultivation. The lovers of plants will be glad to learn that seeds have been placed in skillful hands, and that there is a hope that our collections may be enriched by a plant which is not only curious, but which bears a name dear to every American botanist—that of the venerable Doct. Darlington of Penn.

An Area Conservatory.

Those who have a real taste for Horticulture, will find a way to gratify it, no matter how limited their means or circumscribed their space. Hood's Mrs. Gardiner, who proposed to "cucumber" in her wash-boiler, is only a slightly exaggerated illustration of the way in which a passion for plants will stimulate the inventive faculties. A correspondent has sent us a drawing and description (for a long time crowded out) of an extemporized conservatory, which is here presented with the belief that many of our readers who live in cities will be glad to adopt the plan, or such modification of it as their premises may require. The engraving represents the area at the back of the house, enclosed by sash, thus affording a conservatory 20 feet long by 8½ feet wide, to which the balcony serves as the roof. One or more of the sashes are made movable, to allow of ventilation and ingress. By leaving the kitchen windows open, the temperature is ordinarily sufficiently high; but to ensure this in severe weather, hot air is brought from a furnace in the cellar by means of a flue. Where there is a water back to the kitchen range, the heating might be accomplished by pipes connected with it. The moisture from the operations of cooking and washing, generally keeps the air in the conservatory sufficiently humid, but when it is necessary to introduce hot air from the furnace, care is taken



that it shall pass over water in order to avoid a dry heat. The whole cost of the structure was not over \$30. No doubt many of the readers of the *Agriculturist* have felt the want of a place for their plants, and will be induced, upon seeing this simple plan, to examine their premises with a view to a similar contrivance. Such a structure admits of a large number of pots, and adds much to the attractiveness of home.

A HINT IN TRANSPLANTING.—The practice of lifting a tree up and down and shaking it, at the time of transplanting, is of doubtful utility. The aim is to settle the dirt closely around the roots; but then it draws the roots out of their proper

place, and bends and breaks many of them. Such trees often show that they are injured, by throwing up suckers. A better way is to work the soil in among the roots with the hands, and perhaps apply a little water to wash it in, when the work is about half done.

THE HOUSEHOLD.

Good Feet Warmers.

The best feet warmers are: frequent applications of water and a coarse towel, dry woolen socks, thick boots, and exercise. These will usually keep the feet of an active person comfortable in any but the most excessively cold weather. Sometimes, however, it is necessary to take a long ride when the thermometer marks a temperature near zero, during which brisk circulation of the blood can not be kept up by exercise, and without some additional precaution, the feet are liable to great discomfort. If the socks be dry and the feet be well warmed before setting out, the heat may be retained for a long time by wearing heavy woolen socks or moccasins over the shoes. These can be made of extra stout yarn, or more cheaply and easily by sewing together properly shaped pieces of thick blanket. Moccasins of buffalo skin, with the hair inward, are admirable protectors of the feet in traveling. Occasionally, owing to feeble health, the circulation of blood is too sluggish to generate a comfortable degree of heat in the system, and persons suffer from cold, whatever the amount of clothing worn. The extremities, particularly, feel the want of a full supply of natural animal heat. In such cases heat must be derived from external sources. Vessels of hot water, heated blocks of hard wood, bricks, etc., are commonly used to keep the feet warm. A better article for this purpose than either of the above named, is a block of soap-stone, which retains heat for a very long time. Enclosing it in a convenient wooden bag will keep it warm considerably longer than if it be left exposed. A correspondent of the *Agriculturist*, (E. S. Osborn, Suffolk Co., N. Y.,) who has tried this material for several years, has found it so good that she thinks it would be an excellent charity to furnish such blocks in large numbers to the poor in cities. Perhaps it might abate some suffering, provided enough fuel to heat the blocks with, were supplied at the same time.

Slipping Down — "Creepers."

The number of bruises, broken limbs, sprained joints and other casualties resulting from slipping down on ice-covered ground, if carefully summed up, would amount to hundreds of thousands every year. Suppose that among the twenty-five million inhabitants of the colder States and British Provinces, only one person in a hundred should fall down so as to receive injury. This would amount to 250,000—quite an army even in latter days. Old persons who are not agile, and whose bones are brittle, and least likely to unite quickly if broken,



Fig. 1.



Fig. 2.

are most apt to suffer. We have known of several such cases of very serious injury. There are several contrivances to prevent slipping, two of the simplest of which are represented in the accompanying engravings, that are somewhat old, but not generally in use. Fig. 1, is a piece of flat iron, split twice at each corner with the sharp points turned down, and the middle pieces turned up and punched with holes for straps. Fig. 2, shows the method of attaching it to the boot or shoe just forward of the heel. Any blacksmith can readily make them,

or they may even be made at home. The length of the points is to be proportioned to the height of the heel; the points will need to project scarcely more than 1/8 inch below the heel. The housewife will of course see that these heel pieces or "creepers" are left behind at the door.



Fig. 3.

Fig. 3, represents a form usually sold at the hardware stores for about 25 cents per pair. They are of cast iron, and are fastened on, or loosened, by turning the screw (A) at the heel. The points (B) are turned inward so as to catch into the leather, and hold them on firmly.

Potatoes in the Bins.

INTERESTING FACTS FOR "SPROUTERS" TO THINK OF.

If the family supply of potatoes has been stored in a moderately warm place, they will soon need attention. They must be looked over and the sprouts rubbed off—or 'sprouted' as it is termed. A dark, cool and dry place is best. The cooler they are kept without freezing, the less likely they will be to start. Rubbing off the sprouts is good indoor work for stormy weather, but as it is rather dirty and monotonous, it is not a job that is much relished. Persons do not generally like any work, however easy, provided it is merely mechanical, and offers no employment for *mind* as well as the hands. Let us see if there is not something interesting in sprouting potatoes. Many of the potatoes will be found to have a bit of stem attached—the remains of an under-ground stem, of which the potato is the enlarged end. It is the channel through which the potato received all its nourishment, and grew to such rotund proportions, but like many who have grown fat and prosperous, it seems to have forgotten the means by which it became so, and instead of giving back any of the rich stores it has received through it, the over-fed potato leaves the little stem to perish. The new sprouts all start from the eyes of the potato, which are much more numerous and closer together as we go from the stem end. These potato eyes are arranged in a peculiar manner. If we start with an eye near the stem end it will be found that the eye next above it is placed a little to the right, the next a little to the right of that, and so on, thus forming a regular spiral. The arrangement is best seen in the longer varieties. The sprouts start first from the end farthest from the stem, and if these are allowed to grow, many of the others will not start at all. The potato having once made up its mind to grow, is not to be easily thwarted, and if all the sprouts are rubbed off, the operation very often has to be repeated a second or third time.

If we examine a potato eye closely, several little spots will be observed; each of these are buds from which sprouts may spring. If one or more of these starts and are allowed to grow, the rest finally perish; but if the first sprouts are removed then the reserved forces are called up, and a new crop of sprouts appear; and this is repeated again and again until the last one of the supply of super-numerary buds is entirely exhausted.

The potato looks like a stupid thing, but it seems to show a kind of instinct. The sprouts in the bin or barrel, far away from the earth, throw out roots which go traveling off in search of sustenance—as if knowing that the supply for the young plant, contained in the potato, could not last long.

Inside of the potato curious chemical changes are going on. The starch which is put there to supply food for sprouts or young plants, undergoes a transformation. It has to be moved in order to aid the young growth, and as it is not soluble in cold water, it is changed so that it can pass to where it is needed. It is partly converted into sugar, as may be seen from the sweet taste poorly kept potatoes have in the spring. We have not said all that the occupation of sprouting potatoes suggests—but enough we trust to show the readers of the *American Agriculturist* that there is much to learn about common and every day things, which apparently possess little of interest.

To Prevent "Chapped Hands."

The writer was formerly much troubled with chapped and cracked hands, so much so as to constantly feel uncomfortable. Latterly, I have been entirely free from this source of trouble, and, except when obliged to handle frozen substances, I no more think of wearing gloves or mittens on my hands, than I do of covering my face. This good result I attribute wholly to a hint given in my *American Agriculturist* a few years ago, which I would like to have repeated for the benefit of others. It was in effect as follows: The cuticle or scarf skin is designed as a hand-protective covering, and when sound, it serves this purpose admirably. Pure water does not affect the cuticle; but add a little soap or other alkali to the water, and it at once attacks the cuticle and will in a short time dissolve it off. I now avoid the use of soap as much as possible, using a brush to remove most kinds of soiling. When soap is absolutely required to remove oily or greasy matters, I keep it on the hands as little time as may be, and rinse off the last vestige thoroughly, leaving none to corrode and crack the outer skin. Generally, I dip the hands in water in which a few drops of vinegar have been poured; this neutralizes the alkali of the soap. Wife does the same on washing day when the hands must be put into soap suds. I formerly applied vinegar to the face after shaving, but now use a little cheap Cologne water, or common whiskey, which removes the alkali, and keeps the whiskers black—not faded as when nothing was used after the lather. FARMER.

A Short Chapter on Bonnets.



The Fashion in 1860.

The present Style.

What Next?

About Illuminating or Coal Oils.

Perhaps no household topic is of more general interest than that of the oils, to which we are so much indebted for the comfort and cheerfulness of our homes. A few years has brought a great revolution in our domestic economy, which is nowhere more strikingly seen than in our methods of illumination. Whale oil gave way to the dangerous camphene and burning fluid, and these were in turn superseded by coal and mineral oils. The whales are left comparatively unmolested, it being much easier to catch a few tons of coal than it is to capture one of those monsters. Turpentine, from which camphene and burning fluid are manufactured, is so scarce, that were these articles in general use, the demand could not be supplied. Happily the facility with which better illuminating oils can be procured from coal, and the wonderful discovery of the oil wells, have given us a better and cheaper light. Our readers are well aware that there are two kinds of mineral coal; the hard or anthracite, and the soft or bituminous. The latter, which is the kind most known at the West, burns with a flame, and is the kind used in making the oils and the gas for lighting cities. If bituminous coal be heated in a closed iron vessel, shaped like a bottle, the portion which would have burned with a flame, had the coal been on the open fire, will be driven off as a gas, and may be lighted at the mouth of the bottle. In gas making, the coal is thus heated, and the gas, after being properly purified, is carried by pipes a long way

even miles from the place where it is made, to be burned. The success in gas making depends upon using the proper amount of heat to convert into gas as much as possible of the volatile matter of the coal. A lower degree of heat slowly applied, produces from the coal but very little gas, but what would have otherwise been gas, is obtained as a thick tarry oil. This is the first step in preparing the coal oils, and by refining this crude oil, several products are obtained. Sulphuric acid (oil of vitriol) is added to the crude oil which helps separate the tar and other impurities, then lime is added to neutralize the acid, and the thinner portions of the liquid are poured off and distilled. This liquid contains several distinct oils which have different boiling points. In the distilling processes the heat is applied very gradually; at about 80°, a very volatile liquid is obtained and as the heat is increased, other oils having higher boiling points are distilled, the last of these requiring a heat of over 500° to convert them into vapor.

The liquids first obtained, which boil at so low a degree, are unsafe to use for illumination. They are known as Naphtha and Benzine, and are of great value in the arts. They have the power of dissolving all greasy and resinous substances, and are used for cleaning clothing, dissolving india rubber, mixing with paint in place of turpentine, etc. After these very volatile oils have been distilled, others are obtained, having higher boiling points, and these are used as burning oils, and are known as Kerosene, and by a number of other trade names—all being essentially the same thing, but differing in their color, density and boiling points. The oils which are obtained by distilling at a high temperature are used for greasing machinery. There is deposited from the oils after distillation, a whitish substance which is collected, purified, melted, and made into cakes. This is Paraffine; it looks something like white wax, and is made into beautiful candles of great illuminating power. It melts so readily that it cannot be used pure for candles, hence those sold as Paraffine candles are in part composed of spermacetti and other substances, to render them firm in warm weather. Great quantities of illuminating oil are obtained from the Petroleum or oil from the oil wells. Here the first step in the process is done by nature, and crude oil is furnished ready for the refining process. The illuminating oils from Petroleum, known as Carbon Oil, and by other names, are essentially the same as those made from coal. All these consist of mixtures of oils, having different boiling points, and those are the safest which have the least admixture of naphtha. Kerosene and similar oils, when properly prepared and burned in suitable lamps, are not liable to form explosive vapors, but if from carelessness or fraud on the part of the manufacturer, they contain much naphtha, they are dangerous. No oil is safe to use which will give off an explosive vapor below 110°. The coal oils in the market generally form an explosive vapor when heated to 130° or 140°, and those from petroleum do so at 100° to 120°. The density or weight of a sample of oil is no indication of its freedom from explosive qualities; this can only be ascertained by experiment. Apparatus is made and sold for the purpose; but a sufficiently correct test can be made by putting a little of the oil in a tin cup, which is to be placed in a large vessel containing water. A thermometer is placed in the water, and the whole put upon the stove, and allowed to heat very slowly. A lighted match is applied from time to time to ascertain when the oil in the cup forms an explosive vapor, the temperature at which this takes place is indicated by the thermometer. The light should not be applied to the oil, but should be held just within the edge of the cup. It is wonderful to think as we sit by the cheerful coal fire and read by the light of a Kerosene lamp, that we are enjoying the same light and heat which came to the earth ages and ages ago. The plants which produced the coal and rock-oil grew by the aid of the sun's rays, and—as every plant is now doing—looked up a portion of light and heat in their stems and leaves. Whether we burn the wood which has grown within our own observa-

tion, or that which grew longer ago than we can calculate, and has become coal, we only set free the light and heat which the sun furnished it to enable it to grow. Then how wonderful the human skill which takes these "black diamonds" from the dark mine, and by aid of chemistry makes them to shine and fill our homes with their brilliancy.

Tim Bunker on Extravagance.

"Forty-five thousand dollars for jewelry in New-York, at one store, in one morning!" said Mrs. Bunker as she took off her specs, and laid down the Times, in which she had just read that account.

"And how many stores do you 'spose they've got in New-York, where they sell them 'ere fixins," inquired Mrs. Seth Twigg, who had dropped in with her knitting, and sat in a meditative mood, while Mrs. Bunker read the war news. (Seth used to take the daily paper himself, but since the rise in price, he says he can't afford it. Twelve dollars a year for a daily paper, he says, is a little too mighty for a poor man who works for his living. That would more than buy a barrel of flour, and it only takes two barrels to carry his little family through the year. I have noticed, however, that he and his wife are more neighborly than common, since they stopped the daily paper. I am not particularly sorry, for Seth is good company, if it wasn't for his everlasting pipe, which I abominate, as all sensible people should. What upon earth a man should want to make a chimney of his nose for, I never could see. We are kind o' lonesome, since Sally got married, and John went off to the war, and neighbors don't come amiss. Seth also has a son in the war, and we have a considerable fellow feeling.)

"There's a hundred of them stores at least," replied Mrs. Bunker.

"You don't mean a hundred on 'em!" exclaimed Mrs. Jacob Frink, whom the neighbors all call "Polly," for short—except a few of us older people, who say "Annt Polly."

"What a sight of silver spoons and forks, teapots and tureens, fruit knives and porringers, they must have down there, if all the stores sold as much as that 'ere one you read about."

"It would make four millions and a half of dollars, spent in gewgaws in one morning," said I, willing to increase Annt Polly's astonishment.

"You don't say so, Squire Bunker!" said she. "That is more than Jacob could carry in his cart."

"Well I guess it is. It would line Broadway with silver, from the Battery to Central Park," said I.

"Provided you didn't lay it on too thick," added Mrs. Bunker, squirming in her chair, at the extravagant expression.

"I said *line* it, Sally, not *cover* it." I responded.

"Wa'll, it is an awful sight of money any way!" said Annt Polly. "I fear I should *cover*, if I see it."

"And where do you suppose it all comes *from*?" asked Mrs. Twigg.

"I can tell you where some of it comes *to*," answered Annt Polly. "You see Kier has just got home from the war, wounded in his left arm. And he stopped in New-York jest to see the sights, and to get something to bring home to the old folks, and to his family up at the White Oaks. And don't you think he brought me home a pair of gold specs and a gold thimble for his wife, and a silver trumpet for his boy, Jacob Frink jr., who aint more than six months old. Now we didn't need these things any more than a cat needs tew tails. I had a pair of steel-bows that Jacob got me five years ago, and they are jest as good as new, and I can see in 'em jest as well as in the new ones, and a trifle better. And then his wife had thimbles enough, rather more than she used, any way, judging by the looks of Kier, when he used to drive the coal cart. She never kept him tidy, and I don't believe gold thimbles will help her ease, if she had a earload of 'em. And then as to that boy, he won't be big enough under a year to blow a squash leaf squash! It is the only article of silver in the whole neighborhood of the White Oaks, barring the small change they've got stowed away in their stockings, agin it comes

into fashion agin. Now, Kier paid ten dollars for that 'ere trumpet, and he had no more use for it than his wife has for a pianny. You see, he had just got paid off, and he had never seen so much money before in one pile, in all his life. He wanted to make a sensashun in the White Oaks, and I guess he did it, when he bought that article. Not less than twenty five dollars, the price of blood as it were, all spent for nothin. I was riled when I see him unpack the things. Ah, if he had only got a raw hide for that youngster there would have been some sense in it."

Annt Polly paused for breath, and looked red in the face as she doubtless remembered the walloppings she had bestowed upon Kier in his juvenile days. But there is a deal of sense in what the old lady says. You see this war has made money awful plenty, such as it is, among a certain class of people. It has got into new hands, and they are itching to let the world know that they have got it. I know of some fellows that have gone to the war that are earning more money for their families than they ever did before. There are Tucker's two boys that never did any thing but hunt, fish, and loaf, but they are now earning their rations and thirteen dollars extra, a thing they never did before, without the extra. There are hosts of contractors for steamboats, for iron-clads, for army clothing, for horses, for mules, for forage, for flour, for rations of all kinds, that are getting a big slice, and piling up money by the hat full. This money is distributed all through the country, and farmers come in for their share. Well now, it is mighty natural when folks that have been stinted for a good while, when they get hold of the cash, to make it fly. So it goes for jewelry, for bonnets, and silver trumpets, and all sorts of jimeracks that tickle the women and children, and don't do any body much good.

You see, George Washington Tucker jr., that enlisted in the beginning of the war sent home fifty dollars to his intended, Miss Almada Georgiana Bottom, and told her she might *swell* for once, as she had never had a fair chance in life. The next Sunday I rather guess there was a sensation in the Hookertown Meeting House that kept sleepy folks awake, if the sermon didn't. She had on a pair of ear-rings, a big gold-washed watch-chain, and bracelets like Col. Smith's daughter, a monstrous swell of hoop skirts, one of those two story bonnets with pink flowers in the second story and a top knot of feathers, and to top all, or rather to bottom all, a pair of new calf skin shoes that squeaked like a eider mill. She came sailing in to meeting just after the first hymn, when Mr. Spooner was reading scripture where it says "Behold the lilies of the field," etc. The shoes made such a squeaking that he had to stop until the young woman got seated. Some of the young folks in the pew behind me tittered, and an old lady in my own pew put a handkerchief to her mouth. I suppose she wanted to cough just then, and didn't like to disturb the meeting. Mr. Spooner looked astonished, as if he had seen a vision.

Now you see this sort of thing is going on all over the country, and there is a good deal of extravagance in folks buying jewelry and knick-knacks that they do not have any use for. I suppose it is rather worse than common just now, but there has always been a good deal of it. If a man buys what he don't need, I call him extravagant, whether it is an extra acre of land, a two story bonnet, or a bogus gold watch chain, without any watch. If a man can do his business with a wheel barrow, he should not invest in a horse and cart. If his farm only affords occupation for one horse and cart, he should not buy a yoke of oxen and cart. If he has only capital to work twenty acres to advantage, he is very extravagant to purchase fifty. If he has only feed for six cows, he should not keep eight. This is one of our greatest faults as a people, and I am afraid this war, if it ends in the triumph of the government, as we hope it will, will not remedy the evil. We buy cargoes of silks, and jewelry, wines, and brandies, that we have no need of. Miss Almada Georgiana Bottom is not the only sinner among us, not by many a hundred, I tell you.

Hookertown, } Yours to command,
Jan. 1st, 1863. } TIMOTHY BUNKER, Esq.

Adulterations.

Many of the articles in common use in families are subject to fraudulent mixture, especially those which are sold in the ground or powdered state. Ground spices are, from their high price, not only adulterated with other substances, but inferior and damaged articles, such as could not be sold in the whole condition, are made into powder. The additions made to spices are not generally of a deleterious nature, but are simply a fraud upon the buyer, who gets much less of the real article than he pays for. Old ship biscuit and Indian meal flour, and ground oil cake are among the substances used, and tons of these are annually sold at the price of spices. The value of spices depends upon the oil they contain, in some instances the oil of cloves and cinnamon is previously extracted and the articles afterwards ground and sold. We have known a wholesale dealer to keep three sorts of ground ginger, which he sold to retailers at as many different prices, under the names of fresh, pure and extra. These differed only in the proportions of meal they contained. It is very difficult to find pure ground mustards; much of that in the market contains very little of the flour of mustard seed, and a great deal of the flour of wheat, with turmeric to give a fine yellow color. Having occasion some time ago to make use of a mustard poultice, we were obliged to make four trials, with mustard bought at different places, before we could find any which would produce any redness of the skin, or even a feeling of warmth. Cayenne pepper, which, from being troublesome to prepare, is usually bought ready ground, is much adulterated. This is often mixed with harmless substances, but sometimes red lead, which is poisonous, is used to bring up the color. Pure Cayenne is of an orange red color; any which is bright red or scarlet should be looked upon with suspicion. Where a spice is much adulterated the lack of proper taste and smell will detect it—but such pungent articles can be mixed with tasteless materials to a considerable extent without materially altering the taste or smell. Adulterations can be readily detected by the microscope, but there are few who have the skill and the means to make the examination, and the only safe way is to purchase the articles unground, and pound or grind them in the house.

Beans and Peas as Food—Hints on Cooking Them.

We suspect that economical housekeepers are not generally aware of the value of beans and peas as a source of nourishment, or these articles would be more freely consumed. They are similar in composition, both containing a large proportion of nitrogenous compounds, which supply direct nutriment to the muscles of the body. In fact, they furnish the most concentrated form of strength imparting vegetable nourishment. Travelers over the eastern deserts, who have occasion to carry the greatest amount of life sustaining food in the least weight, take with them the roasted chick-peas, which are similar in composition to our common beans and peas. The Chinese prepare a cheese from peas, which is quite like a milk cheese. The peas are boiled to a thin paste, strained through a sieve, and the curd obtained after coagulation is treated like that from milk. Beans and peas are by some considered to be difficult of digestion, and constipating. The constipating property is probably due to the fact that nearly all the substance is converted into nutriment, leaving little solid waste material to excite and produce evacuations of the intestines. This can be corrected by eating coarse and bulky food with them. The difficulty of digestion is due mainly, we think, to the method of cooking too often practiced. The skin of the kernels is almost absolutely impenetrable to the gastric juice of the stomach. If the skins be not thoroughly broken in cooking, or in eating, the gastric fluid can not do its work, and heartburn or pain in the stomach is the result; while

the undigested kernels or parts of kernels pass into the intestines, and by fermentation these produce gas, leading to flatulence (colic). Let the beans or peas be so thoroughly cooked as to form a soft, mushy mass, and they will be easily digested, and the evils above referred to, will be obviated. A very common process is to boil them for a time, and then complete the cooking by baking them with pork. They are then dry, and the skin mainly unbroken, except slight cracks or checks upon one side, and being coated with haked lard, they are in the worst possible condition to be easily transformed into nourishment in the stomach. Baked "pork and beans" is with some a favorite dish, and those having the "stomach of an Ostrich" can manage to digest a considerable portion of this material, especially if they take the time to chew it finely before swallowing; but as a rule, for children and those having but an ordinarily good digestion, it is best to leave out the pork. Beans are abundantly rich themselves, without the addition of baked or boiled pork fat. The best mode of cooking is, to boil them, in soft water only, to a mushy condition, so that the skin shall be thoroughly broken up. A piece of lean meat may be boiled with them to change the flavor, if desired, though good beans in a well cooked soft state, have a rich butter-like taste of themselves, without any addition except salt. Soft water is essential to the good cooking of beans. Pea soup is about equally nutritious with that made from beans, and their frequent use will render them palatable.

Hints on Cooking, etc.

Good Breakfast Cakes.—Mrs. M. Hollingsworth, Armstrong Co., Pa., contributes the following to the *American Agriculturist*: Take equal parts of wheat flour, huckwheat, and corn meal sifted, enough to make a batter with 1 pint skim milk (sweet), 1 pint sour milk, or buttermilk, 1 egg, 1 teaspoonful each of salt and cooking soda. Bake and serve up the same as buckwheat cakes.

Griddle Cakes.—Preferred to buckwheat by the contributor, O. B. Fenner, Marion Co., Ill. 1 gill of good yeast, $\frac{1}{2}$ teaspoonful of salt, 1 qt. of blood warm water, 1 cup of Indian meal, $1\frac{1}{2}$ cups of rye meal. Thicken with flour. Let the Indian and rye meal be sifted through a coarse sieve; mix at night for the next morning's use, and set in a place warm enough for them to rise. In the morning they will be exceedingly light and spongy; then add about 1 teaspoonful of saleratus, or enough to make them sweet; (a little smart taste before frying is not disagreeable or hurtful). Fry on a hot griddle, and eat as soon as fried.

Corn and Pumpkin Bread.—Mrs. Rhoda C. Whitford, Addison Co., Vt., contributes the following to the *American Agriculturist*. Take 3 quarts of corn meal, and pour on boiling water enough to scald it. Add 3 pints of stewed pumpkin (cheese pumpkin is best), 3 pints coarse wheat flour, buttermilk or sour milk enough to make soft dough, and 2 teaspoonfuls saleratus. Bake 3 hours.

Saratoga Rolls.—Contributed to the *American Agriculturist*, by A. B. Shattuck, Chataqua Co., N. Y.: Take 1 pint sweet milk, 2 pints flour, 2 tablespoonfuls butter, 4 tablespoonfuls yeast, and $\frac{1}{2}$ teaspoonful saleratus. Beat thoroughly and let it rise 5 or 6 hours, or all night, if for breakfast. Pour in a shallow pan and bake half an hour.

Hints on Making Tarts.—"Vermont Subscriber" in a letter to the *American Agriculturist* about seeds, adds: "My wife saves trouble and patience, things that ought to be saved, thus: Instead of cutting out bottom pieces of dough, and then sticking on an edging or rim that often comes off, she puts the round piece of dough into a small scalloped tin plate, about three inches across at the top. The dough bended up at the sides for half an inch forms a nice edging. If the dough be rich in shortening, no greasing of the tin will be needed."

Sausage Recipes.—E. Dexter, Windham Co., Conn., sends the following, which he says is pronounced excellent by those who have tried it:

To 100 lbs. of meat add 9 teacups of salt, 5 teacups sage, 3 teacups pepper, 2 teacups summer savory, and 1 teacup of ginger. After mixing thoroughly, pack closely in tin pans, make the surface smooth, and cover with melted lard to the depth of $\frac{1}{4}$ inch. By thus excluding the air it will keep for several months as fresh as when first made.

The above directions appear to us to be too *spicy* and not sufficiently definite. The pepper and sage should suffice, we think, without the summer savory and ginger. However, tastes differ, and the mixture may suit many. The amounts of ingredients should always be stated in pounds and oz.: some teacups contain nearly twice as much as others. The following proportions for sausages were furnished at our request by Mr. W. H. Cady, Columbia Co., N. Y., one of the best sausage-makers that ever supplied the writer's table. They are: 40 oz. salt, 8 to 10 oz. pepper (according to taste), and 8 oz. sage, to every 100 lbs. meat. *

Superior Pudding.—Contributed to the *American Agriculturist*, by Mrs. E. E. Vedder, Marquette Co., Wis. Boil two quarts of milk; rub one egg in flour sufficient to make it dry enough to rub through a sieve. Stir the egg and flour in the boiling milk; cool, and add four eggs well beaten, and one tablespoonful of sugar. Bake the same as custard. Serve with a sauce of butter and sugar well beaten; use any flavoring desired.

Pepper on Salt Pork.—A subscriber writes: After a layer is packed, with an oak stave press the pork from the side of the barrel and fill the space with salt. On every layer put fine ground black pepper enough to make the pork look black. Any person who tries this will never after omit it. [This may impart a better flavor to the meat, but the use of so much pepper is objectionable.—Ed.]

Stuffed Beef Steak.—Pronounced superior, by the contributor of the directions for cooking it, Mrs. H. L. Johnson, New-Haven Co., Conn. Take a large round steak free from bone; make a dressing the same as for turkey, and spread it on the meat. Roll it up tightly, put it in a cloth and boil for one hour in just enough water to cover it.

Suet Pudding.—For competition with the Queen of Puddings, described in the December *Agriculturist*, page 372. Contributed by O. B. Fenner, Marion Co., Ill.: 1 cup of suet, 1 cup of molasses, 1 cup of raisins, 1 cup of sweet milk, 3 of flour, $\frac{1}{2}$ teaspoonful of saleratus, and a little salt. Any spice added, the writer thinks wasted, but others can spice to their taste. After mixing, place the pudding in a tight tin kettle, set the latter in a boiler, and steam from 3 to 4 hours.

Waffles.—1 qt. of sweet milk, 2 eggs, $\frac{1}{2}$ teaspoonful of saleratus and a good pinch of salt. Thicken with flour to a batter. Bake in waffle irons.

Good Cough Medicine for Children.

We have little faith in "universal remedies," and seldom publish in the *American Agriculturist* either prescriptions or advertisements for medicines of any kind. What is one man's meat is often another's poison. In giving the following cough remedy, we therefore offer it only as one that for seven years has almost always proved effective in our own family. Put into a vial equal proportions by measure of *Syrup of Ipecac*, *Puregoric*, and *Castor oil*. Shake well together, and always shake before using. From half a teaspoonful to a full teaspoonful given to a child on going to bed, or at other times, usually checks coughing after a few minutes. If needed, the dose is repeated after three or four hours. It is well to begin with half a teaspoonful and increase the quantity if needed. The food should be light, or the syrup of ipecac may produce a little nausea.

"Figures won't lie," is an old and homely expression; yet few can look on a fashionable woman's figure now-a-days and say as much.

The coat of a horse is the gift of nature. That of many an ass is often the work of the tailor.

Beauty without virtue, is a flower without perfume.



LOOKING AT GRANDPA'S WATCH.

Engraved for the American Agriculturist.

The Editor with his Young Readers.

About the Picture.

Which is the happier, the child or his grandfather? The watch is a greater wonder to the little fellow than all the curiosities of the Museum would be to older persons. With what delight he looks at the shining wheels, and listens to the *tick-tick* which make it appear like a living thing. But that is not the whole of his pleasure. Notice the hand on the old gentleman's shoulder, showing the arm affectionately thrown around his neck, saying as plainly as words could do, "I love Grandpa." See too, how earnestly the grandfather is looking at the watch. He has seen it a thousand times, why is he so interested? He loves the little one so much that he partakes of the child's feelings, he *sympathizes* in his joy. Every girl and boy looking at this beautiful picture will feel like saying, "What a dear old man." Although his features are sharpened by age, love makes him beautiful, makes him happy, and it is a pleasure to look upon him. And right here is the secret of the brightest charm of life, for the young and for the old. Selfishness spoils the heart, disfigures the face, and ruins peace; kindness, affection, love, are sources of constant joy to the possessor as well as to those about him; they give beauty to the spirit, which will outshine and outlast every other attraction.

A Harmless Monster.

A young lad of our acquaintance was one day weeding in the garden. The weather was very warm, and he wore neither coat nor vest. He was very busy over a bed of carrots, that is, his fingers were, his thoughts were full of something else, as you could see by his steady and almost vacant stare. But suddenly he gave a startling scream, sprang from his sitting position, threw his hand

wildly over his shoulder, and writhed and twisted as though striving to escape from the hold of some terrible monster. His countenance was ghastly with the agony of fear. The writer sprang to his relief, and found him grasping something which had made its way to his shoulder, under his shirt. Could it be a snake, or a rat? The collar was quickly loosened and the fearful thing came to light. It was a large *grasshopper*! From that time to the present, that boy, who is now a man, has made it a rule to first see if there were danger, before losing his wits from causeless fear. A very good resolution for all; he who can keep it will be likely to keep his wits also.

A Cat giving away her Kitten.

We have known instances where parents have given away their children that they might be better provided for, but this is the first time we have heard of such a proceeding among animals. A correspondent vouches for the truth of the following incident which he says occurred in the family of one of the subscribers of the *American Agriculturist*. Mr. B. had two cats, both long domesticated in the house. A short time since each had kittens. The owner wished to rear one kitten at the barn that it might keep the rats and mice within bounds. He therefore took one cat with one kitten (having killed the others of her family), and made a nest for them at the barn, where they staid for a while quite contentedly. One night there occurred a very hard storm of wind and rain. The next morning, as soon as the family were up, the cat brought the kitten to the house, apparently half drowned, and placed it in a box containing the other family of kittens, refusing ever after to have any thing to do with it. The children placed it time and again by its mother, and every means were tried to induce her to take to it again, but without avail. The other cat, among whose kittens it

was placed, received it kindly into her family, and nursed and brought it up as though it had been one of her own litter.

A Young Editor.

It is very seldom that room can be spared in the *Agriculturist*, to speak of the books, magazines, etc., which publishers often send to us for examination; all the space is wanted for what will interest our readers more. But here is a magazine just received from Portland, Maine, about which we must say a few words. Its name is "King's Lady's Book." It is about five inches long, and three inches wide, contains eight pages, besides a neatly printed cover, and is published monthly at twenty-five cents a year. Its editor is nearly eight years old. His father informs us that the lad selects his own articles, and sets up the types on which they are printed. We believe him to be the youngest member of the profession, and extend to him the right hand of fellowship. We hope that his arduous duties will not impair his health, nor stop his growth. Let his parents take care that his mind be not developed at the expense of his body, which too often occurs with children. Now, for some of you boys, and girls too, from twelve to fifteen or more years old, it will be a capital thing to commence issuing such a paper in your own neighborhood. It is not necessary to print it. Write it out on foolscap paper. Get your school-mates to contribute to it, and come together once a week to hear it read. Several journals of this kind were started among our young friends a few years ago, after reading the advice then given, for them to have their own newspaper. Perhaps such an enterprise will be the first step toward raising up a future editor of the *Agriculturist*. If so, he will be all the more capable for having commenced young.

Another Perfumery Story.

A correspondent at Racine, Wis., after reading the story of "The Horrified Dandy," in the November *Agriculturist*, contributes the following "of the same sort" which he says actually occurred. When "boarding round" was the fashion with school teachers, farmer A, on coming to the house at tea time, was introduced to the "school ma'am." In a moment he perceived a strong odor of musk which came from the school ma'am's clothing. He, entirely ignorant of the cause, immediately charged it on Ponto, who had a strong propensity for hunting muskrats, and at once commanded him: "Ponto, you scamp, you have been killing muskrats; go out doors, sir, and get sweetened off." But Ponto did not stir, and Farmer A spoke again more sharply. "Get out, you'll scent the whole house." The school ma'am by this time was blushing red as crimson, while the girls and the boys could scarcely keep from bursting into laughter. One of them, unnoticed, at last made their father understand how the matter stood, and he, of course, dropped the subject. The evening passed away rather awkwardly with all, and the teacher failed to return the next day. On her account, the affair was kept quiet until after she left the neighborhood, when many were the hearty laughs had over farmer A's error and the schoolma'am's discomfiture. She omitted musk thereafter.

Learn to Control the Voice.

To keep the lungs and the voice in good condition, it is necessary to give them plenty of exercise. This is doubtless one reason why it is so natural for young people to laugh, shout, and sing. The Creator intended that their vocal organs should be well developed in youth, and so it is found almost impossible to keep a child quiet long at a time. But, boys and girls, you who are old enough to think about the matter, do not let this natural impulse make your company unpleasant to older persons. Let the playground, or the fields, ring with your happy shouts; there is plenty of room for noise there, and it will do you good, but in the house, learn to speak quietly. Keep the voice down to a pleasant tone. Loud words are very annoying to a tired or nervous person. Fathers and mothers would be "cross" much less frequently, and children happier, if this rule were generally observed; practice would very soon make it a habit.

The Game of Initials.

R. F. Roberts, Racine Co., Wis., writes to the American Agriculturist: "I used, when a boy, to think the following game was very interesting and somewhat instructive, and indeed have joined in it since I attained my 21st year. One of the company selects the name of some animal, reptile, fish, or insect, and gives the initial letter, mentioning to which class it belongs; the company to guess the name. For instance: "P, in birds." Those guessing, give the name of the birds they think of whose names commence with P.; as pigeon, pelican, peacock, partridge, etc. The one who gives the right answer proposes the next question. Of course those names are selected which are supposed to be least known. I recollect once the initials G. W. T., in birds, were proposed, and the whole company had to give it up. The name may not be in the books, but the bird is so known to hunters in the West. Can any of your boys or girls name it? [It would add very much to the instructiveness of this game to require the questioner to give a few particulars of the habits, locality, etc., of the bird whose initials he selects.—Ed.]

The Roll of Honor.

A year ago we published a series of 53 Bible Lessons averaging about 7 1/2 verses each, or 394 verses in all. Our young readers were invited to commit them to memory, and we promised to publish in this paper the names of those whose teachers or parents should send a statement that they had learned them all, and recited them during December. Printing paper being too high to allow of a supplement, we omitted calling for the names during the last two months. But many remembered our promise, and the following 53 names have been sent in as having accomplished the task. (Many others have written that the lessons were learned, but were not repeated together, and so the names were not sent. Indeed, we have heard of hundreds who learned nearly all the lessons, and probably thousands of others have done so.) Here is the

ROLL OF HONOR.

Table with 3 columns: Name, County, State. Lists names of children and their locations across various states like New Jersey, New York, Ohio, etc.



A Remarkable Bouquet.

The above engraving looks, at first sight, simply like an ordinary bunch of violets, but those who have learned to use their eyes properly, may discover something more. In the group of flowers are contained profile likenesses of Napoleon I, his wife Maria Louisa, and of Napoleon II. To find them, examine each leaf, carefully: when once seen, they will appear so plainly, the wonder will be that they were not discovered at the first look. It is said that after the banishment of Napoleon and the restoration of the Bourbons to the throne, it was forbidden by law to exhibit the portraits of Napoleon or his family, but an ingenious Frenchman, who loved Napoleon, devised this method of presenting the desired likenesses without much fear of detection. Thousands of them were readily sold in France.

A Musical Horse.

The Genesee Farmer gives, at considerable length, a good story of a musical horse, which we condense for the young readers of the American Agriculturist. The horse was named Fib. She was a powerful animal, rather lazy, and occasionally balky, for which she had been beaten and tortured many times without effect. When she chose not to go, not a step would she stir, until at last they ceased trying to conquer her with force. It was noticed that Fib worked well in clear weather, but when it was damp and oppressive, she was almost sure to balk. At last a novel way was found to start her. One hot day in harvest, when a shower was rapidly coming, the last load was on the wagon, and all was going smoothly; but about ten rods from the barn, Fib stopped short. The men were furious, and would have beaten her cruelly, but her owner stopped them and called on the driver, who was a capital singer to strike up a tune. He immediately commenced a Methodist hymn, two lines of which had a ringing chorus. The shower drew nearer. "Sing away," cried the owner, "sing away Hart, the old hag is relenting, I see it in her eye, and the tips of her ear are playing to your music like a lady's fingers on the guitar." Sure enough, in a moment more off she started, and the load was safely housed just as the rain commenced falling. After this a Methodist hymn would always start her, and Hart declared that Fib knew a Methodist hymn from any other, but this was merely his imagination.

The Enraged Musician.

Handel the great German Musician was a very nervous, irritable man, and like most musicians, particularly sensitive where music of his own composition was concerned. It is related that on one occasion he wished to have one of his great pieces performed in a country village, and inquired if there were any musicians to be had. A large number were recommended as particularly skillful, and he at once sent for them—"Can you read music?" asked Handel, when they were assembled. "Yes sir," "certainly," was answered from all parts of the room. "We play in the church," remarked one old gentleman who had brought his bass-viol. "Well then," said Handel, "let me hear you play that," at the same time distributing the manuscripts on which were written the musical notes.

After giving them a few instructions as to their various parts, he retired to a distant corner of the room to listen to the effect. They commenced playing, but were soon puzzled, and made most outrageous discords. Handel sprang from his seat in a rage, and rushing furiously toward the frightened old gentleman with the bass-viol exclaimed: "You play in the church—very well, you may play in the church, for we read the Lord is long suffering, of great kindness, forgiving iniquity, transgression and sin; you shall play in the church, but you shall not play for me;" and gathering up his manuscripts he rushed furiously from the room. *

Curious Sentence.

It requires no little ingenuity to make a sentence which shall be the same when read either forward or backward. There are a few such in English, but here is one from the Latin language which is ahead of any thing we have met with elsewhere. "Sator arepo tenet olera rotas." The words are the same at whichever end you commence; but there is something about it more curious still. Arrange the words, one under another thus: Now the sentence reads the same S A T O R by beginning at the top of A R E P O the first column and going T E N E T downward, or by beginning O P E R A at the bottom of the last R O T A S column and reading upward. The author of this singular arrangement must have spent time enough upon it to have written at least a number of the Agriculturist. Who can tell what the words of the sentence mean? *

A soliloquising schoolmaster, being asked why he talked so much to himself, replied; "In the first place I like to talk to a sensible man; and in the second place I like to hear a sensible man talk." Two very good reasons.

Problems and Puzzles.

No. 28. Arithmetical Problem.—"J. D. M.," Hudson, N. Y., contributes the following, which, though not intricate, will give good exercise in careful figuring: "In what time would a bond of \$1000 be liquidated by paying \$80 a year, interest being 7 per cent. per annum.

No. 29. Cent Puzzle.—Find on the head of a new cent, a fruit; flowers; a house of worship; an animal; a quantity of grain; and a protection against thieves.

No. 30.—Transposition.—O. F. Kinstey, Welland Co., C. W., asks "How to make one word out of the two words new door."



No. 31. Illustrated Rebus.—An excellent motto.

Answers to Puzzles and Problems in January No. (page 25). Picture Puzzles; No. 24, Fig. 1 represents an economical man, because he is trying to make both ends meet. No. 25, Fig. 2, represents an enterprising business firm, because both are trying to get a-head; it all so is like a fortress, because it shows a strong-hold.

Riddle, No. 26: The answer is a pen.

Illustrated Rebus, No. 27, reads: S teading a in s in small t h in g s in crease sum girth mower than watch in g and weight in g four sum great t h in g. That is: Steady gains in small things increase wealth more than watching and waiting for some great thing.

The following have sent in correct answers up to the date of January 16th; viz.: Alice P. Talbot, 20; Edmund J. Young, 21, 22, 23; Thos. S. Peck, 20, 22, 23; W. S. Van Meter, 20; Dewitt C. Challis, 20, 22, 23; "T. B.," 26; "J. D. M.," 20, 22, 23; H. K. Morrell, 27 (nearly); "Georgius Rex," 21, 25, 26, 27; John Tempest, 20; J. McKinstry, 27 (nearly); Elbert M. Swan, 24; Miss E. W. A., 27; C. J. Shrysbury 24, 25, 26; E. W. Jones, 27.

Seeds for Free Distribution to all Subscribers for 1863 (Vol. 22.)

See Descriptive Notes last month, page 4.

Every subscriber to the Agriculturist for 1863, is invited to select three or four parcels of seeds from the list below, if he can not get them conveniently otherwise.

These seeds are all valuable. Of the 63 kinds offered, many are comparatively new varieties, but we include some common, useful sorts for the convenience of those without access even to common good seeds.

Most of them are annuals (reproducing seed the first season), and in all cases there will be enough to yield a supply of seed for future use. Our aim is, to furnish the germs of future abundance in each locality where these seeds go.

Many of these seeds were grown by ourselves, the past year; the others are obtained of the best growers. The distribution will begin in February.

Mode of Distribution.—The seeds may be called for at the office, after March 1, or be applied for by mail at any time now, to be forwarded as soon as ready. The postage is only 1 cent per ounce under 1500 miles; and 2 cents per ounce when over 1500 miles.

Those sending for seeds to be forwarded by mail, will please carefully observe the following

DIRECTIONS.—(1) Select from the list below, any three or four parcels desired, and write plainly on a slip of paper the numbers (only) of the kinds of seeds wanted. (These numbers are used on our seed drawers, seed bags, etc.)

(2) Enclose the slip in a prepared envelope—directed in full to your own address (not John Smith's), and put on it postage stamps to the amount of one cent for each ounce of seeds to be enclosed, if to go under 1500 miles, or two cents if to go over 1500 miles. (Most places West of the Mississippi river are over 1500 miles.) N.B.—The total amount of stamps required can be reckoned from the table of seeds below. Any fraction over even ounces will need an extra i.e. or two 1-cent stamps according to distance. Forward the above prepared envelopes to this office, in a letter, and the seeds will be enclosed according to the numbers on the slip. To save postage, let there be no marks on the envelopes except the address and stamps. About 2 ounces will go in a common sized envelope.



Field, and Vegetable Garden Seeds.

Table listing various seeds such as Mammoth M Lett., Darwin's Evergreen Sweet Corn, etc., with their respective weights and prices.

Flower and Ornamental Seeds.

Table listing ornamental seeds such as Cotton Plant, Castor Oil Bean, Fanny Gourds, etc., with their respective weights and prices.

* (ha,) hardy annual; (aha,) half hardy annual; (ta,) tender annual; (hbb,) half hardy biennial; (tb,) tender biennial; (hp,) hardy perennial; (hhp,) half hardy perennial; (tp,) tender perennial.

Special to Canada Subscribers.—Owing to the fact that some Postmasters in the British Provinces insist upon collecting 20 cents an ounce on Seeds and Plants, prepaid here at the U. S. rates, it is hardly safe to send for seeds not worth that cost. Those living near the lines can usually have them mailed to some U. S. Post Office, where they can get them by private hands. Where clubs of considerable size are formed, it will pay to have seeds for all come together in a parcel by express.

New York Live Stock Trade for 1862.

The Live Stock Markets of New York city are by far the largest in this country. The importance of these markets is indicated by the fact that during last year, nearly two millions of live animals were brought here for slaughter. At the Forty-fourth street or Washington Yards alone, more than two hundred thousand (200,000) beef cattle were received and sold. The principal transactions are confined to a few points. Beef cattle are sold mainly at the Washington yards, kept by A. M. Allerton. These occupy the squares bounded east by Fourth avenue; west by Fifth avenue; south by Forty-third street; and north by Forty-sixth street. Lesser numbers are sold at Browning's and O'Brien's, on Sixth street, near Third avenue; at Chamberlin's on Robinson street, (nearly west of our office); and over the Hudson river at the Bergen yards, near the old terminus of the Erie Railroad. Milk cows, sheep, and veal calves are sold at all the four city markets. Hogs are mainly sold at West Fortieth street near the Hudson River.

For the principal weekly market day for beef cattle is on Monday; the sales, however, are continued into Tuesday, the yards being generally cleaned out at about the middle of the afternoon of that day. Veal calves are mainly sold on Wednesdays. Cows, sheep, and live hogs are sold on all days, the largest transactions being on the first two days of the week, especially for sheep. A careful reporter, of long experience, from the office of the American Agriculturist, is always present at these sales, and with proper assistants, gathers up all items of interest, the number and derivation of the cattle, the number of other animals in, the prices realized, notes upon sales, etc., etc. These are furnished to some of the journals regularly, including the Daily, Semi-weekly, and Weekly Times, and the Methodist, and we also publish a condensed report for this Journal. Below is a summary for the past year, which will be found interesting, and useful for reference. Many of these figures we have already furnished to other journals.

WEEKLY AND TOTAL RECEIPTS FOR 1862.

Table showing weekly and total receipts for 1862, categorized by animal type (Beef Cattle, Cows, Calves, Sheep, Hogs, Live) and total receipts.

Table showing total receipts of live animals for 3 years (1862, 1861, 1860) categorized by animal type.

Table showing average weekly receipts for 3 years (1862, 1861, 1860) categorized by animal type.

Table showing average price per lb. for the net or estimated dressed weight of all the beef cattle sold for 3 years (1862, 1861, 1860).

The Supply and Prices.

BEEF CATTLE have run remarkably uniform during three years past. The receipts averaged 4360; then 4265, and last year, 4532 per week. The total receipts, however, were about 10,000 head more last year than in any previous year. The details in the table above, indicate the variations from week to week, and at different seasons, as well as the effect upon prices, of a larger or smaller supply.—The Prices have varied from 7c. to 8½ cents per pound, for the estimated weight of dressed carcasses. This is the average of all sales in every week. The range has been from 4½c. to 11c. for the different grades. It will be noticed that for exactly the first half of the year, the average weekly rates were nearly always at 8c. or above; while for the second half they were always below 8c., except one week. The average of the weekly averages is 7½ cents. As larger numbers were sold at the lower rates, the average of all the cattle sold has been at about 7 cents and 6 mills. Owing to the short, dry pastures last Summer, in many localities, and to the general advance in other commodities, it is believed that higher prices will prevail during 1863.

MILK COWS.—The receipts for 1862 were considerably less than during the previous two years, and until just at the close, the prices rated very low. The stringent laws against swill milk from distilleries, and the increased facilities for bringing milk from the country, have lessened the demand for cows at the city markets.

VEAL CALVES.—The number received in 1862, was smaller than for the two previous years. The prices ranged fully as high as in 1861.

SHEEP.—The receipts of sheep and lambs for 1862 were 51,636 head less than in 1861, and the markets have generally been unsupplied. This has resulted from the high price of wool, and the consequent increased attention to wool growing. Both mutton and pelts have been much higher than previously. Sheep for slaughter, and for farm purposes, are probably higher now than ever before.

LIVE HOGS.—These have come to this market for a year past, in numbers beyond all precedent. The closing of the Mississippi, the trouble in the south western borders of the great corn producing regions, and the scarcity of barrel makers at the West, have caused a large shipment of live hogs to this market. The receipts for 1862 reached 1,098,712. Prices ruled very low during most of 1862, and until the cool packing weather came on.

ALL KINDS.—The total number of animals of all kinds received in this city at the regular yards during 1862, reached the enormous figures of 1,845,605, or an average for each week of 35,492.

Derivation of the Beef Cattle.

Of the 235,660 Beef Cattle brought here last year, 211,060 were yarded at the great 44th-street markets, and of these our reporters have gathered the origin so far as could be learned from personal inquiry among the drovers, and from the yard books. The following table shows where the cattle came from.

Table showing the derivation of beef cattle by state and territory, including Illinois, New York, Ohio, Indiana, Kentucky, Michigan, and Iowa.

It is noteworthy that of the 211,060 cattle at Forty-fourth street, 103,729, or nearly one half, are credited directly to the single State of Illinois! But more than this: of the 35,640 credited to New-York State, for example, a large proportion were raised and fed at the West, very many of them in Illinois, and brought on to be pastured awhile at the East. We may safely estimate, therefore, that to the single grazing and corn-growing State of Illinois, we are indebted for much more than half of the one hundred and sixty-five million pounds of beef brought to New-York during the year 1862!

RAILROADS AND LIVE STOCK.—The following table shows the routes by which the cattle yarded at Forty-fourth street have arrived here:

Table showing routes of live stock arrival, including Hudson River R.R., Erie Railroad, Harlem Railroad, and N. J. Central R.R.

The importance of our great railroads is illustrated by the receipts of Western stock, which form but a small item in their freight business. To say nothing of the million hogs and the half million sheep brought in mainly by railroad, at least 200,000 cattle have come in by cars. The curious in figures may estimate how long a line of cattle would be formed, were these cattle to be all driven here from the West, in one continuous drove: how many drovers would be required, how much feed on the way; how much the cattle would depreciate, etc., etc

Market Review, Prices, Weather, etc.

AMERICAN AGRICULTURIST OFFICE. New-York, Monday Morning, Jan. 19, 1863.

TRANSACTIONS AT THE NEW-YORK MARKETS.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 24 days this month, 24 days last month, and 24 days last year.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 24 days 1863 and 24 days 1862.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1862, 1861, 1860, and 1859.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1862, 1861, 1860, and 1859.

Table with columns: Stock of Flour in New-York City, January 1. Rows for Western Canal Flour, Canadian Flour, Southern Flour, and Total.

Table with columns: Stock of Grain in New-York, January 1. Rows for Wheat, Corn, Rye, Barley, Oats, and Total.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1863, 1862, and 1861.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1859, 1860, 1861, and 1862.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, Rye, Barley, Oats. Rows for 1862, 1861, 1860, and 1859.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, C. Meal, bbls. Rows for 1862, 1861, 1860, and 1859.

Table with columns: RECEIPTS, SALES, Flour, Wheat, C. Meal, Rye Flour, bbls. Rows for Dec. 25, 1862, Dec. 27, 1861, Dec. 31, 1860, Dec. 31, 1859, Dec. 31, 1858, Dec. 31, 1857, Dec. 24, 1856, Dec. 20, 1855, Dec. 18, 1854, Dec. 25, 1853, and Dec. 25, 1852.

Table with columns: RECEIPTS, SALES, Flour, Wheat, Corn, C. Meal, Rye Flour, bbls. Rows for 1862, 1861, 1860, and 1859.

We present above very carefully and laboriously prepared statistics of the trade in breadstuffs during 1862, with comparisons for the two preceding years, also comparative statements of the receipts, sales, and exports for the month ending to day, which included but twenty four business days, omitting Christmas and New Year's.

It will be seen (table 3) that the Receipts of flour at New-York City in 1862 exceeded those of 1861 by 788,637 barrels, which is equivalent to 3,943,155 (or nearly four

million) bushels of wheat. The receipts of wheat in the same time decreased 1,349,875 bushels, which still left an excess for 1862, of 2,593,309 bushels over the previous year.

The receipts of wheat at Chicago (table 7) last year fell off from those of 1861 by 4,402,376 bushels. This was partly counterbalanced by an excess in flour equivalent to 1,545,605 bushels, but still leaving a decline of 2,856,771 bushels in 1862.

The exports from New-York, (table 4) in 1862 as compared with 1861, show a decrease of 118,823 barrels of flour, and 3,333,559 bushels of wheat, or reducing flour to wheat, a decrease of 3,977,699 bushels of wheat.

The Stocks of Flour and Wheat on hand in New-York, (tables 5 and 6) are considerably larger Jan. 1st, 1863 at the same date, than in any of the preceding three years.

Similar comparisons may be made with respect to Corn, Rye, etc., but all the tables are so arranged as to show at a glance the condition of the breadstuff trade, and we hardly need repeat the items further.

During the past month, the breadstuff trade has been almost wholly governed by the rise and fall in gold, the higher currency rates in gold increasing the value of flour and grain for export. As shown in the table of "Current Wholesale Prices," the closing prices are considerably above the quotations in our last report (Dec. 18.). Holders are now quite firm, under the expectation of further advance. This will depend wholly upon the price of gold. Any financial schemes or changes reducing the relative values of gold and currency, will have a corresponding effect upon breadstuffs, so far as the latter are not influenced by other circumstances—foreign demand, etc. Provisions, especially hog products, have been in brisk demand, partly for export, and have advanced in price. Cotton, Wool, Hay, Hops, and Tobacco, have been more freely purchased at buoyant prices. Heavier sales of other articles of general merchandise have also been effected. The table of Prices will show both present values and changes since last month.

CURRENT WHOLESALE PRICES.

Table of Current Wholesale Prices for various commodities including Flour, Superfine Western, Extra Western, Extra Genesee, Super, to Extra Southern, Rye Flour, Fine and Super, Corn Meal, Wheat, All kinds of White, All kinds of Red, Corn, Yellow, White, Mixed, Oats, Western, Rye, Barley, Beans, Medium and Pea, Butter, and Kidney, Hax, in bales, per 100 lbs., Cotton, Middlings, per lb., Rice, per 100 lbs., Hops, crop of 1862, per lb., Feathers, Live Geese, per lb., Seed, Clover, per lb., Timothy, per bushel, Flax, per bushel, Sugar, Brown, per lb., Molasses, New-Orleans, p. gal., Coffee, Rio, per lb., Tobacco, Kentucky, & C. p. lb., Seed, Leaf, per lb., Wool, Domestic, fleece, p. lb., Domestic, pulled, per lb., Tallow, per lb., Oil, Cake, per tun., Pork, Mess, per bbl., Prime, per bbl., Beef, Plain, mess., per cwt., Lard, in bbls., per lb., Butter, Western, per lb., State, per lb., Cheese, Broom, Corn, per b., Eggs, Fresh, per dozen, Lined, per doz., Poultry—Fowls, per lb., Ducks, per lb., Geese, per lb., Turkeys, per lb., Venison, per lb., Potatoes—Common, p. bbl., Buckeyes, per bbl., Peach Blow, per bbl., Mercers, per bbl., Sweet Delawares, per bbl., Sweet Jersey's, per bbl., Onions, Red & Yellow, p. bbl., White, per bbl., Turnips—Rutabagas, p. bbl., Cabbages, per 100, Apples, Western, per bbl., Apples, choice, per bbl., Chestnuts, Cape Cod, p. lb., Western, per bbl., Dried Apples, per lb., Dried Plums, per lb., Dried Peaches, per lb., Hickory Nuts, per bushel, Chestnuts, per bushel.

with 4663 head offered, a few extra fat cattle brought prices equivalent to 11 c. @ 11 1/2 c. per lb. for the dressed quarters; prime steers 9 1/2 c. @ 10 c.; fair heaves 8 1/2 c., poor 6 1/2 c. @ 7 1/2 c., average of all sales 8 c. Cattle are now selling well, with a prospect of good prices during the Winter.

Veal Calves.—Receipts have averaged 370 per week since our last report. They sell readily, a few choice ones at 3 1/2 c. per lb. live weight, but mostly at 6c. for good veals, and 5c. @ 5 1/2 c. for ordinary to fair calves.

Sheep and Lambs.—Receipts are falling off rapidly. The average weekly receipts have been only 6,301 during the past month, against over 10,000 for the preceding 4 weeks. Farmers and graziers are holding them back on account of the high prices of wool which make sheep raising one of the most profitable operations of the farm. Skins alone are worth \$2.37 @ \$2.50 in lots, while large selected pelts sometimes sell for \$3.00 each. The short supply in market has caused a rise in the price of sheep equal to 1c. per lb. Good sheep that will weigh 100 lbs. alive, are worth \$6 1/4 @ \$6 3/4 each. A mixed lot of 1000 head averaged \$6.55. Ordinary sheep sell at prices equivalent to 5 1/2 c. @ 6c. per lb. live weight.

Live Hogs.—Receipts have averaged 44,120 per week, which is nearly equal to last month. For the week ending Dec. 30, no less than 61,165 live and several thousand dead hogs were received in the city and completely glutted the market, carrying prices down to 4 1/2 c. per lb., live weight, for prime corn-fed hogs. Prices have since recovered 1/2 c. being now 5c. @ 5 1/2 c. for fat corn-fed, 4 1/2 c. for medium, and 3 1/2 c. @ 4c. for distillery-fed hogs. Western mast, or nut fed hogs are worth only 3c. @ 3 1/2 c., being disliked by packers. The average weekly receipts of hogs last year was 21,129 against 11,292 for the year 1861.

The Weather has been remarkable for the season of the year. We have had very few cold days, and not over an inch of snow. The ground has been open most of the time, and farming operations have been carried on to an unusual extent. Fears are entertained that the warm weather followed by sudden freezings without the protection of a snow covering, has injured the winter wheat and rye.—OUR DAILY NOTES CONDENSED, read: December 20, clear, cool, the thermometer at 9° in the evening and 4° the morning of the 21st, which was a clear day, with a light snow fall at night.—22 cloudy, cool—23, 24, clear, mild—25, cloudy—26, cloudy, light rain at night—27, 28, 29, clear, warm—30, clear A. M., cloudy P. M., rain and snow at night—31, N. E. snow storm, mingled with rain, 1 inch snow remained on the ground.—January 1, 2, 3, clear and moderating—snow gone—4, fog A. M., clear P. M.—5, clear, warm—6, fog, rain at night—7, cooler with snow squalls—8, clear, fine—9, cloudy—10, N. E. rain, and at night—11, 12 clear mild—13, cloudy—14, heavy rain at night—15, N. E. rain and heavy fog—16, continued rain—17, 18, 19, clear, cold.

The Rain Fall and melted snow, for month ending Jan. 15, amounts to 3.11 inches. The rise and fall of the Barometer has made a crooked path on our recording paper during the month. The range has been from 29.18 to 30.50 inches, rising and falling rapidly, in some cases over an inch in 24 hours.

Thermometer at 6 A. M., New-York. [Observations carefully made upon a standard Thermometer (Fahrenheit.)—indicates rain—s, snow.]

Table showing thermometer readings for December and January. Columns for date and temperature.

Business Notices. Eighty Cents a Line of space. Best and Cheapest Fertilizer of the Age, EXCELSIOR POWDRETTE. RICARDO & CO., Manufacturers, Office 194 Front-st., New-York. Send for our Annual Circular, giving prices, particulars, certificates, &c. "Trade supplied."

Lands—To All Wanting Farms. Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from \$15 to \$20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers, containing full information, sent free.

Circulation of the Agriculturist.

Beyond all doubt or controversy, the circulation of the American Agriculturist to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue. The publisher is ready at all times to substantiate this statement by comparing books.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY. Fifty cents per line of space for each insertion. One whole column (145 lines), or more, \$60 per column. Business Notices, Eighty cents per line of space. FOR THE GERMAN EDITION ONLY. Ten cents per line of space for each insertion. One whole column (150 lines), or more, \$10 per column. Business Notices, twenty cents a line.

Help Wanted.

A single man—American or Scotchman preferred—wanted to take charge of a farm. He must be a practical man of experience, industrious, and honest, able to read and write. Also a neat tidy woman who can cook, wash, make butter, &c. Address JOHN H. ROCHE, Mead's Basin, Passaic Co., N. J.

COUNTRY HOUSE WANTED IN THE STATE OF New-York, within 30 miles of the City, for a charitable institution. House must contain not less than 16 rooms, with from 8 to 12 acres of good land for gardening—wanted to hire, with the privilege of purchase in three years. Rent very moderate. Address "YORK," Station D., N. Y. City.

BUSINESS STAND FOR SALE.—One of the very best on the Delaware and Hudson Canal. Address Box 94, Ellenville, Ulster Co., N. Y.

NOW READY.

The First Part of Dr. SMUCKER'S History OF THE SOUTHERN REBELLION,

From its origin, giving a full and reliable account of all the Battles, Sieges, Engagements, &c., &c. This is the only authentic HISTORY OF THE WAR now published, and will contain over 500 Octavo pages, illustrated with numerous fine steel plates, from original drawings, by that eminent artist, SAMUEL SARAÏN, Esq. A few good agents wanted, to whom the largest commission will be paid. Specimen copies sent on receipt of the price, \$2.50. BRADLEY & CO., PUBLISHERS, No. 66 North Fourth Street, Philadelphia, Pa.

The Cranberry and its Culture.

The Subscriber has issued a circular from the press, treating on the Cranberry and its Culture. Said Circular will give persons the proper information as to the commencement of the culture. He will take pleasure in forwarding them to all parts of the United States, to those sending stamp to pay postage. Persons wishing plants in large or small quantities, may receive them by express, for wet or dry soil. Address GEORGE A. BATES, Bellingham, Norfolk Co., Mass.

FRUIT TREES, &c.

FROST & CO., Genesee Valley Nurseries, offer for the Spring of 1863 a well grown and large stock of FRUIT TREES, both standard and dwarf; SMALL FRUITS, which includes a fine stock of choice NATIVE GRAPES; also, of ORNAMENTAL TREES, SHRUBS, ROSES, GREENHOUSE PLANTS, &c.—all at low prices. CATALOGUES sent on application, enclosing a stamp for each. No. 1. A Descriptive Catalogue of Fruits, &c. No. 2. Of Ornamental Trees, &c. No. 3. Of Greenhouse Plants. No. 4. Wholesale List for Spring of 1863. FROST & CO., Rochester, N. Y.

CIRCULAR.

ONE PRICE LIST OF GRAPE VINES, STRAWBERRY, RASPBERRY, BLACKBERRY PLANTS, and other SMALL FRUITS, for Spring of 1863, will be issued by the 15th of February, and sent to all applicants. J. KNOX, Box 155, Pittsburgh, Pa.

EVERGREENS.

FROST & CO., of the Genesee Valley Nurseries, ROCHESTER, N. Y., have an immense stock and good assortment of hardy, well grown EVERGREENS, which have been transplanted from one to four times. They will be sold at low rates to Nurserymen, or others who wish to buy in large quantities. Prices given in Wholesale List of Fruits, Ornamental Trees, &c., for Spring of 1863, which is sent on application.



The best Holiday Gift, and greatly, constantly, and permanently useful. Specially full in Definitions and Illustrations of literary terms. Sold by all booksellers.

THE MOTHER'S JOURNAL.—A Literary and Religious Monthly Magazine for Mothers and the household. One Dollar a year. 335 BROADWAY, NEW-YORK.

BOOKS FOR FARMERS AND OTHERS.

Table listing various agricultural books for sale, including titles like 'American Bird Fancier', 'American Farmer's Encyclopedia', 'American Weeds and Useful Plants', etc., with prices.

ONION CULTURE—Third (new) Edition.

This work comprises in 32 pages all the particulars for successful Onion Culture, from Selection of Seed to Marketing the Crop—being the practical directions given by seventeen experienced Onion Growers, residing in different parts of the country. Price 21 cents (or 7 stamps), sent post-paid. Address Publisher of Agriculturist.

PHYSIOGNOMY, or "Signs of Character," PHYSIOLOGY, the Bodily Functions; PHRENOLOGY, Brain and Nervous System; PSYCHOLOGY, the Science of the Soul; ETHNOLOGY, or Natural History of Man, are topics elucidated in the ILLUSTRATED PHRENOLOGICAL JOURNAL for 1863. No. 1, 10 cents, or \$1 a year. Address FOWLER & WELLS, 308 Broadway, New-York.

SEEDS! SEEDS!!

FLOWER SEEDS. VEGETABLE SEEDS. HARVEY B. LANE, 151 Nassau-st., New-York.

WANTED—10 bushels new crop Osage Orange Seed. Address THOMAS J. SHALLCROSS, Locust Grove, Kent Co., Md.

Table listing prices for seeds: PEACH PITS, PLUM PITS, CHERRY PITS, APPLE SEED.

For sale by SHEPPARD & SEWARD, 214 Pearl-st., New-york

FRUIT TREES AND PLANTS,

ORNAMENTAL TREES,

SHRUBS, EVERGREENS,

AND

EXOTIC PLANTS.

PARSONS & CO.

Invite the attention of buyers to their stock, which is in vigorous health, and of large size.

They offer all kinds at rates, which for size and excellence, are as low as they can anywhere be purchased.

They can sell trees, etc., by the hundred:

Apples at \$14. Plums at \$30.

Pears at \$28. Peaches at \$10.

Cherries at \$25. Strawberries.

Concord Grapes, 4 years, at \$25.

Delaware and other hardy Grapes.

Exotic Grape Vines, strong growth.

Small Fruits of the newest sorts.

Linnaeus Rhubarb by the 1000.

Their ORNAMENTAL TREES for Streets and Lawns are of large size and fine form.

FLOWERING SHRUBS in quantities for massing, at very low prices.

ROSES and EXOTIC PLANTS of the new and choice varieties.

Catalogues furnished on application

No orders will be sure of attention, unless addressed to us by mail, at FLUSHING, near NEW-YORK.

CHOICE FRUIT.—Local Agents wanted to sell trees of genuine King of Tompkins Co. Apples, the best variety grown, which sells in New-York for \$6 to \$8 per barrel. Also the Wagener, send for plates and terms to agents; or 50 cts. for two dozen seedlings, \$1 for one each of Delaware, Concord, Diana, and Rebecca Grape Vines, or \$1 for one each White Grape, Cherry, La Versailles and Long Grape Currant Bushes, or 50 cts. for one doz. Brinkley's Orange, or Antwerp Raspberries, or two doz. best varieties Strawberry Plants; all sent by mail, prepaid. Address E. C. FROST, Highland Nurseries, (P. O.) N. Y.

50,000 PEACH TREES,

And all other varieties of Fruit and Ornamental Trees, For Catalogues address ISAAC PULLEN, Hightstown, N. J.

Pear Trees

Of superior quality, at the NEW-BRUNSWICK NURSERY, New-Jersey. Persons interested are invited to examine my trees. Send for Catalogue. EDWIN ALLEN.

Evergreen and other Tree Seeds.

Priced Catalogue and new crop of seeds now ready. THOS. MEEHAN, Germantown, Pa.

Conn. Seed Leaf Tobacco Seed.

Grown by contract by one of the most successful growers in the valley of the Connecticut. Packets containing ONE ounce will be mailed, post-paid, to any address—upon receipt of 50 cts. in postage currency or new stamps. Prices for larger quantities will be given upon application. B. K. BLISS, Springfield, Mass.

ILLUSTRATED CATALOGUE of rare and beautiful Flower Seeds, Roots, Cuttings, &c., by mail. Sent free to all applicants. Address H. B. LUM, Sandusky, Ohio.

PRINCE ALBERT'S WINDSOR PIGS,

(IMPROVED SUFFOLKS), four months old, at fifteen dollars each, or twenty-five dollars per pair, boxed for shipping, and delivered in New-York. They are from animals bred on Prince Albert's Windsor farm, and selected for, and imported by me. I believe them to be the best bred of pigs in the world. The QUALITY OF THEIR MEAT is decidedly BETTER than that of other breeds, and they will make MORE MEAT FROM A GIVEN AMOUNT OF FEED than any others. Of late years they have figured largely as first prize takers at the best English shows. Address L. MASON, Jr., Orange, New-Jersey.

Wheeler & Wilson's SEWING MACHINES

HIGHEST PREMIUM.
International Exhibition London, 1862. See the recent Improvements. Office 505 Broadway, New-York.

\$150. BEST PIANOS. \$150.

J. P. HALE & CO. having removed to their new warehouses

No. 478 BROADWAY,
are now prepared to offer the public a magnificent NEW SCALE, full

7 OCTAVE ROSEWOOD PIANO,

containing all improvements known in this country or Europe. Over Strung Bass, French Grand Action, Harp pedal, Full Iron Frame, for

\$150 CASH.

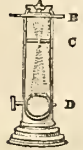
Warranted for Five Years.

Rich moulding cases

\$175 TO \$200

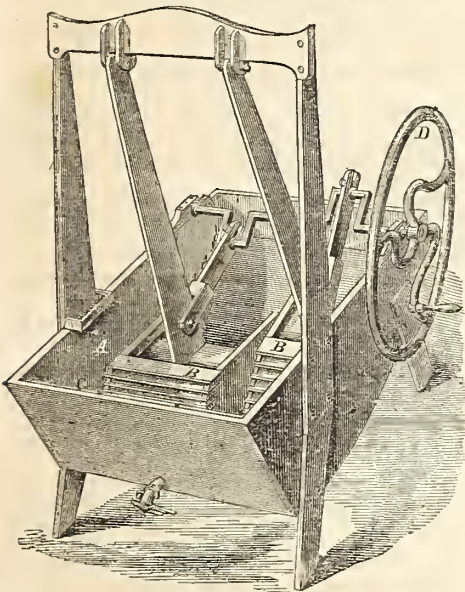
All warranted made of the best seasoned material, and to stand better than any sold for \$400 or \$500, by the old methods of manufacture. We invite the best judges to examine and try these new Instruments, and we stand ready at all times to test them with any others manufactured in this country. J. P. HALE & CO., 478 Broadway, New-York.

THE CRAIG MICROSCOPE.



Sectional View. A, Lens; B, Object glass; C, Diaphragm; D, Reflector. Instrument 5 inches high.

This is the best and cheapest microscope in the world for general use. It has just received the First Premium—Silver Medal—at the Ohio State Agricultural Fair. It requires no focal adjustment, magnifies about 100 diameters, or 10,000 times, and is so simple that a child can use it. It will be sent by mail, postage paid, on the receipt of \$2.25, or with six beautiful mounted objects for Three Dollars. Address HENRY CRAIG, 182 Centrest., New-York.



The NONPAREIL WASHING MACHINE

Has been in operation since April, 1861, and the severe and varied tests, to which it has been subjected, in country and city families and laundries, demonstrate that two-thirds the labor and time, and half the soap required in hand washing, are saved by its use, and no injury can possibly result to the most delicate fabric from its action. It is a squeezing machine, and it washes with equal effectiveness a cambric handkerchief, or a bed quilt.

The machine is carefully made of the best materials, and its strength and durability will be found in keeping with its extreme simplicity. There is nothing in its construction liable to get out of order; and no training is required to enable the least skillful person to work it satisfactorily. A girl twelve years old can operate it.

Three sizes of family machines are made, their capacity being about the bulk of five, eight, and twelve shirts respectively. Prices: No. 1, \$12; No. 2, \$16; No. 3, \$20.

Machines to go by Power are manufactured for the use of Hotels and Landries.

Circulars, giving full descriptions, will be forwarded by OAKLEY & KEATING, 73 South-st., New-York.

See *Agriculturist* Premium No. 3.



Acknowledged to be Superior to all Others.

495 BROADWAY, NEW-YORK.

"Crover & Baker's is the best."—*Am. Agriculturist*.

TEETH

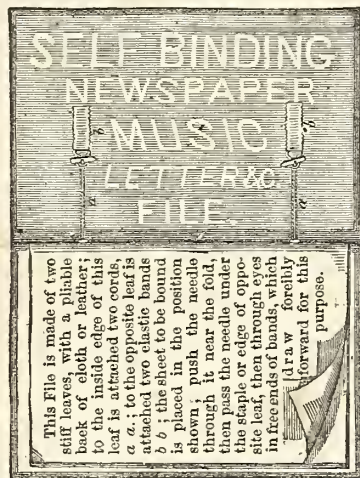
UPON ALLEN'S SYSTEM

CAN BE OBTAINED AT

22 Bond-st., New-York.

By this method the TEETH, GUMS, ROOF, and RUGÆ of the MOUTH are all truthfully represented, reflecting those delicate tints, shades, and forms peculiar to the natural organs, thus concealing from the observer the human agency in forming them. This we do positively accomplish, as evinced by our numerous patrons. The natural expression of the mouth, and original contour of the face can also be restored, which rejuvenates the waning cheek.

A descriptive pamphlet may be obtained by addressing DR. J. ALLEN & SON, as above.



This File is made of two stiff leaves, with a pliable back of cloth or leather; to the inside edge of this leaf is attached a cord, *à la*; to the opposite end is attached a twist to be wound in a circle about the neck of the paper, it is placed through the pencil through the hole in the paper, then passes the needle under the paper, and is drawn through the hole in the paper, then passes the needle under the paper, and is drawn through the hole in the paper, then passes the needle under the paper, and is drawn through the hole in the paper.

ALDERNEY BULL AND HEIFER FOR SALE,
At two years old the coming March, both of the best imported stock, at a very moderate price. Apply to JOHN T. CAMPBELL, Jamesburg, Middlesex Co., N. J.

BAUGH'S RAW BONE SUPERPHOSPHATE OF LIME.

BAUGH & SONS,
MANUFACTURERS AND PROPRIETORS,
No. 20 South Delaware Avenue,
PHILADELPHIA.

This Manure is manufactured from pure Raw Bones, and warranted to contain all their original organic matter—no burned or calcined bones are used, and it is sold under a guaranty from the manufacturers that it is free from adulteration.

Last season the demand for this manure exceeded that of any former one, and with few exceptions the results have been highly favorable. No pains will be spared to maintain its standard of popularity. SEND IN YOUR ORDERS EARLY.
Price, \$45 per 2,000 lbs., Cash.

TO FARMERS AND OTHERS.

We are manufacturing a Genuine Article of FINE, MEDICINE, and COARSE BONE DUST, or RAW BONE SUPERPHOSPHATE OF LIME, manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

N. B. A Liberal Discount made to Dealers for Cash,
Address A. LISTER & BRO.,
Tarrytown, Westchester Co., N. Y.,
Or Newark, N. J.

100,000 BARRELS

OF THE

LODI MANUFACTURING COMPANY'S POUURETTE,

FOR SALE BY

JAMES T. FOSTER,

66 COURTLANDT-ST.,
NEW-YORK.

In lots to suit purchasers. This Company have the largest capital and factory of the kind in the world, and possess the best facilities for manufacturing the night soil of New-York City, for which they have the exclusive contract, into a dry, inodorous, but powerful manure—superior to any other fertilizer in market, taking COST and YIELD into consideration. Price \$1.60 per barrel, free from cartage, for any quantity over 7 barrels—or only \$16 per ton.

Beware of spurious imitations, put up in barrels to resemble this Company's brand.

Attention is called to the following letter from a farmer: FARMINGTON, N. H., OCTOBER 9, 1862. JAMES R. DEX, Esq., President Lodi Manufacturing Co.

For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight-house; opened it; came to me with eyes wide open, and said, "YOU HAVE GOT CHEATED. THIS STUFF IS NOTHING BUT DIRT." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then omitted eight rows, and then put lime in the hills, as he had a mind to try that. The result was, that where the Poudrette was put, the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no perceptible effect. We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part ploughed in the fall before, the balance in the spring. The manure I prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shoveled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was, the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting, we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides dirt. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils, as upon sandy loam. I have not been so particular since my first experiment, but every year I left a few rows so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1859 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me \$4.20. He informed me afterwards, that he took it into his field all alone, and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them \$5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it will not kill the seed.

And again, it is not so expensive. My method is, to PUT IT IN THE HILL WITH THE SEED. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put dung or compost, and is a protection against the wire worm.

Respectfully yours,
GEO. L. WHITEHOUSE.
The Company's pamphlet, containing directions for use and other valuable information, will be sent free to any one applying for the same. Address J. T. FOSTER, Care of the Lodi Manufacturing Co.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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

ORANGE JUDD, A.M.,
EDITOR AND PROPRIETOR.
Office, 41 Park Row, (Times Buildings.)

ESTABLISHED IN 1842.
Published both in English and German.

(\$1.00 PER ANNUM, IN ADVANCE
SINGLE NUMBER, 10 CENTS.
For Contents, Terms, etc., see page 96.

VOLUME XXII—No. 3.

NEW-YORK, MARCH, 1863.

NEW SERIES—No. 194.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. Other Journals are invited to copy desirable articles freely, if each article be credited to *American Agriculturist*.



Suggestions and Notes for the Month.

The Calendar tells us that it is Spring; and though the weather may be less mild than during nearly all of last January, yet the lengthening days, here and there the swelling buds of the early trees, and the appearance of the Liverleaf in places where the snow has gone, remind the farmer that his time of comparative leisure is nearly over, and he begins to be impatient to commence his season's work. This month of transition from Winter, one which witnesses the contest of the seasons for the mastery, is the occasion of many a skirmish between the rear guard of the retreating forces of the frost king, and the videttes of Spring. Sometimes the advance is so slow, delayed by late snows and lingering cold, that the active farmer chafes at the tardy progress, and is half inclined to fear that seed time may not come according to the promise. An unusually mild Winter throughout the country has saved a great amount of fodder, yet the daily decreasing store is now looked at with solicitude, for it will yet be a long time before the pastures yield food for the beasts, and during many weeks to come the provisions already secured, must be the sole dependence. The crude old couplet "On February, fourteenth day; Half your corn and half your hay," is not far from a true statement.

Notwithstanding the teachings of the journals and the example of thrifty farmers, the agriculture of our country is characterized by a great deal of careless waste. Many farmers have not learned that saving is as important as producing. In almost every neighborhood we find examples of wasteful feeding, where the cattle trample under foot nearly as much as they eat. There are whole districts where almost every other man uses the public highway for a barn-yard.—If the contents of the hay mow and corn crib have so far diminished as to suggest a lack of

feed to take the animals safely through, the manner of feeding should be looked into, to see if it be done in the most saving way. In good feeding there should be just as much put before the animal as it will eat up, and no more. A correspondent writes us that "it is a *sin* to throw fodder to the cattle in the barn-yard so that they can tramp on it, when feeding boxes like those described on page 12 of the *Agriculturist* for 1862 can be so cheaply made. It is a pleasure to see cattle eat out of them, and nothing is wasted."

But with all our individual faults, agriculture, as a whole, has made great progress, in the manner of cultivating the main crops and economy in using them, and also in the introduction of a diversity of products. The war has brought changes even in the domestic economy of the smallest farms, and individuals as well as the nation are impelled to develop their resources. Besides the staples of wheat, corn, etc., sorghum, flax, cotton, and tobacco are either being successfully cultivated as regular crops, or are the subjects of important experiments. Before the work of the season fairly begins, there is still time to consider whether any change shall be made in the usual routine of crops. The readers of the *Agriculturist* will bear us witness that we have never advised them to go blindly into any new project. We hold that there is a wise medium between that old fogysm which rejects everything and that rashness which adopts everything, and both for the same reason—because it is new. In a country so extended as ours, and with such a diversity of soil and climate, the experience of one locality will not answer as an infallible guide for the whole; hence we are cautious in recommending the general adoption of new things until they have been tried in widely different situations.

With regard to sorghum, we consider that it has ceased to be an experiment. The syrup crop of last year, enormous as it was, will probably be increased during the present year by millions of gallons. The question, in a large portion of the country, is not, will it succeed, but will it pay on the small scale? With proper implements, good and cheap syrup can be made, but the farmer does not feel warranted in procuring these to merely make the sweetening for his own family. There is need of concert of action in the neighborhood. The farmer would plant the cane if he could get it manufactured at a fair rate, and the one having the capital, would willingly invest it in a profitable apparatus, if he were sure that there would be a demand for it. Now is the time to canvass this matter, and see if any arrangement can be made to enable more farmers to grow their own sweetening.

The scarcity of cotton has given a new interest to flax culture. The manufacture of flax-cotton or wool, from which so much was hoped, is yet an experiment, but one which is by no means abandoned. Manufacturers say that they

can work up flax if they can get the raw material, and ask us to advise farmers to plant it. The farmer is ready to grow flax if he can find a demand for his crop, but can not afford to engage in it at a venture. While we can not, without more light on the subject than we now have, advise the general culture for the fiber, we nevertheless counsel farmers to be awake to the subject, and see what facilities their particular region offers for disposing of flax products.

In some parts of the Northern States, cotton can doubtless, at the present prices, be raised at a profit, but we have not seen any results which show that it would be a paying crop at the ordinary price of the staple in peace times.

The growing of tobacco has become an established fact, even in localities where a few years ago it would have been thought impracticable. We have been censured by some, for offering premiums for essays upon the culture of this foul weed. We can not argue the morality of tobacco raising, any more than the growth of apples for cider, grapes for wine, or barley for brewing. But it has been, is, and probably will be, one of the staple crops of the country. While we advise no one to grow it, we can not disregard the demand of a very large number of our readers for information upon the best modes of culture. It is certainly better that they should know the real nature of the crop, than to grow it—as grow it they will—in ignorance of its damaging effects upon the soil. Whoever undertakes the culture, should keep in mind the worn-out tobacco fields of Virginia, and not use up the productive forces of his machine—his farm.

Work for the Farm, Household, etc.

After an unusually mild Winter, we may look for more or less of cold weather this month, in which case the hints for January and February should be borne in mind. The reader will understand that we are not giving rules to be blindly followed, but suggestions to help him "to think of something he did not think of."

Buildings.—The fierce winds of this month will be sure to find every loose piece of siding. See that the animals do not suffer from a cold draft, which the driving of a few nails will stop. Have a contrivance for fastening barn doors open, as well as shut. We have known a barn-door swinging in the wind to inflict serious injury. Look out for loose blinds and shutters; they soon bang themselves in pieces. Painting may be done, though a driving rain is injurious to a coat of paint if it comes upon it before it is dry. If not done early, the hot sun will injure the permanency of the paint. As a rule, autumn is preferable to late spring painting.

Cattle.—See suggestions above, on feeding cattle. After some mouths of dry fodder, cattle long for something green. This craving can be in part satisfied by feeding roots. No animal should fall away in flesh; working cattle should

be well fed and brought gradually into hard work. Cows near calving should have roomy stalls at night. Don't forget to use the card on cattle.

Cellars.—Remove the banking up, and ventilate as soon as danger from cold is past. If cabbages have been kept in the cellar, see that no leaves are left to decay and cause foul odors. Clean out rubbish generally, and apply a coat of whitewash.

Clover.—This may be sown the present month. By taking advantage of a light fall of snow, the casts can be seen and the sowing be done more evenly. The melting snow will carry the seed into the little crevices in the earth. We have had the best success, however, in sowing upon wheat and rye toward the close of freezing weather, choosing a still morning when the surface is well opened by frost cracks. The thawing soil closes over and covers the seed.

Drains.—If the land is not underdrained, surface drains are better than none. Clear out open drains especially in the wheat fields. Commence laying tile or stone drains as soon as the ground will allow working. See notes last month. Obstructions should be removed from those drains already laid.

Fences.—Have material ready to build as soon as the frost is out of the ground. Gates in place of bars are great savers of time and consequently of money. There are plenty of stormy days in which they can be made. Where rail fences are used, the appearance of the whole farm is greatly improved by sawing the ends of the rails square and making them all of equal length.

Grain.—Keep free from injury by dampness, or mice. Consider if you are raising the best sorts. It costs as much to cultivate a poor, as a good variety.

Help.—Hire as soon as possible. As stated last month, better secure a good man a little before he is actually needed, than to wait and take the chances when work presses. Avoid great story tellers, village politicians, and bar-room frequenters. Where there are several men employed, assign to each one his duty so definitely that there will be no shirking. A little personal responsibility for the well doing of a job, often incites a laborer to care and industry.

Hogs.—Keep them at their proper business—making manure. See page 79. Litters of pigs may be looked for. Provide proper bedding for breeding sows. Cooked roots will be relished by them, and will be found nutritious.

Horses.—As their work increases, give more care to their feed. Add carrots to their daily rations, if you have them. Recollect that it is as injurious for a horse to stand in a cold wind after becoming warm from exercise, as it would be for yourself. Do not let the horses forget that there are currycombs.

Ice.—In many localities, this, on account of the mild winter, is yet to be secured. Do not let the first opportunity pass. Better take poor ice than none. If the quantity is small and the quality poor, extra care should be taken for its preservation.

Maple Sugar.—See hints on page 39, of last month.

Manure.—This can be advantageously hauled to the fields while the ground is still frozen. Fork over compost heaps and see that fertilizers from every source are saved. Muck and plaster occasionally thrown into the privies, will prevent unpleasant odors, and furnish valuable poultice.

Pasture and Grass Lands.—Remove bushes and stones. Read article on regenerating old pasture lands on page 42, last month. Meadows are usually improved by a top-dressing of compost, bone-dust, or ashes. Keep stock of all kinds out of them.

Plowing.—There are few northern localities where plowing can be done in March. This is one of the operations in which it is well to "make haste slowly." It should only be done where the land is in such a condition that it will be left mellow. Have every thing in readiness so that there may be no delay when the proper time arrives.

Potatoes.—In some places early varieties may be planted the last of the month. Secure best sorts.

Poultry.—If they have been properly kept during

the winter, there should be plenty of eggs now. Give cabbages and boiled potatoes for a change from grain, and a supply of chopped refuse meat. Set for early chickens.

Seeds.—Procure the needed stock at once, and not put it off until planting time. Too much care can not be given to secure one of the first essentials of good culture, good seeds.

Sheep.—Some early lambs may be dropped during the latter part of the month, they will need shelter and care. Breeding ewes should be separated from the rest of the flock, and fed with a little grain, and with roots if on hand.

Tools.—Are they all ready? Don't neglect them now and waste valuable time by and by in tinkering and sending to the blacksmith. Recall the old adage of "two strings to your bow," and of all parts particularly liable to break or be lost, such as plow points, etc., have spare ones on hand against accidents. It is cheaper to keep on hand three extra plow points or shares, harrow teeth, whiffle-trees etc., than to lose a half or whole day in the best working season, in going after or making the needed implement.

Orchard and Nursery.

The open season will probably allow of early work in this department. Send orders to the nurseryman as soon as a selection can be made. This is likely to be a busy month in the nursery, and the nurseryman should be prepared with everything that will facilitate his spring's business.

Apple Trees.—Scrape the trunks of old trees, and wash with a strong solution of soft soap or weak lye. Plant early. See if there is not some unoccupied spot that will admit of a tree. The list of varieties determined by the Fruit Growers' meeting, will be too late for this month's paper, but will appear in April. There are certain standard sorts that are good everywhere, and others have been proved by your neighbors. Plant largely of the best market varieties and fewer of the fancy sorts for home use.

Grafting.—This may be done with cherries. Other fruits should be left until next month. Root grafting if not already finished, should be completed and out of the way of other work. If you are so unfortunate as to have an orchard of poor natural fruit, make preparations to graft it with good sorts. If the cutting of cions has been neglected until now, attend to it at once, and keep them in earth or sand until wanted.

Insects.—No trees should be sent from the nursery or planted, that are covered with scale. The moths of some destructive worms ascend the trunks during the present month. Paper smeared with tar mixed with oil enough to keep it soft, and tied around the trees, will arrest a great number.

Manures.—Ground for planting should be prepared with well decomposed manure. The practice of surface manuring fruit trees is growing in favor. The soluble portions are carried down by rains, and the coarse material is left as a mulch.

Pruning should this month be confined to removing dead limbs and cutting out small shoots and suckers. If necessary to make a large wound, cover it with grafting wax or other composition.

Transplanting and Planting Out may be done with deciduous trees and shrubs as soon as the frost is well out of the ground, and it is not wet and heavy. Evergreens should not be moved at present.

Kitchen Garden.

It is very difficult to give directions for the present month, on account of our great diversity of climate, which is perhaps more apparent now than at any other season. In the middle and southern States the weather will doubtless admit of extended operations, while in many northern localities the ground is still closed by frost. Along the seaboard, the influence of the warm breezes is felt in rendering the season much earlier than at some distance inland in the same latitude. Hence, while in many places

the hints here given will be timely, in others those of last month should be noticed, and these reserved for April. The notes upon the small fruits are placed under the separate department of "The Fruit Garden." Where the space is limited, the small fruits may be cultivated with the vegetables; but where there is sufficient land available, it is on many accounts desirable to have a separate place for them. If the work has not been planned, as suggested in January, there is yet time to do it. Read the article on "Rotation in the Garden," on page 51, in February *Agriculturist*.

Artichoke.—This is seldom cultivated in our country, except by Europeans. It is a plant bearing a large thistle-like head, the scales or flower cups of which are eaten. Old beds should be cleared of their winter protection, and a dressing of manure forked in. Make new beds by planting the offsets of old plants, 4 feet apart each way, in deep rich soil.

Asparagus.—The manure placed on the beds last Fall, may be forked in as soon as danger from frosts is over. Apply brine or salt freely. Early cuttings can be readily obtained by forcing. Cover a portion of the bed with a hot-bed frame, bank up around the frame with stable manure, and cover it over with sashes. Lettuce may be sowed between the rows of asparagus. Make new beds, using roots one or two years old, if obtainable. If not, sow seed to produce roots for future use. This is one of the best very early table products of the garden.

Cabbages and Cauliflowers.—Sow in hot-beds for early planting out. The young plants are usually benefitted by ashes and plaster. Allow plenty of air to harden the plants before transplanting.

Cabbage Stumps, set out, to furnish spring greens.

Cold Frames.—These are frames covered with sash, like those for a hot-bed, and are placed on good mellow soil without any heating material. They should be banked up slightly with earth, to prevent the cold winds from creeping in between the frame and the soil. They should be covered with mats or shutters in cold weather. They answer to winter over many half hardy plants. Cabbages and cauliflowers may be sown in Autumn and kept through the winter in this way. Cabbages, lettuce, radishes, etc., may be obtained in them much earlier than when sown in the open ground. When the plants have started, give plenty of air on fine days.

Compost.—The heaps should be turned over, all coarse stones and rubbish picked out, and, if not sufficiently decomposed, some stable manure should be added to induce fermentation. See item on finishing manure, on page 73.

Cress or Peppergrass.—Sow early. It is very liable to attacks from insects,—apply ashes freely.

Drains.—If the garden is not already drained, manage to get in a few tiles or covered stone drains in the wettest places. Well drained soil can be worked earlier in Spring, and yields better returns.

Egg Plants.—For early, sow seed from the middle to the last of this month, in a sheltered place.

Fences and Gates.—Put in a condition to repel the depredations of poultry, swine and other animals.

Herbs.—The perennial herbs, like wormwood, mints, hyssop, etc., may be divided and reset.

Hops.—Roots may be planted and poles provided.

Horse radish.—Dig for family use and for marketing. Though generally left to take care of itself, it is much improved by liberal manuring. New beds may be made by planting crowns or pieces of root.

Hot-Beds.—May be made from the middle to the last of the month. See Calendar for January, for construction of frame and sash. Fresh horse manure is the best material for generating heat. If this is mixed with an equal bulk, more or less, of leaves it will give a more gradual heat, and will last longer. The manure should be thrown into heaps and when fermentation commences, it should be turned over once or twice before making the bed. The bed may be made upon the surface of the ground, or an excavation a foot deep, and a foot wider each way than the frame may be made. The ma-

nure should be laid evenly and packed firmly by striking it with the forks, taking care to fill up the soft spots and have the whole mass uniform. The sides should be laid up square and workman-like, and the fine manure which will be left from the heap, be shoveled up and distributed over the top. The mass of heating material should be at least 2 feet thick. Place on the frame, and put in 5 or 6 inches of rich earth, which should have been in readiness the previous Fall. Cover with the sash, and allow the earth to become well warmed. The temperature should be 60° to 70°. If the earth becomes too hot, open the sash. The seeds may be sown when the earth is of the proper temperature. Shade until they are well up. Guard against excessive heat at mid-day, by lifting or removing the sash, and against cold at night by a protection of mats or other cover. The manure, after hot-beds are done with it, is in good condition for later crops.

Leeks.—Sow in drills 15 inches apart in rich soil.

Lettuce.—Sow in hot-beds or cold frames, and in the open ground as soon as it can be worked.

Manure.—The free use of manure is one secret of successful gardening. Muck, ashes, kitchen slops, scrapings of the barn-yard, hen and pigeon manure, should all be carefully saved.

Mustard for Spring salads: sow in one-foot drills.

Onions.—Potato or multiplier, top onions, and sets, may be planted for early use. Seed should not be sown until the ground becomes warmer.

Peas.—Some of the early kinds may be sown in a warm spot. Plant where any well manured crop stood the year before. The pea-weevil may be killed by pouring scalding water over the peas before planting. It will not destroy germination.

Parsnips.—Those which have been left in the ground through the Winter may be dug for use or market. Leave enough of the finest roots for seed.

Peppers may be sown in a hot-bed.

Plow and subsoil whenever the soil will allow.

Potatoes.—Plant for an early crop. The early varieties are numerous, each locality having its favorite sort. Around New-York, the Dykeman is the one most cultivated. The Ash-leaf Kidney is a favorite with many. We have seen a kind at the West, called Early Shaw, which was there considered earlier and better than any other variety. Secure seed in season. Those put in early, should be planted deeper than usual, and it is well to have litter handy to throw over them, if frosts should occur after they are up. Several days may be gained by starting the potatoes before planting. They may be laid in a hot-bed or cold frame, or started in a warm place on bits of sod, which are to be plauted out. In whatever way the potatoes are started, they should have plenty of light, as sickly shoots raised in the dark will usually die off after planting.

Radishes.—Sow in hot-beds. They should have a bed to themselves, and the tops kept as cool as possible. Sow in the open air the last of the month.

Salsify.—Dig for use, leaving enough for seed.

Seeds.—Procure the season's stock if not already done. If you can not rely upon your own experience, consult the list given on page 36 of February *Agriculturist*. See "Germination of Seeds" on another page. Roots which have been kept over to raise seeds from, should be put out early in good soil. Let only the most vigorous shoots grow.

Spinach.—Remove the covering from the Winter beds, and stir the soil between the rows. Sow seed of the round-leaved variety for a Spring crop.

Tools.—Have everything in repair, and purchase improved sorts. Make now, all garden conveniences that will be required, such as markers, stakes, etc.

Tomatoes.—Sow in hot-beds, to be transplanted to another bed, or potted as soon as large enough.

Trench deep, as soon as the ground can be worked.

Turnips.—Sow in a warm spot for early table use.

Winter Cherry.—Sow in hot-beds for early fruiting.

Fruit Garden.

In the directions for the Kitchen Garden above, it is recommended to have a separate department for fruits. This is often impracticable, and it is necessary to grow small fruits among the vegetables. Even in this case, it is better to devote particular divisions to vegetables and fruits, than to mix them indiscriminately. Where a new fruit garden is to be laid out, a place should be chosen which is sheltered from cold winds, and the soil should be deep and well drained. The garden should contain an abundant supply and variety of small fruits, and of dwarf apples and pears, peaches, cherries, plums, etc. Dwarf trees occupy little room, and bear fruit much sooner than standards. Strawberries may be successfully grown between rows of dwarf trees and grapes. In stocking the garden, procure only well established varieties, unless disposed to expend time and money in testing novelties. New things are not always valuable in proportion to the amount of puffing they receive. In buying nursery stock of any kind, procure that which is good and true to name, in preference to that which is low priced. Except in very new countries, there is generally a reliable nurseryman within easy reach, and where there is not, trees and plants can be readily sent to a great distance with the present facilities for transportation. The ground should be prepared early. In no place will thorough manuring and deep working of the soil pay better than in the fruit garden.

Blackberries.—Plant at least 6 feet apart, cutting the canes back to within 6 inches of the root. The New-Rochelle and the Dorchester are still standard varieties. The New-Rochelle grows vigorously, bearing abundant fruit of large size. It is esteemed too sour by many, generally owing to the fact that it is gathered too soon. It blackens some time before fully ripening.

Currants.—Prune, and secure cuttings at once, if not already done as directed last month. Set out rooted plants. The Cherry, Red Dutch, and White Grape, are among the best varieties.

Figs.—These may be cultivated in this latitude, if the trees are laid down every Fall and covered with soil, or surrounded with barrels filled with earth. They should not be uncovered until settled weather.

Fruit Trees.—Plant early and of the best varieties. See article on Dwarf Apples on page 82, and a list of Pears in the January No. on page 17.

Gooseberries.—Prune and make cuttings, and set out new stocks. The "Houghton's Seedling" is productive and succeeds almost any where. The "American Seedling" is highly spoken of, but we have had no experience with it.

Grapes.—It is now too late to prune with safety. Vines which have been laid down for protection should be put up as soon as the weather becomes settled. In localities where late frosts occur, it is better to leave them until next month. Fork a good dressing of manure into the borders. See "What grapes to Plant," on page 83, also page 96.

Raspberries.—If the weather is suitable, uncover buried canes, cut them back to 4 or 5 feet, and tie up to stakes. In making a new plantation, the Franconia, pure Red Antwerp, and Brinkle's Orange will be found to be good varieties. The improved varieties of the BlackCap are very productive. Use manure freely in the soil.

Strawberries.—The covering may be removed as soon as Spring opens. Prepare beds for planting in April and May, using plenty of well decomposed manure. Muck and ashes are good fertilizers.

Trellises.—Put in repair, and erect new. Next month we intend to give a plan for a grape trellis.

Flower Garden and Lawn.

Novices make a great mistake in doing work in the first warm days of Spring, that should be left until settled weather. There is plenty to be done in the grounds, however. Unless unusual care has been taken, there will be remains of last year's vegetation to clear up, broken limbs of trees to be re-

moved, leaves to be raked from the lawn, and picking up generally, to be done.

Annuals.—Those intended for early blooming, may be started in a hot-bed or cold frame or at the last of the month. Asters, Petunias, Balsams, Larkspurs, Phloxes, etc., may be risked in a warm spot.

Bulbs.—The covering of hyacinths, crocuses, etc., may be in part or wholly removed. It is well to have a supply of litter close at hand to throw over them in case it should become very cold.

Cold Frames.—Should have plenty of air to harden the plants before planting out.

Edgings.—Box edgings require resetting as soon as they become shabby. The earlier it is done, the better. Grass edgings should be trimmed with the edging knife, and replaced where the grass is dead.

Gravel.—Old walks should be repaired and new ones made. A layer of stones beneath the gravel acts as drainage and secures dry walks.

Hedges.—Buckthorn, Privet or other deciduous hedge plants may be set this month.

Honeysuckles and other Climbers.—Prune and arrange. Plant out where needed.

Hot-Beds will be needed for early annuals and cuttings. See Kitchen Garden for this and last month.

Lawn.—Dead leaves should be raked up and a top-dressing of compost or plaster given. Sow seed out, or turf over bare spots.

Manure.—This will be wanted everywhere. There should be a large stock of well decomposed compost ready for use.

Perennials.—Dicentra, Perennial Phloxes, Larkspurs, herbaceous Spiraeas, Hollyhocks, etc., should be divided and reset to increase the stock and produce finer bloom than is given by overgrown clumps.

Roses.—Plant and set as early as the ground will admit. Trim and arrange pillar and climbing roses.

Shrubs.—Do not uncover those protected during Winter, until the weather becomes settled. Plant hardy kinds as soon as the ground is suitable.

Green-Houses.

The warmth of the sun will allow fire heat to be early dispensed with. Sudden changes of temperature should be guarded against. Plants should be hardened off by free admission of air on mild days.

Bedding Plants.—A good stock of Verbenas, Cupheas, Petunias, Pansies, and the like should be hardened off and ready for outdoor planting.

Cleanliness should be scrupulously observed. Decaying leaves, weeds and moss ought not to be allowed to accumulate upon the pots. Syringe the foliage to remove dust.

Insects will now be on the increase, and especial care will be needed to keep them in check. Fumigation, soap-suds, etc., should be freely employed.

Lemons, Oranges and Oleanders are very apt to be affected with scale. Cleanse with soap-suds applied with a stiff brush. Repot and trim as needed.

Roses.—Those rooted for out-door blooming will need changing to larger pots.

Water.—The quantity should be increased as the plants push more vigorously. Its temperature should be as near as possible that of the house.

Hot House and Conservatory.

The changeable weather of this month will render it necessary to guard against sudden cold. The temperature must be regulated according to the nature of the collections. Neatness should be a characteristic of every well kept house. Shabby plants and those out of bloom should be kept in the back ground, and dead leaves, trimmings, etc., removed.

Abutilons.—These should be propagated for planting out. They make a fine appearance in the ground. *Abutilon striatum* and *venosum* grow from cuttings with the greatest ease; while the *insignis* needs to be grafted on the free growing sorts.

Acacias—Should now show a fine bloom. Give them little water, and a good exposure to light.

Annuals.—Pot off those sown last month, and sow anew if a larger stock is to be provided for.

Azaleas are now nearly out of flower. As soon as they have done blooming, cut back straggling branches to preserve a neat and compact form.

Bedding Plants.—Cuttings may still be put in, and those already rooted should be potted off and transferred to the green-house or cold frame to harden.

Camellias are still among the attractions of the conservatory. The leaves should be carefully washed without wetting the flowers, which would spoil them. Trenching may be done this month.

Chrysanthemums may be propagated by cuttings.

Calceolarias will need shifting if pot-bound, and fumigating if attacked by green-fly. Water freely.

Fuchsias should now be brought forward. Train to a compact round or pyramidal form, according to the habit of the plant. Repot young plants.

Heaths will need to be shifted into larger pots.

Insects.—These are the gardeners' constant enemies and need his constant care and watchfulness.

Lantanas should be repotted, to flower early.

Pelargoniums should be brought near the glass as they come into bloom, frequently turning them.

Parlor Plants.—There are but few which do well in the dry air of our rooms. The dust should be removed by syringing, or careful washing, and the pots should be frequently turned toward the light, to keep the plants from becoming one-sided.

Syringe the foliage frequently, and keep up a moist atmosphere by sprinkling the walls and floors.

Water should be given freely to growing plants, provided there is perfect drainage at the bottom.

Apiary in March.

After their long winter confinement, the bees will be in haste to improve the first return of mild weather. In some sections considerable pollen will be gathered this month, and in good stocks breeding will go on quite rapidly. . . . Where colonies have been kept in the cellar, or removed from their usual summer stand, let them be returned in time to commence operations early. It is best to bring them out a few hives at a time, if the number be large. Place them as far apart as practicable, and afterward fill the intervening spaces. This will enable the bees more readily to mark their own location, and prevent loss from their entering the wrong hives. A stranger bee usually finds little mercy in his neighbor's domicile. . . . Ascertain the condition of each stock on some cool morning as soon as possible after removing. Contract the entrance of the weak ones, until only a single bee can pass at once. Watch for robbing bees on the first warm days—it requires close observation to detect them at first. Ascertain which are destitute of stores, and feed as they require it, taking care not to expose any honey where other bees may get to it. The utility of flour as a substitute for pollen is pretty well established. It is difficult, sometimes, to get them to take it, especially when offered after a little is obtained from the flowers; but when given early, and a taste for it acquired, they will use large quantities. To feed the flour, make a floor several feet square, the size proportioned to the number of stocks. Put it in some warm place within a few rods of the apiary. The unbolted wheat flour is best, but any kind of flour will probably do; buckwheat has been used extensively. Begin by scattering some on the ground or in the grass near the floor; they will usually find it in a few hours. Keep them busy by feeding every fair day. Weak stocks should be fed with honey, or sugar water. Any stock having lost its queen during Winter, will be likely to show it near evening of the first day they fly out freely, by running about in apparent confusion. A queenless colony now should be united with some feeble stock, unless the queenless one is much superior in numbers, and in other respects will make the best stock; in which case, that should receive the bees from the other. The combs

and honey of a queenless hive, if all right, may be set away for a new swarm, taking care to smoke with brimstone once or twice to destroy the worms as they hatch out. If the colony that contains the queen is the one removed, there will be some brood in the combs, necessary to be taken out before putting the hive away. Be careful and not save for a new swarm any combs containing foul brood.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

The Basket Full.—We have on hand, in type, and in preparation, for this department, many items which are necessarily crowded over to next number.

Unanswered Letters.—Our readers must excuse us for not promptly answering many letters received, some of them asking "an answer by the first mail." We waste no time, work hard all day, and to a late hour at night, but still find it impossible to answer all the letters marked "for immediate reply." Our readers give us too much credit in supposing that we can write an off hand correct answer to a thousand and one queries about the best treatment of crops, and of soils we have never seen, about the quality of nearly every implement manufactured, etc., etc. The letter-writing season will slacken as Spring work comes on, and we hope to then be able to respond to most of the communications on hand.

A Grape Vine For Everybody.—There is scarcely a family among our readers, whose garden-plot or house-yard might not well contain one or more good grape vines. A few minutes time in preparing the ground and planting, and a little care afterward in training, will soon enable one not only to "sit under his own vine," but to enjoy a supply of delicious fruit. It does not take long for a vine to grow large enough to produce fifty to a hundred pounds of grapes. The Publisher's offer, on page 96, will place it in the power of almost every one to get a vine or two of the best sort, delivered free. Every one will know of two or more friends and neighbors who ought to take the *Agriculturist*, and who would be induced to do so by a little persuasion, or setting forth of its merits. The vine or vines received, can soon be multiplied by cuttings and layers to supply the new subscribers with vines also. We have provided the vines for this special purpose, and hope the additional subscriptions received in this way, will materially aid in meeting the greatly increased expenses of this year, while we believe the distribution of the vines and the circulation of more papers will, at the same time, be beneficial to the country. We trust our friends will be incited by these triple considerations to assist in making this special premium a very successful one.

The General Premiums still Continued.—Those interested in securing any of the good articles in our premium list, will find by referring to page 89, that the offers are still continued. Partial lists can therefore yet be completed, and new premium clubs made up. All names received from any person for this year, can be counted in making up a club for these general premiums. Names for the special grape premium can not be counted in any other list, and this premium applies only to names sent after March 1st. This restriction is absolutely necessary the present year.

The Seed Distribution by mail is in progress. The applications already in will be got through with before the close of March. Seeds to be called for at the Office, will come in from our country place, about the second week in March. As before stated, owing to the increased expenses this year, and no advance in subscription prices, we cannot be as liberal in furnishing seeds free, as we have been hitherto, and hope to be hereafter. New subscribers coming in will be able to still get some of the seeds. Applicants should now send six or eight numbers, and we will select and forward three or four kinds, taking the first on the list sent, that we chance to have. See last month's *Agriculturist* (p. 58.)

The Advertisements Good Reading.—Our business columns are well filled this month, notwithstanding the severe sifting given. Large numbers have been rejected—those from known parties not in good repute, and all from unknown parties not presenting some evidence of their integrity and good repute at home. All humbugs, patent medicines, &c. are of

course excluded. Of all the numerous parties advertising, we think there are none who do not intend to do what they propose to do. The advertisements are arranged mainly to suit the convenience of the printer in making up the paper, and not to give any preference of place to any one. It will be well to look through the whole, and see what is offered, and send for the circulars and catalogues. (It may interest the advertisers to tell them their business notices were seen in the *Agriculturist*, as many of them would like to know in what journal they reach the largest circle of reading, enterprising men.) Some of those who have recently asked for the best way of investing a few hundred dollars now, may perhaps do worse than to put the money into fruit-trees that will ere long pay back a large interest, as well as into good implements, seeds, etc., that will bring immediate returns.

Books Advancing.—As the old stock of books decreases, and new ones have to be made from paper at double cost, publishers are advancing their rates, though they have not nearly doubled them as yet. From present appearances, prices will go still higher, and it will probably be economy to purchase now, any that will be wanted this year. It will be seen by our list on page 91, that we have necessarily advanced the price of several books to the rates now charged to us by the publishers. Those choosing book premiums will, of course, be guided by prices given this month, and not by any previous list.

Pray Don't Send Seed Envelopes to Albia, Iowa!—The directions were full and explicit, yet the Postmaster at Albia (whose office chanced to be taken merely as a model) writes us that many envelopes for seed are being sent to him, instead of to us.

To Correspondents.—It is a growing custom, and one which we do not admire, to make several copies of a communication and send them to the different agricultural journals. It is but fair, when this is done, to indicate to each that it has been sent to other papers.

Write Briefly.—We again repeat that we cannot publish long dissertations. We are always grateful for facts and records of practical experience, but a page of real information is not improved by a preface of two pages of general remarks, and then a long ending.

Postage Only Six Cents a Year.—Complaints still come of over-charges. Will Postmasters please turn to Section 117 of the "Regulations" furnished to them by the Department for their guidance? It is there plainly stated, that the **Quarterly** postage on Periodicals weighing 3 ounces and under, sent to any part of the United States, is on **monthly** issues only 1½ cents, N. B.—This is 1½ cents per quarter, not per number. We only pay paper-makers for 2¾ ounces in each number; they certainly would not furnish over "3 ounces" except in a chance thick sheet, made in starting the mills.

Strawberry and Other Exhibitions.—We briefly announce now, that there will be several Exhibitions at the office of the *American Agriculturist*, the present year, with prizes offered, similar to those held last season; say one of Strawberries in June, and probably one of Pumpkins, Squashes and Gourds in Autumn, and perhaps exhibitions of Roses and other Flowers, of apples, pears, grapes, etc., and of several kinds of vegetables. We have been too busy to arrange the matter, and merely make this announcement now, that growers may be thinking over the matter, and offer any suggestions they have to make. Further particulars next month.

Back Volumes and Numbers.—To many inquirers.—Any full volume of the *Agriculturist* from XVI to XXI, can be supplied in numbers at \$1.00 (or \$1.12 by mail.)—If bound \$1.50, (or \$2.00 if by mail.)—Any single numbers from 1857 to the present time will be sent post-paid for 10 cents each. (No German copies on hand, prior to July 1858.)—Numbers lost by Mail supplied free.

"I Don't Get the Paper."—"A week ago I sent you my subscription for 1863, but I don't get the paper."—The above is an exact copy of a letter from Western Illinois, dated Feb. 10. On examination, we found the subscription letter dated Feb. 3, mailed according to the post-mark on Feb. 5; it reached us Feb. 10; was that day placed on the entry-book; and on Feb. 11 the wrapper was written, and the January and February numbers mailed on the evening of the same day. If they went as fast as the letter came, they would reach the subscriber on Feb. 16, six days after his second letter, though papers generally go slower than letters, often much slower. Such is one case, and we have had many similar ones. There are always difficulties occurring, notwithstanding the utmost care and promptness on our part. Sometimes, but not often, the first papers sent fail

to reach subscribers, through carelessness in the mails. Very often a subscriber writes: "Send my paper the same as last year," without telling *where*. Probably one out of ten of all the letters in the country, no matter by whom written or where sent, are simply dated at the P. O., the State being omitted. Our clerks have spent hundreds of hours in studying out the postmaster's stamp, or as that is very often illegible, in looking over the mail-books to find which State a letter came from. If from an old subscriber, this is found; if not, not; and then comes a scolding letter, ten chances to one with the State again omitted, from the general habit of omitting it. We have on file several letters containing money, on which there is not the slightest indication, inside or out, as to where they came from, or who sent them. Such are some of the difficulties we, in common with other publishers, labor under, and we only speak of them in excuse for *apparent* neglect and want of promptness. It is hardly to be expected that some mistakes will not occur on the part of the *writers* of so many letters. On an average, we have received a subscriber every forty-seven seconds of working-time (10 hours a day) since last November. These names, with the Post-Office address of each, have been picked out of the letters, placed on the entry-books, and transferred to the alphabetical mail-books, and so far not twenty errors have been made when the name and address are fully and correctly sent.

Horn Ail in Cattle.—Albert D. Rust, Montcalm Co., Mich. Horn Ail, or "hollow horn," as it is sometimes called, is a symptom or accompaniment of disease, and not a distinct malady. It often results from severe catarrh. Any disease that greatly disturbs the circulation of blood will produce coldness at the extremities, and severe inflammation about the head would be likely to affect the inner structure of the horns. Remedies should be applied to the seat of the disease. Boring the horns is condemned by our best veterinary authorities.

Hatching Chickens.—S. D. Ingraham, Brown Co., O. Bement's American Poulterer's Companion gives an account of the various contrivances for hatching by artificial means. We are not aware that machine hatching has been successfully done on a large scale. The great difficulty seems to be to raise the chickens after they are hatched. They flourish best when they have the care and protection of the mother hen.

Tobacco in Maine.—H. N. K. writes to know if Havana Tobacco will come to maturity in Maine. We do not know. Probably it will in favorable locations, if started early. Some one else can perhaps answer more definitely.

The Chick Pea.—"Querist," Worcester Co., Mass. We do not know where Wood gets his authority for stating that the Chick Pea is poisonous. It has been used as a food in the old countries for centuries, and we have frequently eaten it in Mexico, where it is an article of consumption, and never heard of its being hurtful. We do not know the "Indicator" you refer to.

Chinese Yam, (*Dioscorea batatas*).—Abner Smith, Pottawatomie Co., Kansas. It is hardly worth while to give the chapter you ask on the cultivation of this plant, as it has been generally abandoned, and never had many claims upon public attention, except in the statements of those speculating in the roots. Planted on very deeply-worked, rich soil, it sometimes does well, but as a rule it seldom pays the expenses of digging.

Sweet Potatoes in Iowa.—Dr. J. W. Smith, of Floyd Co., Iowa—about 43 degrees of latitude—raised three bushels of Sweet Potatoes last year, and with only ordinary cultivation. He obtained the plants May 31, and dug the crop early in October. Some of the potatoes were as large and fine as any grown in the country. The soil was a sandy, prairie loam, resting upon a sand subsoil.

Bitter Pumpkins.—Joseph Philbrick, Bloomfield, Me., writes us that he has raised a hybrid between the common pumpkin and a small "fancy gourd," which had an intensely bitter taste. Those who raise ornamental gourds should not grow them where there is danger of their mingling with squashes or pumpkins.

Covering Strawberries.—Wm. R. Morgan, Harford Co., Md. The largest grower of Strawberries to our knowledge, covers his vines with straw, threshed with a flail. In the Spring the straw is parted so as to uncover the plant, and left on the ground as a mulch, and to keep the fruit clean.

Tan for Hotbeds.—"Querist," Worcester Co., Mass. This as it comes from the tannery is too wet

for use; it should be moist, but not wet. After it has dried sufficiently it is thrown into a heap to ferment, occasionally shoveling it over to admit air. It takes a month, more or less, to bring it into heat. Mixed with manure it heats sooner, and is more lasting than manure alone. Hemlock bark is considered about one-third less valuable than oak bark.

Currants—Best Kinds.—J. B. Welch, Winona Co., Minn. The old Red Dutch, White Provence, La Versailles, and Cherry, are among the best sorts.

List of 1,600 Dwarf Pears.—Geo. R. Underhill, of Queens County, N. Y., (near Oyster Bay.) submitted to us a list of 1,600 Fall and Winter Dwarf Pears, which he prepared to plant for market purposes. We laid the selection before the Fruit-Growers' Meeting, and there was a general concurrence in the opinion that it was a judicious one, excepting that it is not necessary to double-work the Flemish Beauty. The list is: "100 Flemish Beauty (double-worked); 100 Louise Bonne de Jersey; 100 Beurre Bosc, (double-worked); 400 Duchesse d'Angouleme; 200 Beurre d'Anjou; 150 Beurre Diel; 50 Urbaniste; 50 Beurre Superfin; 100 Beurre Clairgeau (double worked); 200 Vicar of Winkfield; 50 Beurre Gris d'Hiver Nouveau; 50 Doyenne d'Alencon; 50 Beurre Langelier.

Balsam Poplar.—Wm. McJunkin, of Alleghany Co., Pa., sends us the pods, and asks us what is the cause of the cotton upon them, and why it had not appeared previous to 1862. The cottony hairs are a natural attachment to the seed, and aid in their distribution by the winds. They were not seen in other years because the trees for some reason failed to perfect their fruit.

Basket for Picking Fruit.—Sometime since we received from Messrs. Monroe Brothers, Fitchburg, Mass., a specimen of a basket which is quite convenient for gathering, or rather for emptying fruit, without bruising. The top is round, but the bottom is carried down square, and is closed by two thin boards. These are hung on hinges at the four corners, so as to close the bottom, or drop down and leave it open. When closed they are kept so by a double wire which passes up through the centre of the basket, and is held to the middle of the handle by a catch. When the basket is filled it is let down into a barrel, or other receptacle, and by slipping the catch the bottom boards drop down and discharge the fruit without the bruising incident to pouring out, or the labor of transferring fruit with the hands.

Fitting Sap-Spouts.—D. Coon, Waushara Co., Wis., writes to the *American Agriculturist* that Sap-Spouts can be very readily fitted for insertion, by using a hollow auger, such as wagon-makers have for boring tenons on the ends of wheel-spokes. He makes the tenon on the spout half an inch long, with a square shoulder to fit against the tree, which prevents leakage. Before tapping, the rough outside bark is shaved from the trunk. The remaining bark is about one-fourth of an inch thick, so that the spout enters the wood only about a quarter of an inch. This gives almost the whole surface of the cut for the sap to escape from.

Water in Lead-Pipes.—A. E. Groff, Owings Mills, Md. We cannot say whether it would be safe to conduct the water through lead pipes without knowing its quality. Very pure water readily acts upon lead. But very little spring, or river water even, is so pure that it may not be safely conducted through lead. Cement pipes are perfectly safe.

A Mild Winter in Indiana.—E. W. Weir, of Lagrange, Ind., sent us specimens of violets and pansies in bloom in the open air, on January 26th.

Home-made Linen.—"M. A. H.," Marshall Co., Iowa, counsels the ladies to leave the piano for the spinning wheel and the loom, to manufacture linen to take the place of cotton for home consumption. This may be advisable in some remote sections, but manufactories already established will do the work better and cheaper, provided farmers will keep them supplied with the raw material. There is usually work enough for the females of every household, without adding spinning and weaving to their labors.

The Address of Soldiers.—Mrs. H. H. D., Windsor Co., Vt. The various regiments of our armies are so constantly changing their location that no one outside the War Department can give the precise position at any time. The best way to address a friend in the army, whose place is not known, is to put upon the letter his name, company, and No. and State of the regiment, and address it to "WASHINGTON, D. C., or else-

where." It will then go to Washington, and be there put into the regimental box, to be forwarded.

Yankee.—S. B. Walton, Harford Co., Md. This word is said to be derived from the attempts of the Indians to speak the word English, which they called Yenghees and Yanghees.

The Short Horn Herd Book.—The Editor of this work (Hon. L. F. Allen, of Black Rock, Erie Co., N. Y.,) writes February 9th: "Your notice of the Herd Book, on page 37, of February *Agriculturist*, partially misapprehends my intention as to publishing 6th Volume Herd Book. It will be published, as usual, if pedigrees enough come in to warrant it, of which I have little doubt, judging from the numbers that I daily receive for record. No time should be lost in forwarding them, that I may proceed with their compilation. I shall probably hold open the work long enough to embrace the Spring increase, provided they be seasonably sent to me. There never was a better time for our cattle breeders to improve and increase their Short Horn herds than now. The demand for them must soon revive, and those who have choice and sufficient stock will reap the advantage."

Practical Notes on Onion Culture.—Several new subscribers inquire "what is the pamphlet on Onion Culture referred to in our columns?" Some time since we offered a premium for the best practical treatise on onion culture, to embrace all items from furnishing seed to marketing the crop, to be written by experienced growers. A large number of good articles were sent in, and after the awarding of the prize by the Committee, we selected seventeen of the best, and printed them in a book or pamphlet of 32 pages. This contains the plain, practical directions of seventeen cultivators, residing in different parts of the country, and is undoubtedly the best source of information to be found on this topic. It is sold, or sent post-paid for 21 cents, (or seven 3-cent stamps—or two 10 cent currency notes will answer.)

"The Employment of Women."—This is a subject of great importance just now. A million men are in the army, and what shall be done by their wives, widows, daughters, and female friends who have hitherto depended upon them? We are glad to announce a really valuable book on this very topic, prepared by Miss Virginia Penny, who has devoted several years to a careful and laborious investigation of the question, and has collected a vast amount of really useful information, which is condensed into a volume of 500 pages. It is a sensible book; is not filled with a diatribe upon woman's rights and woman's wrongs, but goes right to the point, and shows what women are doing, and indicates the branches of labor and business where they are not now employed, but in which they might take the place of men, in part at least. Instead of being called a Cyclopædia of *Woman's* work, it might be entitled one of human industry, for there is scarcely an occupation upon which it does not contain some interesting information. The different employments, the terms of apprenticeship and rate of wages are given, as well as the relative demand and supply of each kind of labor. We pleasantly passed some hours in turning over its pages, and wonder at the industry which collected such a mass of information, and admire its plain and unassuming style. We believe that the author has done a good work in presenting this book to the public. We esteem the book so valuable that we have placed it in our list of books for premiums, and on sale at the office. Price \$1 50. (including postage, when sent by mail.)

"Wool Grower."—J. S. Johnston, Lawrence Co., Pa. A paper with the above heading was published for some time and then discontinued. Recently it has been revived.

"A Million Postage Stamps."—"G. W. K.," Penn. The collection of a great number of different kinds of P. O. stamps, one of each, has been undertaken by several persons as a matter of curiosity; but the collections of a million referred to in your letter, and in three other reported cases, are no doubt for bad purposes. The parties buying them select the best and wash off the ink carefully, so as to use them again. If they save and use only one out of every ten 3-cent stamps, they make three thousand dollars, and can well afford to give \$200 to some Sunday school or other benevolent object as a blind. All such persons should be promptly reported to the Post Master General at Washington.

Erysipelas.—"M. A. G." writes that a strong infusion of Indian Tobacco (*Lobelia inflata*) in vinegar, applied to the part affected, will allay the intense burning which accompanies this disease. Erysipelas is too formidable a disease to be treated in domestic practice, and we give the suggestion without recommending it.

Is Old Seed Wheat Best?—Daniel J. Banta, Dubois Co., Ind., writes to the *Agriculturist*, that he has been experimenting upon the wheat crop, and among other things finds that seed one year old brings the best crops. It is said, by pretty good authority, that cucumber seeds several years old will produce less vines and more fruit, but this is the first similar statement we have seen with respect to wheat. A considerable number of observations in different localities and under a variety of circumstances, will be needed to settle the question. Who have any facts to put on record?

Wheat Insects.—E. D. Hewit, Columbia Co., Wis. We can not tell what the insects are without seeing them. They can be sent by mail in a box.

Lister's Superphosphate.—Solomon S. Mead, of Fairfield Co., Conn., sends a lengthy account of experiments with manures, which we have not room for. The gist of the matter is, that in all his trials the superphosphate made by Lister Brothers, and ground bones from the same source, have given excellent results. In comparative plots of corn in the same field with equal quantities of this superphosphate, and "Flemish Manure," the superphosphate gave the best results by at least 25 per cent. As this superphosphate is honestly made, we believe, and is made nearly or wholly of unburned bones, simply dissolved in sulphuric acid, we should look for good results from its use. We applied it pretty freely to a plot of oats last year, but were not at home to watch the effect. The man in charge complained that, it was "too good," causing the straw to grow so large as to fall down.

Specimens of Grass.—Andrew S. Nash, a young farmer of Westport, Conn., has brought us a collection of the grasses of his vicinity. We are always glad to see young people, especially young farmers, take an interest in the common plants and objects about them. They will find that there is enough to study without traveling far for material.

When to Sow Millet.—Robert F. Roberts, Racine Co., Wis. Hungarian and other millet may be sowed in Spring at about the time for planting corn, and up to June 10th or later, if for fodder. The Mammoth variety promises to be the most prolific. It is on our list for free distribution in small parcels as a beginning.

Paper from Straw.—Coarse paper has long been made from straw, but the process is now so perfected as to produce a white and strong article. Some of the daily papers in this city are printed on straw paper, and we have been shown samples of excellent writing paper from the same material made by Mr. L. W. Wright.

Corn for Fuel.—The Nebraska Farmer says that corn is extensively used for fuel in some parts of that State. Two bushels of corn are considered worth one bushel of coal, and with corn at 10c. and coal 20c. per bushel, farmers think they may as well use the grain as the mineral fuel. The economy of burning corn was discussed at length in February *Agriculturist* last year.

Cotton Samples.—We have received by mail, samples from Charles Peters, Athens Co., Ohio, and O. P. Williams, of Portage, Wis. The latter thinks that it should be grown as an ornamental plant even where it will not ripen. We have distributed seeds for ornamental purposes several years, and keep it on our list.

Cotton in Utah.—E. H. Howard sends us from Great Salt Lake City, a sample of the cotton grown in Utah. The quality is not quite equal to that we have seen from Illinois. About 200 acres, in Washington Co., were in cultivation during the past season, and gave an average yield of 375 pounds to the acre.

New Cotton Substitute.—Small samples of fiber and cloth made from "China Grass," have been placed on our Exhibition Tables by Messrs. Wright & Whitman, of Boston. The fiber has a very silky appearance, and takes color well. There is also a specimen of the raw material which, though it is called grass, is the product of one of the nettle family, *Boehmeria nivea*. We are not aware that it has been introduced into this country. It is largely cultivated in India, and has been raised in the Royal Gardens at Kew, near London.

Three Crops of Peas in a Season.—E. L. Watts, LaSalle Co., Ill., writes that he sowed the Daniel O'Rourke pea, obtained from the *Agriculturist* distribution, April 10th, and had them in bloom by the 15th of May. Some of the ripened peas were scattered on the ground and produced a second crop, and from the seed of these he had green peas by the middle of September, some of which ripened, making the third crop.

Chicory.—Solon Robinson, Esq., has placed upon our Exhibition Table fresh roots of chicory, and the same article sliced and dried ready for roasting. It is largely used as a substitute for, or to mix with, coffee, but for reasons often given, we can not commend its use.

Hubbard Squash.—S. M. Bell, Rush Co., Ind. It will not do to plant this among corn. If you wish a crop, it must have the ground all to itself, and the soil must be well manured. It is one of the very best sorts.

Squash Worms.—Mrs. C. C. McGinnis, Clinton Co., Ill. Your Hubbard Squash vines were destroyed by the squash bug (*Coreus tristis*). Plant the seeds in well manured soil to insure a vigorous early growth. Look them over in the cool of the morning to find the bugs, which at that time are very quiet. A little vigilance exercised in time will free you from their ravages.

A Paying Crop of Onions.—Hanson Orday, of West Newbury, raised half an acre of onions which yielded at the rate of over nine hundred bushels to the acre. Corn land was manured the year before with ten and-a-half cords of barn yard manure, which was plowed in 5 inches deep. In the Spring it was treated with 100 bushels of leached ashes, cultivated and harrowed, and raked. The crop, which took a premium from the Essex Agricultural Society, cost \$60.50, and sold (at 1 cent per lb.), for \$251.40,—a handsome margin of \$170.90.

Salt Around Fruit Trees.—M. Foster, Jr., Essex Co., Mass. Two quarts of salt can be safely spread around a pear tree, and frequently with good effect. Let it extend to a distance of ten feet from the trunk. For small trees a less amount is sufficient.

Books on Evergreens.—B. Albertson, Bucks Co., Pa. We know nothing of the work by Brown, to which you allude. The last edition of Downing's Landscape Gardening is out of print. Warder's Hedges and Evergreens contains brief descriptions of the latter. It is in our list of books; see advertisement.

Kitchen Garden in an Orchard.—W. Hendry, Conestoga, U. C. Vegetables may well occupy the ground between rows of young trees; but when the roots extend and need the ground, let them have it; good fruit will pay as well or better than vegetables.

Peach Borer Remedy.—M. Kelly, Fayette Co., Ind., advises to remove the soil for two inches in depth, about the trunks of peach trees, thus exposing the track of the worms. With a sharp knife, or pointed instrument, follow the worm path, which usually goes around the tree, and kill every borer. By attending to this in Spring and Fall, nearly all the trees can be saved. An expert hand can worm 50 or more trees in a day. Of course the earth should be returned about the trees.

Worms at the Roots.—Mrs. Jas. P. Bogardus, Sullivan Co., N. Y., and Mrs. C. C. McGinnis, Clinton Co., Ill. These pests are the larvæ of small flies, and are often so numerous as to quite destroy certain crops in the garden. The only remedy is to replot the plants with soil from another locality. By turning the ball of earth out of the pots and placing it in a pail of water, the soil may be washed out without much injury to the small roots. See that the roots are entirely free from the worms and replot with fresh earth.

Osage Orange Seed.—Wm. Polly, Dark Co., Ohio. In Texas, the source which formerly supplied the most of the seed, it is cleaned by allowing the balls to rot and then washing out the seed.

Grapes for Australia.—James Gamage, Fairfield Co., Conn. It is impossible to tell what grapes will succeed best in Australia. We should advise taking but a small stock of Catawba, Delaware, Concord, and Creveling. Probably you will find some good wine grapes under cultivation there, better adapted to the country than any you can take out with you.

Pruning Grape Vines.—J. Sutton, Bonaparte, Iowa. You did quite right with regard to your vines. In pruning always cut to a bud. Although a branch may come where there is no visible bud, it is not safe to trust to its doing so.

Cranberries.—Wm. Kramer, Dayton, Ohio. We have no facts concerning the culture of the cranberry on dry land, away from the sea-shore. Its success even there is not well established.—"Sucker." Your slough would no doubt make a good cranberry patch if

you have the means of flowing the land during a part of the year—an essential to the successful culture of this fruit.

Treatment of Flowering Shrubs.—Lulu S. Lauber, Lancaster Co., Pa. Unless it is desirable to obtain seed, the flower clusters should be removed as soon as their beauty is past, or much of the energy of the plant will be expended in maturing useless seed.

Chrysanthemum on a Rosebush.—Mrs. James, Harrisonville, Me. We can not undertake to account for an alleged phenomenon without seeing it. While it no doubt appeared that a rosebush bore a chrysanthemum flower, we have no doubt that there is a mistake somewhere. If a like phenomenon should occur another season, please let us see it by all means.

Bridal Rose.—M. S. Shaler, Broom Co., Wis. Your "rose," really a kind of double blackberry, probably needs repotting. Prune severely and replot in rich earth.

Flower Seeds.—S. M. Bell, Rush Co., Ind. We can not tell why your seeds did not come up, without knowing how they were planted. The most common causes of failure are sowing too deeply and sowing too early, before the ground becomes warm enough to make them germinate, when they may rot or lose their vitality.

Things in Center Co., Pa.—A "Subscriber of the *Agriculturist*," writing from this County just at mid-winter (Jan. 14) says: "A most remarkable Winter we are having; no cold weather, hence no ice for ice-houses or skating; very little snow, hence no sleighing; no rain, hence almost no water in our wells and springs; it has not been so dry for many years. Our last wheat crop was good; our corn rather poor; our oats destroyed in some places by army worm; our potato crop below the average, but not rotting; our fruit pretty good; our Union men patriotic; our Secessionists rabid; our volunteers more than the quota; our ladies agreeable and pretty (we think)."

Bees in a Chimney.—L. W. Leake, New-York. In the case of bees making a permanent residence in a chimney, Mr. Quinby says there seems to be no other way but to remove enough bricks near their locality to reach them, quiet them with tobacco smoke, and remove the combs. If it be desired to save the bees, place the brood combs with the bees on them, as near as possible in a natural position, in a hive bottom up, where the bees will soon fasten them; then turn the hive over. The proper season for this would be, after flowers have appeared in Spring, that the bees may repair all damages and continue labor in their new home.

Grain Aphis in 1862.—W. Hendry, Conestoga, U. C. The grain aphis appeared in the same localities in 1862 as during the previous year, and also was found over a much larger extent of country.

Cut Worms.—"G. A.," Harrison Co., Ohio, writes that he has seen the cut worm turn into Hessian Fly. We have no doubt that he has seen some kind of a fly produced from the chrysalis of some kind of a worm. What is generally known as the cut worm, produces a kind of moth or miller, while the proper Hessian fly is not the large, long-legged, yellow fly he describes, but a little fellow not more than an eighth of an inch long.

Drainage.—R. F. Roberts, Racine Co., Wis. This subject was treated at length in several chapters in the volume of the *Agriculturist* for 1861.—French's Farm Drainage is a work devoted to the subject, which may be had at this office for \$1.25.

Corn Brooms.—J. M. Martin, Lewistown, Pa.—In the Jan. and March numbers of the *Agriculturist* for 1860, two illustrated practical articles upon this subject were published. If you have not the back volume we can supply it, or these two numbers, at the usual rates.

Water Lime.—J. Dunn, Jr., Pa. Hydraulic or Water Lime is made from a kind of limestone which contains a considerable amount of magnesia, silica, etc. It is also known by the name of Hydraulic Cement, and is the kind used for lining cisterns, or for similar purposes.

Good Drink for Summer.—David H. Harris, Rock Island Co., Ill. We know of nothing better for a summer drink than pure, soft, cold water. In a limestone country where spring and well water is hard, or where from any reason good water could not be obtained otherwise, we should use a filtering cistern. One form of construction is described in this number, page 73.

The Demarest Sewing Machine.

To many inquirers. From what we have seen of it, we think this machine may be useful to dressmakers, or those who have much sewing to be done with a running stitch, on very thin fabrics, such as poplins, bareges, &c., but it is not adapted to general family work, such as sewing sheetings, the thicker calicos, or any heavy work.

Post Office Department "Not Guilty."

It would hardly be surprising that in sending 100,000 letters, there should be a few errors, but in view of the great number of defective letters received, we, as well as other publishers, are led to acquit the Post-Office Department of many of the sins laid to its charge. This very day we received a letter from a distant town to which it had been wrongly directed; another from the dead letter office, whither it had been sent and opened, from want of any proper direction on the outside; also two money letters entirely unsealed, but with the money all safe, however; it had passed through honest hands, and had not fallen out; also a notice from a Wisconsin Post Office, that there was a letter there for us "held for postage." The receipt of such letters are of very frequent occurrence.

The Farm for Sale, advertised in this paper, is worth looking after, we judge from the statements of the owner who informs us that it came into his hands rather against his will, he having to take it to secure some money loaned. Any one thinking of purchasing will, of course, in this case as in all other similar cases, make careful personal examination of the character of the soil, the location, the buildings, title, etc.

A Profitable Cow.—D. M. Hays, Fayette Co., Mich., writes that he has a three-quarter Durham cow, fourteen years old, which has given an average of ten quarts of milk per day, for twelve years, with the exception of two months. She has had only three calves. The youngest of these is now six years old, yet the cow at the present time yields six quarts of milk per day.

Cause of Crib-Biting.—A. S. Fradenburgh, Dutchess Co., N. Y. Horsemen differ as to the cause of crib-biting; some think it a mere habit, resulting from idleness in the stable, or learned from other horses. We incline, however, to the opinion that it proceeds from indigestion. The animal seems desirous of repelling gas from the stomach; this is a common symptom of dyspepsia. Hearty food, with insufficient exercise, and want of pure air will ultimately derange the stomach, and thus perhaps induce the habit of cribbing. The remedy in such cases would be to restore the stomach to its proper condition by giving good air, exercise, change of diet, and perhaps the use of some mild tonic.

Plank Floors and Sweeney.—David L. Phillips, Cuyahoga Co., O. Sweeney in horses is a shrinking of the muscles of the shoulder, induced by some injury which has prevented those parts from receiving their proper share of the circulation. Plank floors alone would hardly cause sweeney; but if there should be lameness or other ailment which might result in that difficulty we should prefer a well littered flooring of earth for the horse to stand upon.

The Best Bee-Hives.—D. M. Allen, Geauga Co., O. The makers of all bee-hives claim superiority for their own; we can not say which is absolutely best. Langstroth's is undoubtedly good. They can be made of any size desired. Success in bee-keeping depends more upon proper attention to the stocks, than upon the hives in which they are kept. Improvements in hives are mainly to facilitate the operations of the bee-keeper.

Tree Monuments—A Tree for Every Child.—A French Journal says that, at Thourrette, in the Department of Ain, the Cure (priest), who is nearly 80 years old, has always insisted, for at least for 30 years past, that for every child baptized by him, the parent should plant a fruit tree of some kind. The result is, that this Commune, though formerly very unproductive, now presents the appearance of an immense orchard. That Cure deserves a monument—indeed he has many of them.—The day the writer was born, a willow slip was struck into the soil in the yard in front of the log cabin. When we last saw it some years ago, it had a trunk so large that two men could scarcely embrace it, and a mass meeting could gather under the shade of its wide spreading branches. (With some of us it was not a favorite in childhood; its long slim twigs were rather too convenient on certain occasions.) When we were in college, it was proposed that the members of each successive class should plant a tree on the "campus" or college grounds. The result was, a large collection of fine shade trees, that will

yield refreshing shade for generations to come. Perhaps our own sons, and sons' sons, may find shelter under the tree planted there by the hand that writes this. We commend the hints above, to parents, and to students in institutions of learning, not excepting those in the public schools.

Catalogue of Fruits.—The Amer. Pomological Society has issued the report of the Committee on the revision of the Society's catalogue, which embraces reports from State Committees, by districts. Against the names of the different fruits are marks showing in what districts each one is recommended. The work is valuable, and we hope it will be accessible to the public. Will President Wilder please inform us on what terms copies can be obtained by those desiring them?

The New "National Almanac,"

just published by Geo. W. Childs, Philadelphia, is a very complete and useful volume, containing, within its 700 closely-printed pages a vast amount of statistical and other information. It gives very full details of the different departments of the Government, the army, navy, &c.; the same of the individual States; abstracts of public laws, excise tax, tariff, records of public events, religious and educational statistics, etc., etc. Price \$1 50.

Harris' Insects.—"A Treatise on Some of the Insects injurious to Vegetation; by Thaddeus Wm. Harris, M. D., etc."—Two editions of this important work were published during the author's life, but under State auspices, and it was with difficulty that any copies could be obtained by the public. It was a capital idea in Mr. Chas. L. Flint, Secretary of the Massachusetts Board of Agriculture, to bring out an edition under circumstances which will insure a supply equal to the demand. It is published by Messrs. Crosby & Nichols, of Boston. Under the editorial supervision of Mr. Flint, the third edition is enlarged and improved, with additions from Dr. Harris' manuscripts, and with original notes by the editor. It is illustrated with many engravings drawn from nature, under the superintendence of Prof. Agassiz. The work contains 640 pages, and is published in three forms—one a superb edition, on tinted paper, at \$6; one on plain paper, with colored plates, at \$4; and one with uncolored plates, at \$3 00. In this work, in his original works on Grasses, on Milch Cows and Dairy Farming, etc., and in his constant energetic labors as Secretary of the Massachusetts Board of Agriculture, Mr. Flint is doing good service to the cause of agricultural progress.

Death of Grant Thorburn.—This well known seedsman and florist died on the 20th of January, at New-Haven, Conn., at the advanced age of 90. He came to this country when quite a young man, and was for a long time the leading florist in this city. His publications and his occasional contributions to the papers are full of interesting reminiscences of the New-York of our grandfathers. Mr. Thorburn retained his health up to the time of his death, and attributed his freedom from illness to obedience to the laws of health, and temperate habits.

Death of an Eminent Horticulturist.

Dr. W. D. Brincklé, died at Groveville, N. J., on the 16th of December last. Dr. B. occupied a prominent place among the pomologists of the country, and was Vice-President of the Pennsylvania Horticultural Society, and one of the leading members of the American Pomological Society. The writer well recollects how his first visit to the horticulturists of Philadelphia was made pleasant by the genial courtesy of the Doctor, who seemed full of enthusiasm for everything connected with his favorite pursuit. He originated a number of fruits from seed, and his name is especially identified with the Brincklé's Orange Raspberry. The President, Cnpe, Wilder, and other Raspberries, originated with him, and he was the means of bringing many of our valuable native fruits into notice. In England such a man would have a statue erected to his memory, and we hope that in this country some memorial will acknowledge the services of such public benefactors as Dr. Brincklé and all others of his class.

N. Y. State Agricultural Society.

The Annual Meeting on Feb. 11 was interesting with discussions on various questions, addresses by the acting President, Cornell, and others. Officers elected for 1863: President—Edward G. Faile, of East Chester, Westchester Co.; Vice-Presidents (One for each Judicial District.) 1. James B. Johnson, of New-York; 2. Samuel Thorne, of Washington Hollow, Dutchess Co.; 3. H. Wendall, Albany; 4. C. Boughton, Saratoga; 5. E. Merriam, Leyden, Lewis Co.; 6. E. J. Hayes, Unadilla; 7. B. M. Baker, Rochester; 8. T. C. Peters, Darien. Executive Committee—Jas. O. Sheldon, Geneva; Samuel Campbell, New-York Mills; D. D. T. Moore, Rochester; J. McGraw, McGrawville; Oscar Granger, Saratoga. Cor-

responding Secretary—Col. B. P. Johnson, Albany. Recording Secretary—E. Corning, Jr., Albany. Treasurer—L. H. Tucker, Albany.

Conn. State Agricultural Society.

—The Officers for 1863 are: President—Ephraim T. Hyde, 2d, of Stafford; Vice-Presidents—Robbins Battell, of Norfolk; D. F. Gulliver, of Norwich. Corresponding Secretary—T. S. Gnd, of West Cornwall. Recording Secretary—W. W. Stone, of New-Haven. Treasurer—F. A. Brown, of Hartford. Chemist—Prof. Samuel W. Johnson, of Yale Agricultural Department, New-Haven. Directors—Benj. H. Andrews, New-Haven Co.; Chas. M. Pond, Hartford Co.; Henry Bill, New-London Co.; Eliakim Hough, Fairfield Co.; Benj. Sumner, Windham Co.; Lemuel Hurlburt, Litchfield Co.; Henry L. Stewart, Middlesex Co.; B. R. Chamberlain, Tolland Co.

"Shall we Contract our Wool?"

So ask a considerable number of subscribers to the *Agri. culturist*. They inform us that already a considerable number of buyers are circulating through the country, offering to contract for the next clip at prices which would, until recently, have been considered very high. Wool is now selling in this market for 65 to 90 cents per pound—the coarse long grades almost as high as the fine qualities. (For latest prices, see our market reports.) It is claimed by those offering to contract, that the present rates will not continue. They may not, but they are as likely to go higher; it will depend upon the state of the currency. If gold continues at its present premium, or goes higher, wool will go up. There is not wool enough produced in the country to supply the home demand, and it cannot be imported at the present prices, while exchange stands at 170 to 175, as now, and the high duties must be paid in gold or demand-notes, which are 50 to 60 per cent., or more, above the currency. (The high tariff is certainly benefiting farmers now, if never before.) We can hardly advise, for we know not what changes in the currency may result from the legislation now under discussion in Congress. Those offering to contract for wool are likely to be best informed as to the prospects of the market, and if it will pay for them to contract, will it not be as likely to pay farmers to hold on to it?—There is another item to be taken into account. If wool goes up in price, the contractors will be sure to call for it. If it goes down, will they be as certain to do so—especially those irresponsible, peripatetic buyers who perhaps can not be found when wanted, unless it is for their interest to be on hand? If we contracted at all with any person not a resident, and not known to be responsible, we should certainly require a payment down of at least one-fourth. All contracts should be plainly stated in writing, and a duplicate copy, signed by both parties, be retained by each.

A Work on Tobacco Culture in Progress.

In response to the offers last month (page 39), a considerable number of essays have come in, and notices of many more in preparation have been received. We are therefore able to announce that a sufficient number of the best of the articles will be put in type, as soon as they can be selected, after March 1st, to make a neat, practical treatise of at least 32 pages, containing the plain directions of a large number of growers in different parts of the country. It will undoubtedly be the best available source of information on the subject of tobacco culture. The price will be about 25 cents per copy. Those desiring the work can send their orders, which will be filled as early as March 15th, and perhaps before that time. In an article on page 83 we give directions for all work needed to be performed before the printed essays will be ready.

International Agricultural Exhibition.

An Exhibition of stock and agricultural products of all kinds, and agricultural implements and machinery, will be held at Hamburg in July, from the 14th to the 20th, inclusive. The premiums offered are liberal, and are open to general competition. The city of Hamburg is readily accessible from the great agricultural districts of Europe, and as the German agricultural societies, as well as other European societies, co-operate with the Local Committee, there is every prospect that the Exhibition will be an important one. No machinery will be allowed on exhibition which is not directly or indirectly connected with agriculture. It is hoped that our inventors and manufacturers of agricultural implements will see that this important branch of American industry is well represented at this exhibition. Not only our reapers and mowers, and such large machines, have

Rough Roads.

That these are unpleasant to ride upon, no one will deny. They torture a rheumatic or nervous man beyond peaceful endurance. They obstruct business, they interfere with sociability between neighbors, and with that well-known enjoyment which comes from riding, whether in carriage or saddle. They make horse-life painful; and, more than this, they are expensive. Ask any observing man who has lived in different parts of the country, and he will testify that wagons last much longer in light, sandy soils, than in clayey or stony lands. When a fast-moving vehicle strikes a stone, it receives a serious blow. The tire is battered,

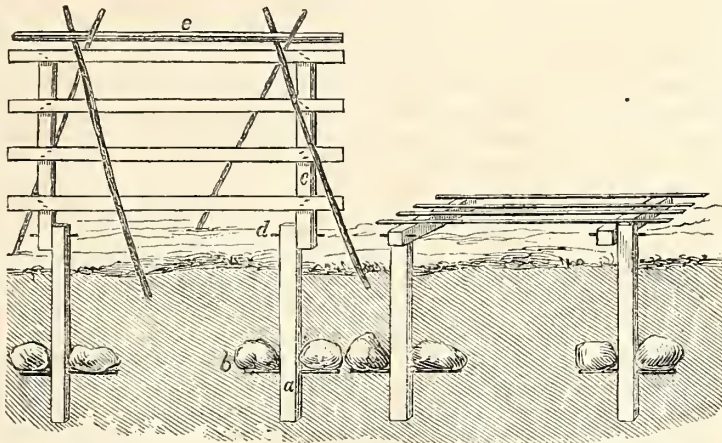
joints are started, the harness strained, and the horse strained too, if not the rider. Now suppose such shocks repeated several times a day, and throughout the year, the result must be something important. At least, so the bills at the blacksmith's and the harness-maker's will testify.

One who is tolerably quick at figures, might reckon the cost of a single fixed stone in the highway for a year. And if of one stone, what of many thousands? An estimate of the cost of stony roads to this State was once made by a writer in the Albany Cultivator, substantially as follows: There are 60,000 miles of public highway in the State, 50,000 of which are more or less stony. It would cost about \$25,000 a year to clear out the stones. The aggregate value of buggies and farm wagons is about \$60,000,000. If the roads were kept smooth and clear of stones, it would be a saving of about eight per cent. of wear and tear, or nearly \$5,000,000. Now, taking out the cost of cleaning the roads, it would leave us a gain of \$4,975,000, annually, a sum not to be despised in these dark days! [This estimate is an exaggerated one; less than half a dollar a mile is allowed for clearing up the roads; but make the cost average \$10 a mile, and the profit would still be very large. The moral of this is, that it would pay well for the inhabitants of every neighborhood to spend a few days annually, with crowbar and pickaxe, in removing imbedded stones, and in taking all loose stones from the roadway.—Ed.]

"Fining" Manure.

An English gardener of the writer's acquaintance makes a great deal of what he calls "Fining Manure." He means breaking up the lumps, tearing in pieces the long, strawy parts, and bringing it all into such a fine state that it can be thoroughly mixed with the particles of the soil. Having broken it up, he mixes it with ashes, leaves, sawdust, tanbark, and all the refuse of his garden, laying it up in thin layers. When it has become partly decomposed, he overhauls it, turning it over with the shovel, and making it one homogeneous mass. After the heap has lain a few months, it gets another working, when it is thoroughly "fined" and ready for use anywhere. He is a very successful gardener, and ascribes no small part of his success to this careful pre-

paration of his manure. Farmers and others may learn a hint from his example. It is plain that coarse, lumpy manure cannot benefit land as much as that which is broken up and finely diffused through it. One reason why liquid manure and guano act so efficaciously, is because they are so minutely divided among the soil.



Aydelott's Automatic Flood Fence.

A correspondent in New Albany, Ind., who signs himself "Q in a corner," sends an account of a fence that he saw on the farm of Geo. K. Aydelott Esq. in Mead Co., Ky. Every one who has had experience with fences upon lands liable to overflow in time of a freshet, will be glad to know of this simple and, according to our correspondent, very effective plan for fencing such places. The fence he saw was upon a steep bank of the Ohio River, where it was used for a lane by which the cattle went to the river to drink. It was of some 50 sections, had been in use for three years, and though it had been frequently inundated, it had not cost fifty cents for repairs. The structure will be readily understood from the engraving: the posts *a*, are of locust or cedar, 4 feet long, and about 6x3 inches; these are sunk three feet in the ground. Near the bottom of the posts, pins *b*, 2 inches in diameter and 2 feet long, are driven, and upon the projecting ends of these, stones are placed. These, with the earth well rammed in, serve to anchor the fence; the oak studs *c*, are 4 feet long, of 4x4 stuff, to which the slats of the fence are nailed, forming a section of the fence. The pins *d*, are of inch iron, and are put loosely through the lower ends of the studs and the upper ends of the posts, so as to form a hinge. The sections are kept upright either by braces, or by stakes with a rider as seen in the left hand figure. When the water rises, the supports break away or float off and the panel falls down, as shown in the right hand figure. (The joints are not engraved quite right.) It presents little resistance to the current, and remains safe until the water subsides, when it is readily set up again.

Benefits of Irrigation.

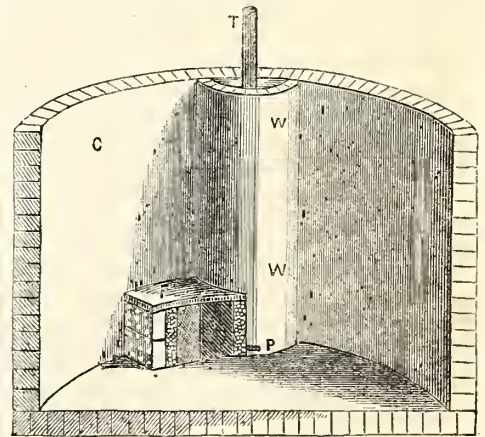
The benefits of irrigation, or conducting a stream of water over meadow or other land, are not, as some have supposed, confined to locations subject to drouth. It is not so much the water that the land needs, as what the water contains. Streams are not only fed by springs, but they receive much surface water, especially during violent showers, and long continued rains. In its passage over the soil, the water takes up, both mechanically and chemically, a large portion of valuable fertilizing matter. This can readily be seen when the

stream is turbid from recent storms. The best proof, however, of the presence of large amounts of such matter in running streams is found in the rich deposits of muck where the current of the stream is very sluggish, which allows much of the suspended matter to fall to the bottom. The accumulations in such places frequently become so great, as to change the channel of the stream, as is seen where deltas are formed at the mouths of rivers. Now if the water of a stream is made to rest a while upon a meadow, a large part of its impurities will be left just where they are wanted to fertilize the growing grass. This is the theory of irrigation as needed in most parts of this country. The manner of effecting it will depend upon the positions of the stream and fields. Hundreds of brooks that are now idling through the field, yielding nothing but an occasional drink to the cattle, might be made to contribute largely toward enriching the farm.

An Improved Filtering Cistern.

Several plans for filtering cisterns have heretofore been published in the *Agriculturist*, all possessing some good features, but not readily applicable to cisterns already constructed. The one shown below, was designed to meet this want, and it may be of service to others desirous of obtaining the best kind of water for all purposes, but for whom it may not be convenient to build the separate cisterns usually recommended.

The engraving represents a vertical section of the cistern and filtering arrangement. *C*, shows the main reservoir, which receives the water. A semicircular well of brick, *W*, two feet in diameter, is built against the wall of the main cistern. The bricks are laid in hydraulic cement, and the wall is cemented on both sides. The



water flows into this well through a pipe, *P*, from the bottom of the filter, *F*, and is drawn out through the tube, *T*, by a pump at the top of the cistern. The filter, *F*, consists of a brick compartment or box, 18 inches in length, width, and height. It is built along the side of the main cistern, the wall of the well forming one end of the box. The tube connecting the filter with the well, is of galvanized iron, having a cap punched with holes, on the end entering the filter. The filtering materials are, commencing at the well, first a layer of gravel 3 inches thick; then a thickness of cotton flannel; next 7 inches of pounded charcoal, made about half the size of peas; 5 inches of sand, and 3 inches of gravel for the last layer. These layers are placed before the box is covered, and are made vertical, as shown in the engraving, instead of horizontal in the usual manner. Before filling the filter, fit a plate of galvanized iron punctured with fine holes, to form the outer end of

the box, and fasten it in place. The filtering materials can then be readily put in by using slips of sheet iron or tin to keep them from mixing while being introduced. The slips can be gradually drawn out as the filling proceeds. When filled, the box may be covered with flat stones, or with a sheet of galvanized iron. All joints should be cemented tightly.

The object of placing the layers vertically, is to prevent the accumulation of sediment upon the top layer of the filter. With the arrangement described above, much of the deposit will fall to the bottom of the cistern, at the foot of the filter. Another advantage is that the well will be supplied with water as long as any remains in the cistern, for it will keep at the same level in both divisions.

About Buying a Farm.

"Reading the *Agriculturist* has made a farmer of me in theory, and now I intend to become one in practice; please give me some counsel in relation to purchasing. Where? how much? what kind of soil? etc., in short, whatever you think should be suggested to one in my circumstances." So writes a city subscriber, and many letters of similar import are awaiting a reply.

First, then, it may not be advisable to buy at all. Farming on paper is easy, pleasant, and gives a good show of profit; actual cultivation of the soil may be as enjoyable and remunerative, provided a man knows how to accomplish work easily, is enthusiastic in the business, and has brains and experience to plan wisely. It is not always best for men of middle age, brought up to other callings, and possessing limited capital, to buy a farm. It requires experience and skill as well as hard work, to lift a mortgage, and most novices will be disheartened before it can be accomplished. Young men of nerve, whose habits of life are not yet fully fixed, have better prospects of success; yet in their case it would be wiser to work a few years under instructions, to gain at least the rudiments of cultivation, before involving themselves by purchasing land.

But supposing the cost to have been counted, and a decision made, *where* shall he buy? The proper answer depends upon the branch of agriculture which is to be made prominent, whether dairying, raising of stock, grain, garden vegetables, or fruit. For the last two, nearness to market is almost indispensable; it is desirable in all cases. For other purposes, it is safe to locate where others are successfully engaged in the kind of business desired. Unlike manufacturing, there is little danger from competition in any particular locality; one must leave a farm before another can enter upon it; though on the open prairie there is room for all.

Buy land of no man without thorough personal inspection. If inexperienced, secure the services of a friend competent to make the examination. Ascertain the character of the neighboring society and the distance from schools and churches. Give a thorough examination to the soil. The growing crops may not be a fair test of the capacity of the land. An unpropitious season, or an unusually favorable one, may lead to a wrong estimate. Dig down through the surface soil, in various fields, and note its depth. Farms covering equal areas may differ by more than one-half in amount of serviceable soil—one being scarcely four inches, the other twelve or more inches deep. Observe the character of the subsoil, whether hard pan, requiring draining, or gravel unable to bear drouth. A mo-

derately firm, deep loam is desirable for tillage, and one containing limestone, is generally the best, especially for wheat, corn, and orchard purposes. If we had capital to drain and sub-soil well, we should not object to a stiff loam, approaching clay, for such soils are permanent, can hardly be "worn out," and if well drained and thoroughly worked, they make the best use of manure, are less affected by drouths, and give a good yield of hay, as well as of other crops.

Examine the slope of the fields, whether to the north where Winter will linger, or to the warm south, where Spring loves to show her first favors. Are the fields well laid out and fenced? Well watered? Are there sufficient buildings, and what is their condition? If the capacities of a farm be sufficient, it may sometimes be bought to advantage, although "a little run down." Proper management will bring up a naturally good soil, and money may often be made by putting such a place into good heart. But no one should attempt such an operation without the most careful estimate of the amount needed, and the reasonable assurance that it will not be likely to exceed his available capital.

When a favorable decision is made, engage the services of a reliable lawyer to search the title. Fifty or a hundred dollars expended in this way would have saved many a man from more than ten times that amount of loss. The writer has now in mind the case of a hard-working farmer whose earnings for years were lost by neglect of this precaution. Finally, be prepared to work hard, to meet and overcome unlooked-for difficulties which can only be known by experience, and to be content with small but steady gains, and a life of peaceful independence.

Two Kinds of Sugar—Sweetening from Sorghum—Evaporators.

There are two leading kinds of sugar, known as *cane sugar*, and *grape sugar*. Cane sugar is obtained from the southern cane, from the sap of the maple, from the juice of beets, etc. Grape sugar is found in raisins, in those fruits and plants generally which possess sour or acid juices, and in honey. It can also be produced artificially from starch, from woody fibre, from cotton, etc. Cane sugar contains 12 atoms of carbon, united with the elements of 11 atoms of water, while grape sugar contains 12 atoms of carbon and 14 atoms of water. We can change cane sugar into grape sugar by a chemical process, which will cause the former to take up the extra atoms of water in chemical combination. But cane sugar cannot be produced artificially. It is only made by some secret process of Nature within the plants themselves. Cane sugar readily takes a solid form of regular six-sided hard crystals. Grape sugar crystallizes slowly and imperfectly, as is the case with solidified honey, and the crystals are irregular, ill-defined, and usually in needle-shaped tufts. A third kind of sugar, sometimes called *fruit sugar*, is entirely uncrystallizable, like that found in molasses, etc.

The above distinctions are important, in reference to the new plant, Sorghum. If the main portion of the sweet element be grape sugar, we cannot hope for great success in manufacturing solid cane sugar from it, while it may be a source of sweetening in the form of molasses and grape sugar; for, as stated above, grape sugar cannot be transformed into the crystallizable cane sugar. A scientific correspondent of the *American Agriculturist* offers the following suggestions. We cannot say how near right he

may be, but his suggestions are worthy of investigation. He says: "It is amusing to note the claims put forth by the different makers of evaporators, with regard to the superior power their particular inventions have over all others, to extract sugar from sorghum. *The fact is, that sorghum and imphee contain very little sugar that will crystallize, but a great deal that is uncrystallizable; and no evaporator can produce any more of the former, than the juice naturally contains.* While crystallizable sugar can readily be converted into the other kind, there is no process yet known by which the operation can be reversed. Exposure to heat in contact with the air will convert cane sugar into the uncrystallizable sort, or molasses. One of the greatest improvements in sugar refining is the vacuum-pan, a closed evaporator from which the air is pumped. In this the syrup is evaporated without coming in contact with the air, and at a much lower temperature than if exposed. It is very apparent that the value of sorghum and its allies, as a source of sugar, will never be increased by the inventive genius of evaporator makers. We must look to some new variety, or remarkable improvement in the old, before we can get a large amount of crystallizable sugar from this source."

How Cotton was Grown in Illinois.

The Rev. J. A. Bent, of Hazleton, Washington Co., Ill., whose sample of 10 lbs. of cotton is on exhibition at the office of the *American Agriculturist*, sends the following statement of his experience in growing cotton. His locality is in about the latitude of St. Louis. We should be pleased to have the experience of those who have successfully grown cotton farther north:

"I was unable to plant until about May 20th. I prepared two pieces of land, one of an acre, and the other of half an acre. The former had been in cultivation several years, the latter was newly rotted prairie sod. The old ground was prepared as if for corn—except that the rows, 3½ feet apart, were raised a little by turning two light furrows toward each other. The seed, one bushel to the acre, was rolled in moistened ashes immediately before being planted, so as to increase the ease of scattering it uniformly in the furrow; it was covered with a hoe one inch deep. In the South, a larger quantity is usually planted, and the plants are thinned out or cut off when hoed, and in the decomposition of their roots, they serve as a manure to those that remain; by this means a good start is rendered comparatively certain. My seed came up well, but in spots I lost not a few plants by the ravages of grubs or worms. When the plants were about four inches high, they were hoed, or rather the weeds (principally purslane) were scraped away from the cotton to the middle of the space between the rows. When the plants had grown to be about a foot high, they were plowed out, first turning the earth away from, and then throwing it back to them. The plants were then thinned to about 16 inches apart in the row, where they were too thick. The first blossoms appeared about the 20th of July. The plants when full grown were from 2 to 5 feet in height, and contained from 15 to 40 bolls each. They opened for picking early in October, and up to December the cotton was good. Since then the cotton has been yellowish, and much of it not perfectly developed. The cotton on the smaller piece received less attention, as there were no weeds; it yielded the best. Owing to my failure in getting a perfect stand, I really

had what might be called a stand for one acre. The amount of good cotton actually picked, up to this time, is about three hundred pounds, or what is sufficient to make 75 lbs. of ginned cotton. Had I been able to have planted mine three weeks earlier, I think there would have been at least enough to have made one hundred pounds, which as the prices now are for Upland Middlings in New-York, would be worth there \$68.

The charge for ginning cotton is usually, I believe, one tenth. The expense of cultivating and securing an acre would be about as follows:

Plowing and laying off, and planting.....	\$2.00
1½ bushels of seed (say at present).....	1.50
Hoeing, thinning, and cultivating.....	3.00
Picking.....	4.00
The expense of ginning, if a gin is near, say.....	5.00

Worth of Cotton in N. Y. at present rates as above.....	\$15.50
Net profit on an acre.....	68.00
	\$52.50

There has been much more cotton raised in Southern Illinois this year than usual. The prospect now is, that more will be planted next Spring. The short staple, or Upland variety, is the kind that can be depended on to do well. To those who are willing to attend to the business *thoroughly*, I would say, as the result of my experience and observation, that it will pay well to have a field of cotton at the present prices."

[The above estimates are based upon an unprecedented price for cotton. What is here reckoned at 68 cents per lb., has usually run from 8 to 13 cents per lb., and at these prices the cotton crop would be raised at a loss. There is little prospect, however, that cotton will sink below 20 or 25 cents for a year to come.—Ed.]

Beet Sugar in Ohio.

In France, and in some parts of Germany, a very large amount of cane sugar is prepared from the juice of sugar beets. Several attempts were made a few years ago to introduce the process in this country, but without sufficient success to induce the experimenters to continue their efforts; and we have been in doubt whether, owing to the difference in climate and the great cost of labor, the manufacture of beet sugar would ever be profitable here, especially while we have so large an area at the South adapted to the growth of the American sugar-cane. Mr. Klippart, Corresponding Secretary of the Ohio State Board of Agriculture, reports at length upon experiments made last season by Prof. Mot, near Newark, Licking County, which seem to indicate success, and Mr. K. speaks quite sanguinely. We extract a few items from the detailed report. Ten acres of old corn and potato land were prepared by deep plowing, only one acre (of the potato land) being subsoiled. The seed planted was of two kinds, the "Vilmorin Improved" and the "Imperial," the former being much the best. The yield of the entire ten acres is estimated at about 190 tons. The acre subsoiled produced about six times as large a crop as an acre in any other part of the field not thus prepared. The sugar was manufactured by simple and somewhat imperfect machinery, the roots being first reduced to pulp, by means of a revolving grater, and pressed. One thousand pounds of beets yielded 78 gallons of juice. The juice was treated with "certain chemicals," evaporated, filtered through bone-black, and again evaporated and set aside to crystallize. The result was a very excellent article of brown sugar, obtained at an expense of four cents per pound. The refuse pulp was found to be an excellent food for cows. A certain portion of the process is kept secret, but there is no doubt that the method employed by

the beet sugar manufacturers of France is as perfect as any yet known. They add lime-water to the juice, and then remove the lime by means of ammonia-alum. The manufacture of sugar requires much more care and practical knowledge than it does to make syrup, and if it is found profitable to enter into the production of beet sugar in this country, no doubt the labor will be divided between the farmers who produce the roots and the establishments for working them up. The larger these manufactories, the greater will be the economy, and the consequent profits to both grower and manufacturer.

Do Potatoes Mix in the Hill?

This subject is again brought to our notice by George K. Robinson, of Canada East, and J. B. Wolff, of Colorado Territory. The former having found a red and a white potato on the same plant, and the latter had a "double potato," one half deep blue and the other half yellow, with pink eyes. The only way in which varieties of potatoes can cross or mix, is by the fertilizing of the flower of one sort by the pollen of another; the seed of those thus fertilized would be very apt to produce cross-breeds. It seems very unlikely that the cross impregnation of the flower should affect the character of the tuber, and we can not admit it until direct experiments have proved it to be the case. We have no doubt that potatoes may vary or sport. The sorts in cultivation are themselves sports, or it may be crosses of different varieties, having the blood, so to speak, of different kinds in them. It is not strange that under favoring circumstances these varieties should vary, or that some peculiarity of one of the ancestors should break out and become predominant.

Why Seeds Fail—Practical Hints.

Frequent failures are made in cultivation, which are unjustly charged to the seedsmen. Seeds are sown, they do not come up, and they are set down as old or imperfect. While such seeds are doubtless sold by some, our experience is that respectable seedsmen generally send out reliable seeds, and that the want of success is oftener the fault of the sower. In treating of the vitality of seeds in the February *Agriculturist*, it was shown that there was no general rule as to the time that seeds would keep: so, seeds after being sown, differ as to their power of resisting decay if the circumstances are unfavorable to their immediate germination. Three conditions are necessary to the growth of all seeds, viz: air, moisture, and a sufficient temperature. Any one of these failing, the seeds will not grow. The amount of heat required for germination varies greatly with different seeds; those of the common chickweed will start at a temperature just above freezing, while those of some tropical plants require 75 or 80 degrees. The seeds of the plants commonly cultivated, germinate at a temperature of 50 to 60 degrees. Moisture is required not only to soften the seed coat, but to enable the germ to grow, and too little or too much is equally fatal to success. If the soil is too dry, the seeds remain unchanged; and if an excess of moisture is present, the seeds, if delicate, will decay. In well drained soil the proper amount of water is held by capillary attraction. The third requisite, air, is always present in recently worked soil.—All the conditions being favorable, there is a great difference in the time that seeds require for germination. Placed under similar

circumstances, it has been found that wheat and millet germinate in one day, beans, radishes and turnips in two, and lettuce in four days, while melons and cucumbers require five or six, and parsley thirty or forty days. The seeds of some trees and shrubs remain in the ground one, and even two years before they germinate. The common causes of failure with good seeds are: too deep or too early sowing, and excess of moisture. When small seeds are planted too deeply, the vitality of the germ is exhausted before it can reach the light and air necessary to its growth; such seeds should be barely covered with soil, and if there is danger of the surface becoming too dry it should be shaded. Very small seeds may be sprinkled on nicely prepared soil, and then lay a board upon the surface until they start. When sowing is done too early, the ground is too cold, and many seeds rot before it becomes of a proper temperature to cause germination. Too much moisture in the soil excludes the necessary air, and this one of the requisites being wanting, the seeds decay.

For the American Agriculturist.

Will Poultry Pay?

Last year I furnished for the *Agriculturist* a full account of my poultry keeping, mode of management, etc., for the year ending 1861, which was published in the Feb. and March Nos., vol. 21, pages 41 and 74. Having just closed up my accounts, I send a report for the year 1862:

Stock on hand Jan. 1, 1862: three cocks and 72 hens; they laid in Jan. 332 eggs; Feb., 446; March, 973; April, 1,013; May, 982; June, 988; July, 813; Aug., 818; Sept., 614; Oct., 399; Nov., 466; Dec., 383 eggs—total, 8,227. In bulk equal to 8½ bbls., (packed for market); in weight 1,030 lbs. During the year there died of the old stock 18, killed of the old stock 27, chicks killed 32—on hand Jan. 1st, 1863, 105, young and old, to be reduced to 75 head. All the old stock should have been killed off before the moulting season, as the March hatched chicks begin to lay about that time. This arrangement keeps the stock young and vigorous; and with proper care and attention, ensures a good supply of eggs at all seasons.

It will be seen that in Oct., Nov., Dec., and Jan., when eggs are scarce, they gave a good supply. The whole year's account stands thus:

Jan. 1, '62. Stock on hand, 75 head, at 5 lbs. each.....	375
32 chicks killed, at 1½ lbs each, dressed.....	48
27 old hens killed, 4 lbs. each, dressed.....	108
Increase on hand. Dec. 31, '62, 80 head at 5 lbs. each 150	
Eggs collected during the year (in lbs.).....	1030
Total.....	1,711
75 head, stock for the new year.....	375
Balance, or pounds produced.....	1,336

Each hen has produced more than three times her weight in eggs alone, and it is easy to see the amount of food produced in a year from a stock of 72 hens, reduced by death to an average of 63. Deduct loss for dressing for market, 136 lbs., and we have left 1,200 lbs., as the product of the year—besides having a new stock to start with for the coming year.

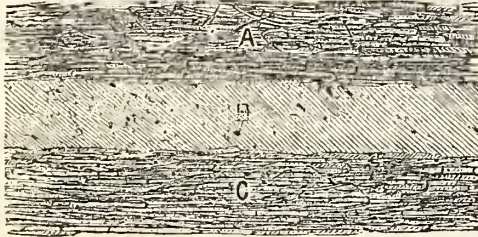
It is a pretty large farmer that lays up 1,200 lbs. of pork, and yet most people will persist in keeping one or more pigs—the flesh of which is turned into salt food for the most of the year—when poultry furnish daily a supply of fresh and excellent food, and of a kind, too, if more than is required for family use, which can be readily exchanged for cash or other products. The advantage seems to be decidedly in favor of "Barn-Yard Pheasants" over "Gutter Snipes."

Staten Island, N. Y.

J. C. THOMPSON.

Manure—Saving Barn-Yard.

W. F. Quinby, Newcastle Co., Del., sends to the *American Agriculturist* his plan for saving manure in the barn-yard. He says, "the soil should be underdrained, then place a layer of straw, C, say one foot thick on the surface; next to this a



foot of earth, B, [we prefer muck if obtainable. Ed.] and on top of this, straw, A, to any desired depth. The lowest layer of straw prevents the earth, B, from sticking to the bottom, and allows the filtered water to pass off. The earth acts as a filter, and there is no better than clay, which absorbs all the alkali and allows the water to pass off nearly pure. The upper straw, C, prevents the earth from being tramped into holes, and is converted into manure. At the proper season, all can be hauled out together for use. This plan would probably treble the usual amount of manure. It may be a good deal of trouble to arrange all this, but there is no use in calling anything trouble, in these days, that pays; and increasing manure will pay."

For the *American Agriculturist*.

One Cow to an Acre of Land.

I have heard of farmers who could keep one cow, or its equal, for every acre of land owned. How many who have fifty or one hundred acres, think they could keep 50 or 100 head of cattle? To show how it might be done, I will propose an experiment on ten acres. Stock can be kept on a variety of food, as roots, grain, and hay, better than on hay alone. Suppose five acres of the ten, to be in meadow. I would plant two acres with corn, one with beets, and sow two with corn for soiling or feeding out green. Commencing, say on the 10th of June, keep the stock in the stable and yard, mow the grass, and bring it to them. I think one acre, if part in clover, so that it could be cut the second time, would keep the 10 head from June 10th to July 15th. By this time, the corn which was sowed May 10th, would do to begin to cut, and I think from past experience, that the two acres of sowed corn would furnish plenty of feed to the 15th of October. If not, I would thin the acre of beets (which might be planted rather thickly) and feed them out between meals. From Oct. 15 to Nov. 15, feed the stalks from the planted corn, and the tops of the beets, which would by this time be fit to pull and store for Winter.

Now for the next six months, or from the middle of November to the middle of May, there would be hay from four acres of meadow, say 10 tons; one acre of beets, 1000 bushels; two acres of corn 150 bushels. That would furnish each animal for the Winter (200 days) one ton of hay, 100 bushels of beets, and 15 bushels of corn; or 10 lbs. of hay, $\frac{1}{2}$ bushel of beets, and nearly three quarts of meal per day. No doubt, stock would come out good in the Spring with that feed. There remains the month from May 15th, to the 10th or 15th of June to provide for. It was supposed that the cutting of the sowed corn might be commenced in July: by the 1st of September quite a piece of it would be cut

off; this I would sow with rye and grass seed. As frost usually occurs by October 1st, the sowed corn should all be cut before that time, and the remainder of the piece be sowed with rye and grass seed. This rye would do to begin to cut by the middle of May, and last until the grass could be mowed again. As the rye is cut off, I would begin to sow corn again. Some will say that to produce 1000 bushels of beets to the acre, or 75 bushels of corn, or $2\frac{1}{2}$ tons of hay, will require rich land; but if stock be kept up the year round, a large amount of available manure can be made, which I consider one of the greatest advantages of the soiling system. Last season I sowed 16 rods of ground with corn, the 10th of June, and it supplied one cow with a good armful twice a day for 10 weeks. In my statement above, I have allowed 32 rods of sowed corn for each animal, in order to have some left to cure for feeding after early frosts.

Fairfield Co., Conn.

D. H. S.

Notes on Flax Culture...II.

The time required for flax to ripen will depend considerably upon the character of the soil, and the weather during the season: between three and four months from the sowing is the average. When the leaves turn yellow and the last blooms are disappearing, the crop should be examined every day or two, to ascertain the degree of ripeness. It is fit to pull when the stalk is of a yellowish tinge, the leaves having mainly fallen off, and the center boll become of a brown color. Another test recommended, is to select the ripest seed capsule on an average stalk, and cut through it; when the seeds have changed from the white milky substance they usually show, to a greenish color, and are pretty firm, the flax is fit to pull. If the straw be left standing until all the seed is fully matured, the fibers are harsh and brittle. If the proper time be observed, the seeds though not quite ripened when gathered, will be perfected by the sap remaining in the stalk after it is harvested. The straw is usually pulled up by the roots. In doing this, care should be taken to keep the root ends even. When a convenient handful is gathered, hold it loosely in both hands and let the but-ends drop on the ground several times, until they are uniform. It may now be set up in rows with the heads inclining together, as shown in Fig. 1, or bound loosely in small bundles, 3 or 4 inches in diameter, and gathered into circular shocks of six or eight bundles, with the butts of each well spread out, that they may dry readily.

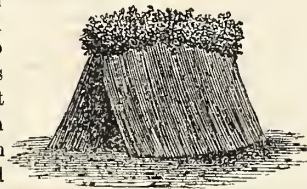


FIG. 1.

The latter method is preferable, as the stalks are not so easily blown down. The cost of pulling is usually from five to eight dollars per acre. The straw is left standing in the field six or eight days, or until the natural moisture is dried out and the seed bolls are ripe enough to open easily. Should a storm occur, the flax may need attention to keep the bundles upright, that they may dry out quickly. When sufficiently cured, the bundles are taken to the barn or stacked in the field. In the latter case, they should be carefully arranged to exclude water. The next process is to separate the seed from the stalk, for which several methods are in use. Some use a large close-toothed iron comb, called a ripple, through

which the flax heads are drawn, a handful at a time, and the capsules torn off. Others thresh the heads with a large mallet having a curved handle. One experienced flax raiser recommends to whip out the seed by striking each bundle upon a solid block. Where the seed alone is desired, the practice is to thresh with a flail, or by treading with horses. The most expeditious method we have seen, is by passing the seed ends through

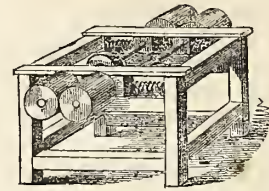


FIG. 2.—Scale of $\frac{1}{4}$ -inch to the foot.

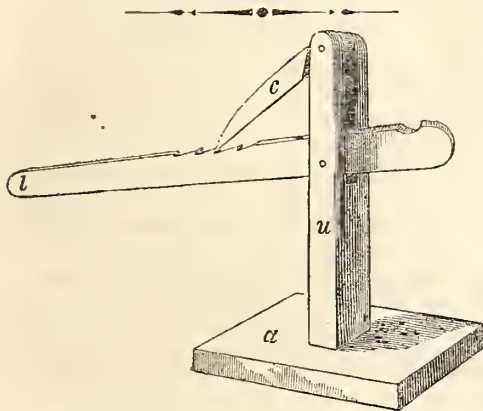
rollers driven by horse power. A machine for the purpose is shown in Fig. 2. The rollers are set so as to break the bolls without injuring the seed; they are moved by means of a belt over the wheel, in the space between the two sets of rollers. The flax is taken in both hands, and the seed ends passed down between the rollers. Such an apparatus would pay where much flax is raised. A dry day should be chosen for taking out the seed, as the bolls break much more easily than when they have absorbed much moisture. In our next article, directions for rotting, and other suggestions will be given.

Timber Belts on Prairies.

Persons living in regions destitute of forests, find it necessary to plant trees, not only to shelter their houses from the furious winds, but also to protect their orchards and crops. While in many new countries, the energies of the farmer are directed to clearing the land of trees, the total absence of these is severely felt by those who have settled on prairie lands. In planting trees in these localities, those varieties should be chosen which are not only of rapid growth, and will soon afford shelter, but also those which are at the same time valuable for timber and for fuel.

The Black Walnut, the Maples, and Locust, are suited for this purpose. The Locust has the disadvantage of being subject to the attacks of the borer, and the limbs are sometimes broken by the winds, but the rapidity of its growth, and the great value of its timber for fence posts and the like, render it desirable to have the plantation contain a portion of these. The chestnut is another valuable tree, both for its timber and fruit. Recently, attention has been called to the White willow, claimed to have qualities which adapt it to this purpose.—As a matter of economy it is better to start most trees from the seed. Nuts, if to be transported for a great distance, should be kept in sand or loam. Walnuts are said to do better if planted where the trees are wanted, being somewhat checked by transplanting. Locust seeds should be planted in the Fall, or kept in boxes of earth through the Winter. The seeds of the maple may be kept until Spring. Plants are usually left two years in the seed bed before transplanting, keeping them free from weeds. In planting, it should be borne in mind that the object is to form a belt of timber and not a hedge; that a tree which has had plenty of room to develop its limbs will answer much better for shelter than one which has its trunk drawn up and has few limbs, from being crowded by others. The distance apart will depend upon the kind of tree—ten feet being little enough for the smallest. There should be at least two rows, and where practicable,

three or four will be better, as the trees will protect one another. By alternating the trees in the rows—that is, putting those in the second row opposite the intervals of the first row, a much more effective barrier is produced than when the trees of the different rows are placed opposite to each other. Our reasons for recommending planting the trees wide apart at once, in preference to thick planting to be afterwards thinned, are: that the growth will be better, and that where a dense grove is thinned, the remaining trees will be badly shaped and weak. Besides, in cutting away a thick plantation, the roots left in the ground decay, and are liable to injure those of the living trees. Where rabbits and mice are troublesome, the young trees must be protected from their attacks. Besides the methods we have already noticed at different times, it has been recommended to surround the trunk of the tree with pieces of corn stalk placed perpendicularly and bound closely around the trunk, as protection against mice.



Improved Wagon "Jack" or Hoister—
Home-made, Convenient, and Cheap.

I. T. Mapes, of Howells, Orange Co., N. Y., sends us a model of a wagon "Jack," or hoister as he terms it, which appears to be very valuable, from the fact that it is simple in its operation, and can be readily and quickly made by any farmer having an axe, auger, saw, and chisel. Mr. Mapes says he knows of only two having been made, and he claims to be the inventor, but he cheerfully gives the plan for the benefit of those who take the *American Agriculturist*. We take the liberty in their name to return a vote of thanks—and a large vote it is.

DESCRIPTION.—The engraving will nearly explain the construction. The base, *a*, is of 2-inch plank, say 1½ feet long and 8 or 10 inches wide. The upright, *u*, is of 2-inch plank, 4 inches wide at the bottom, and 2½ to 3 feet high, having a mortise or slot, 1½ inches wide, about half way down its middle. The lever, *l*, is cut from 1½ inch plank, and is say 3 feet long, 3 inches wide at one end and tapering to a convenient handle at the other end. This is fastened into the upright by a pin placed at the proper height from the ground to suit the wagon—about 2 feet high for an ordinary farm wagon. On the short arm of the lever a notch is cut to hold the axle. The catch, *c*, is also of a short piece of plank 14 to 17 inches long, cut to a shoulder to fit into the slot at the top of the upright, where it is held by a pin. This swings loosely and falls into notches in the lever as shown in the engraving. By depressing the lever at *l*, the wagon axle is raised and the catch, *c*, holds it there.—To the above description, which is substantially that given by Mr. Mapes, we will add a suggestion, viz.; that where

there are several wagons of different heights, the Jack may be adapted to all of them, by having the pins put in loosely, and several holes in the upright, both for the lever and the catch, so that they can be adjusted to any desired height.

For the American Agriculturist.

A Pennsylvania Corn Marker.

I believe the plan in vogue among the Pennsylvania farmers in this locality, for marking corn land, is preferable to Iowa or New-Jersey corn markers; the mark made by either of those is too narrow for planting corn in hills. A mark made by a two inch block or runner in mellow ground will "cave in," so as to leave a triangular hollow, which would receive all the grains in a heap; besides, a horse can not be made to "toe" a slight mark, or walk as straight as a human being. My experience in planting corn in hills is, that four or five grains dropped on a surface of 4 inches, do better than if thrown on an inch square. My plan is to furrow one way with a light plow; a smart man and horse can mark from eight to 10 acres per day. For cross marking, I take a light stiff pole about 23 feet long; to this I attach 6 long trace chains, (other light chains will answer) 3 ft. 5 inches apart, the first chain about 2 feet from the far end of the pole, which leaves about 4 feet of pole at the near end; on this end I make a mark 3 ft. 5 inches from the last chain. Two persons, one at each end of the pole, walk over the field cross-wise of the furrows, drawing the chains behind. The one acting as leader in marking, will walk in the last mark, keeping the mark on the pole opposite the middle of his body: by this means the two can mark twelve acres in an hour. If the first mark is straight, and the leader "minds his eye," every mark will be as straight as a line, and as uniform in width as the chains on the pole. To use this marker to advantage, the field should be in good planting order, and not be very hilly, nor too full of trees; stumps will not interfere. A common trace chain makes mark enough to be readily seen, and does not draw loose earth in the furrow to interfere with planting. The planting is done across the furrow, or with the chain mark. This simple contrivance has saved us many a hard day's travel after the plow; as we, like the Iowa farmer, were formerly in the habit of marking both ways with a plow.

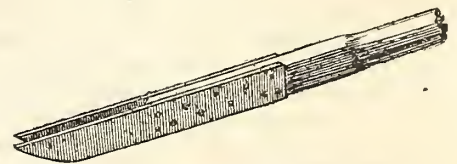
Stark Co., Ohio.

JACOB HOLL.

The White Willow Again.

Western readers of the *Agriculturist* continue to write to us for advice concerning the White Willow. We have no practical knowledge upon the subject, and can only speak of the present excitement from what we see in the western papers and learn from our correspondents. That the tree will grow readily and rapidly we have no doubt. That it will, in every situation, do all that is claimed for it, is yet to be proved. We do not advise any one to invest largely in the stock, nor to expend time and money in fencing their farms with it. If the willow is valuable now, it will be as good a year or two hence. The present excitement seems to be wholly uncalled for; thousands will inconsiderately rush into it and finding that the plant does not come fully up to their expectations, the really good qualities it has, will be overlooked, and the whole affair denounced as a humbug. To those who are disposed to make the experiment we say; be sure that you get the white willow.

low. Peddlers are traversing the Western States in all directions; they may sell the true sort and they may not. It is much better to buy of responsible nurserymen. Plant a few for experiment, and if these succeed, and grow half as rapidly as it is claimed they do, they will give an abundant supply of cuttings for future plantings. In this, as all other new notions, approach cautiously, without prejudice against the truth there may be in it, and without blindly swallowing all that interested parties may say in favor of it. For ourselves, we really hope that there may be found in the White Willow just the qualities needed in a tree for the naked plains of the West, and when we are convinced that it is the thing we have been looking for, we shall gladly recommend it. But with all the light we can gather so far, we are constrained to offer a word of caution to our readers. (P. S.—Since the above was put in type, we have had a conversation with a distinguished agriculturist from Illinois, who considers the whole willow excitement as approaching nearly to humbug. He says he has good reason to believe that an editor of an agricultural paper, which has perhaps done more than any other to push forward the willow culture, by editorials and advertisements, is himself indirectly interested in the sale of cuttings, and is thus grinding his own axe.)



A Cabbage Puller.

"Sucker," in a communication full of suggestions, describes a very simple contrivance for pulling cabbages, which would doubtless greatly lighten the labor of taking up the crop. The engraving will readily show the way in which the tool is made. The handle is 6 feet long, of 3x4 scantling. Two boards 3 feet long are nailed on opposite sides and project 18 inches beyond the end; these are rounded off like the runners of a sled. In the engraving only a part of the handle is shown, to save room. To use the implement the runners are pushed under the cabbage until the lower end of the handle comes against the stem, then by raising the other end the cabbage is easily lifted.

Dairy Statistics

Hon. Zadoc Pratt has given us the statistics of his dairy farm for 1862. He keeps 64 cows, which for the season of about eight months produced 35,740 gallons of milk, or an average of 2 14-100th gallons per day for each cow. The whole product of butter was 14,274 lbs., equal to an average product for each cow of about 13¼ ounces per day. Each cow yielded butter to the value of \$57.98. The following table shows the amount of milk required to make a pound of butter on the first of each of several months for three years; and also the weight per gallon of the milk at the time.

	1860.		1861.		1862.	
	gts.	lbs.	gts.	lbs.	gts.	lbs.
May 1st.....	12-96	7-91	11-20	8-02	9-90	7-80
June 1st.....	11-43	8-28	12-40	7-74	10-77	7-84
July 1st.....	12-14	8-30	10-74	8-03	10-55	7-80
August 1st.....	11-35	8-66	10-45	8-28	10-13	7-88
September 1st.....	11-83	8-09	9-94	8-12	9-13	7-80
October 1st.....	9-28	8-53	8-85	8-07	7-00	7-68
November 1st.....	8-21	7-56	8-50	8-12	7-58	7-44
Average of above 7	11-03	8-19	10-29	8-05	9-29	7-75
days by themselves						
Av. the whole season.	11-20	8-28	10-42	8-05	10-01	7-90

For the American Agriculturist.

Blooded Stock—Present and Prospective Prices, etc.

If, from want of information or from prejudice, any one still doubts the value of *improved blood* in stock of any kind, over that of the "old-fashioned" or "native breeds," the simple market quotations of the cattle, sheep, and swine sales in New-York City, for the last two years, will show him the difference. We set aside all the *ornamental* appearance of the quadrupeds—which, by the way, any one with an eye in his head, or a soul in his body, would count as worth something—and only take into account the simple *economical* value of well bred over ill bred animals. We do not propose to enter into particulars, even. Just go up to the Bull's Head on cattle-sale days, and see the quick, liberal prices *paid* for beeves, high up in Short-horn, Devon, or Hereford blood, and then the slow, lagging, higgling prices for which the "dung-hills," "scallawags," and common stock are *offered*, in many instances without buyers. And yet, with the breeder, the grazier, and the feeder, both descriptions of beasts have run side by side in the pasture and feed yard. One, from its nicely and skillfully adjusted anatomy, has the faculty of taking on flesh readily, kindly, and in the most valuable parts for good quality of meat; the other, from its ill-adjusted anatomy, has not such faculty. And the better beast has, in all probability, eaten less food, while taking on a third more flesh than the poorer one.

So with sheep as with cattle; the same also with swine—poultry even. The war, with its deranging influences on sundry of our *economical* products, has reduced the values of purely bred stock to almost nominal prices, and hundreds, perhaps thousands, of young thoroughbred bulls have been made into steers for the shambles, instead of being purchased and distributed over the country for stock purposes; and multitudes of equally well-bred South-down and Cotswold rams, as wethers, have shared a like fate. So, too, with young boars, while the spaying knife has been busy among the breeding sows—all turned off for market purposes, and food consumption.

We Americans are a wonderfully spasmodic people in thought and action. Nearly thirty years ago we imported Short-horns from England, and sold them at a thousand dollars each for breeding and improving purposes. Ten years afterward, descendants of the same stock, equally well bred, could be bought for a hundred dollars each, or less. And so it went on for ten years more. Beef had risen in our sea-board markets. Then came another furor. Our native-bred Short-horns and Devons could not supply the demand, and by careless breeding, at low prices, their quality had in many instances deteriorated. Hence new English importations, and a furor of demand far exceeding any previous rates in price. A freshly imported bull sold in Kentucky for \$6,000, and he never got a calf! Sundry other bulls sold for \$2,000, to \$3,000, and sometimes more; and cows from \$1,000 to \$2,000 each! And now, just as good animals sell for \$100 to \$300 each, while the New-York market price for beef has not fallen more than 20 per cent. over the highest prices, in first quality cattle! Yet the better ones pay well at their present selling prices, and the "scrubs" scarcely pay for rearing, feeding, and getting to market. The same comparative story may be told of sheep and swine. Two years ago wool was a drug, and sheep hardly worth

the asking. Wool was worth 20 to 25 cents a pound, for common quality, and the finest scarcely 40 cents. Now, one can scarcely ask a high price enough for sheep, for all the world wants them; and common wool is worth just as much as any other, and sixty cents a pound! Every body is after sheep, and putting away cattle. Yet, dairy products—butter and cheese—are high, and milch cows worth something.

We have no advice to give, but having told a few facts, sensible men can draw their own conclusions. If we had fine stock of any description, we should cherish it. We would keep every good breeding female, and make *steer*, or *wether*, or *shoat*, only of such males as we could not sell; for there is a time coming, and at no distant day, when blood stock will be in demand.

Black Rock, Erie Co., N.Y.

L. F. ALLEN.

Hints on Feeding Horses.

The following extract from a valuable practical address delivered by an *Agriculturist* subscriber in England, (G. P. H. Paty, M. A.) before the Farmers' Club at Bideford, Devonshire, contains hints on winter-feeding of horses equally applicable to this country. It will be remembered that *corn*, in England, signifies grain of any kind; and *chaff*, means cut hay or straw:

"Hay and oats will always form the staple of horse food here, but variety is without doubt as pleasing to the horse as to man, and there is little trouble in varying the regular diet occasionally. Hay, whether meadow or clover, and oats and beans should possess the same good qualities. They should be bright in color, sweet in smell, and free from any mustiness, and should not be used in the same year in which they are grown. A good many of the oats brought into this market will be found to weigh less than 36 pounds a bushel. I have grown the black American oat to weigh 40 pounds a bushel, and the white Canadian oat to weigh nearly 46 pounds a bushel, and as comparative weight in grain is a decisive test of quality, the superiority of this class of oats is obvious. Good food will be found the cheapest, and those who use inferior fodder under a delusive idea of economy, will find that they only gain a loss by doing so. Beans may be considered the chief horse-corn next to oats, and when bought at a reasonable price, and given to the horses with a recollection that one feed of beans may be considered nearly equal to two feeds of oats, will be found a useful change. That mixture of barley and oats known here as dredge, is also often used for horses, but I have not used it myself, from an opinion that oats and beans are preferable. Oil cake in small quantities, say two or three pounds a week, will be much liked by the horses, and I think it exercises a decidedly good effect on their coats. Turnips, carrots, of which most horses become immoderately fond, mangold wurzel when they will eat it, trifolium incarnatum, and early vetches, will afford a sufficient range to enable the food of the horse to be varied from time to time. The question of crushing corn for horses is constantly brought before us by advertisements. Its necessity, for young horses at least, is to me doubtful; and the evidence of the stock authority on the subject, as quoted in the advertisements—a London Omnibus Company—is entirely vitiated by the fact that in the experiment in question, crushed corn and chaff were used against whole corn and hay, thus only proving the general advantage of comminuted food, and not the special advantage of crushed corn. By feeding horses regularly.

and mixing chaff always with the corn, I think you will ensure its being properly ground, without the intervention of any other mill than that provided by nature. When the chaff and corn are given to the horses, enough water should always be sprinkled over the feed to moisten it, and lessen the horse's desire to drain the bucket to the bottom. I am strongly in favor of the use of chaff for horses, but I would recommend any one who uses it to discard all idea of cutting it by hand, and to arrange for the use of either water or horse-power, according to circumstances. Fifteen pounds of chaff a day, in the proportion of ten of hay and five of straw, with a peck, say nine or ten pounds, of good oats, 12 pounds of carrots, and a small allowance of hay at night, will form good winter feeding for a horse in full work; but the quantity, of course, must be suited to each horse's wants, remembering always that a horse that is regularly well fed will require less and do better than a horse that is stinted at one time and over-fed another."

"Scratches" in Horses.

This disease, called also "grease" in England and in some parts of this country, often attacks the heels and legs of neglected horses, and though easily prevented, is difficult to cure, if of long standing. It commences with inflammation of the oil glands of the skin about the hind feet. These vessels, named *sebaceous* glands, supply a fluid to soften the skin and prevent its cracking. These glands are especially needed and very active about the hind feet of the horse, where, by frequent exercise of the parts, the skin is subject to almost constant alternate wrinkling and expansion. The toughest leather would soon yield under such treatment, unless kept well softened by oiling. The oil glands may become inflamed by sudden cold, as when a horse after exercise over wet roads is allowed to stand in the stable without cleaning and drying the hair about the feet. The animal being warm, moisture rapidly evaporates and carries with it the heat from the neighboring parts; congestion ensues, and inflammation commences. It may be slight at first, but by neglect it will be likely to extend and affect the surrounding surface and also the deeper seated structures, resulting in a disorder disgusting in its appearance, and painful to the horse. Or it may be caused by standing on a filthy stable floor in wet straw and excrements, the moisture from which not only produces cold, but from its nature irritates the skin, thereby inducing the disease.

As it progresses, the hair drops off, the heels swell, the skin assumes a glazed appearance, is covered with pustules, and emits an unctuous discharge which soon becomes very offensive. Unless properly treated, the leg half-way to the hock is crusted over with thick, horny scabs, divided by deep cracks, when the affection is scarcely curable. Prevention is found in clean stables, and in thorough drying and rubbing of the legs after the horse has been used. Close clipping of the hair which ordinarily grows long about the legs, deprives these parts of their natural protection, rendering them more liable to the scratches, and is therefore objectionable.

If the disease unfortunately appears, Herbert recommends to clip off all the hair from the affected parts, and thoroughly cleanse them with warm water and Castile soap. Then apply a flannel bandage evenly over the limb, and frequently moisten it with warm water, allowing it to dry on the part. To soften the skin, apply an ointment of one drachm of sugar of lead in an

ounce of lard. If there are cracks, wash them with a solution of four ounces of alum in a pint of water. Feed the horse on bran mashes, carrots, and green feed, and if there be much inflammation after a day or two, administer a ball of four or five drachms of aloes.

If the disease has reached the second stage, three doses of physic at intervals of two days will be needed. The best application to the heels will be a poultice made of boiled and mashed carrots, put on tolerably hot. It can be conveniently applied by drawing an old stocking leg over the leg, confining it at the fetlock joint, and filling it from above with the poultice. When this is removed, anoint the heels with an ointment of one part of rosin, three parts of lard melted together, and one part of calamine powder, added when the first mixture is cooling.

For the American Agriculturist.

Notes on Sheep-Raising in Ohio.

The late census report places Ohio at the head of the list in sheep husbandry. To a genuine Buckeye, one having a becoming pride in the prosperity of that place which is his home by birth or adoption, this fact can not be otherwise than gratifying. In 1850 the whole product of wool in the United States was about 52,000,000 lbs. In 1860 the clip increased to sixty and a half millions of pounds, showing a gain of over 15 per cent. during this period. Of this, Ohio, in 1860, produced 10,648,000 lbs., and although we have decreased over 800,000 in the number of our sheep since 1850, yet we have increased over 400,000 in pounds shorn. This increase of wool from a less number of sheep, clearly indicates a more intelligent system of breeding, and better management of flocks. Ohio has near 10,000,000 acres of land under improvement, and only a fraction over 3,000,000 sheep—less than one sheep for every three acres of cleared land—it is therefore obvious that the number may be greatly augmented without being over stocked, or materially affecting other important agricultural interests. That sheep husbandry is now assuming a more important position in the economy of the farm than heretofore, is evidenced by the demand and prices paid for sheep at the present time. During the last year, wool has advanced about 50 per cent., while sheep have advanced fully 100 per cent. New men are now attracted by the price of wool to embark in the business of wool growing, and almost every farmer is increasing the number formerly kept on his farm. This, I by no means condemn, and yet it may not be out of place to offer a word of caution. The wisest man can not predict what is before us, or what will be the condition of our Nation one year hence. I do not despair, and I yet hope my country and Government will be saved, but, in our present distracted condition, I would certainly hesitate before embarking in any enterprise involving a large investment. And furthermore, is not the present price of wool delusive? I grant that in making the currency of the country the standard of value, wool has advanced 50 per cent., but if I desire to convert this currency into gold, or if I only accept gold in payment for my wool, I will then find the last year's prices closely represent its absolute, or true value at the present time. But while I would advise caution, I would also applaud every wise and well directed effort to increase the number, and still further aim to advance the present high character of our Ohio flocks.

If a good Providence grants power to our

Government to subdue, and crush this wicked conspiracy against its life, then surely the flock-master may look forward for some years to come, with assurance that his labors and care for his fleecy charge will be well rewarded. The present supply of wool in the markets of the world is unusually small, and cotton both from scarcity and price, can not as heretofore constitute so prominent an element in our professedly woolen fabrics. G.

Moore's Salt Works, Ohio.

A Word for Merino Sheep.

Mr. M. Cunningham, Stark Co., O., in answer to the question proposed by the Ohio State Board of Agriculture, "Which are the Best Sheep?" writes as follows: "This question may have as many different answers as men have different notions and opinions. To the flock-master, who breeds and keeps sheep for the wool principally, the Spanish Merino is esteemed above any other, in this climate. Some of the reasons for this are as follows: The Spanish Merino produces a greater quantity of wool, in proportion to the size of the carcase, than any other variety of sheep. It is a generally admitted fact, that all animals consume food in proportion to the weight of carcase. This being the case, and the difference in weight between a Spanish Merino and a Leicestershire or a South Down, being about one-third, it will readily be seen which of the two varieties is most profitable for wool; for, generally, it will be found that the well-built, close and compact Spanish sheep of eighty pounds weight will produce more pounds of wool than the Leicestershire or the South Downs of one hundred and twenty pounds. If this be true, it requires one-third more feed to produce a pound of wool from a Leicestershire or South Down sheep than it does from a Spanish Merino; while, at the same time, a pound of the Spanish Merino is worth and will sell for at least one-third more than the other. [Generally—but not now. Ed.]

The wool of the Spanish Merino is generally very compact and close, and being oily also, it protects the bodies of the animals from the inclemencies of the weather; while on the loose, open, and light woolled varieties, when exposed to the rains and storm, the wool becomes saturated, the water finds its way to the skin, the animal takes cold, and perhaps dies.

Spanish or some other of the Merinos, herd together in large flocks better than Leicestershire, Cotswolds or South Downs. They are, perhaps, the most quiet and docile variety of sheep of all others. This is a great consideration."

Introduction of Merinos.

The Northampton (Mass.) Free Press, claims for Vermont the honor of having first introduced the Spanish Merino into the United States, and gives the following account of the importation: "William Jarvis, a native of Boston, received from Jefferson an appointment as Consul to Lisbon, and when there in 1811, Napoleon invaded Portugal and Spain, and some of the flocks were seized by him to feed his army, while others were sold to defray the expenses of the war. Previously, not a single sheep had been allowed to leave Spain, the penalty of death having been established to prevent it. Mr. Jarvis wishing to benefit his countrymen, purchased ten bucks at a cost of \$200 each, and shipped them to New-York. He ordered his agent to advertise them thoroughly and then sell them at auction. His

request was complied with and the report of the sale was sent to Mr. Jarvis. He opened the letter, from which he read that his sheep had been sold at \$100 each. The letter was thrown down in a passion—and his countrymen were considered the most unappreciative people in the world. He thought they certainly might have shown gratitude enough by paying at least what the sheep had cost him. The next day having occasion to refer to the letter, he found that he had made a mistake of one cipher in the first reading. Instead of the sheep having sold for \$100 each, they had sold for \$1000—a slight difference. This induced him to make further purchases, and during his stay at Lisbon he shipped to this country 3,500 sheep, all but 300 of which were sold at New-York, Boston, Portland, New-Haven, and Philadelphia at enormous prices. The 300 that he reserved, were taken to Wethersfield, Vt., where 8000 acres of land had been purchased at a cost of \$20,000. On his return to this country, Mr. Jarvis settled in Vermont, and continued the rearing of sheep, from which, together with the profits made on those that he had imported, he had amassed a fortune."

It is true that Mr. Jarvis was the largest early importer of this breed, but S. S. Randall in his work on sheep states that the first Merino received here was shipped by Mr. Delessert, a banker of Paris, in the year 1801. Four animals were sent, but three died on the passage; the remaining one was taken to a farm near Kingston, in this State. In 1802, Chancellor Robert R. Livingston, of New-York, imported two pairs of this breed, and in the same year Hon. David Humphreys, of Connecticut, imported a flock of about one hundred.

Economy in Wintering Pigs.

A correspondent at Sandy Hill, N. Y., sends to the *American Agriculturist* a description of his mode of wintering pigs economically—in substance as follows: The pen is built adjoining the rear of the horse stable, so that the pigs can have free access to the manure heap. Their grain feed is thrown upon the pile to encourage them to work it over, and also that their own excrements may be dropped there. The trough for swill is placed outside of their nesting apartment, midway between that and the manure heap. The whole is under cover, and seldom freezes. Pigs for wintering are taken from the second litter, dropped in September. Two or three pigs are kept to each horse. They spend most of the day in working over the manure thrown from the stable in the morning: thus all the undigested grain, which would otherwise be partially wasted, is turned to account; an addition is made to the manure heap by the pigs, and the whole is thoroughly commingled. It is claimed that a large saving of feed and manure is made. Toward Spring the manure is thrown out of the pen, and allowed to ferment. The heap is watered occasionally, if it be not sufficiently moist, to prevent fire-fanging.

We suggest in addition to the above plan, that a pile of muck be kept near at hand, under cover, and a few shovelfuls be thrown in daily with the manure from the stable. It will retain much of the ammonia which would otherwise escape, thus preventing the offensive effluvia from the sty. It will add largely to the bulk of the heap, and by being incorporated with the manure, prevent injury during fermentation. Sods, or any good soil may be used, when muck is not at hand. The accumulation can be removed from the pen as often as necessary.

The Petunia—New Varieties.

The improvement which has been made in this favorite bedding plant is truly wonderful, when we compare the present forms with the old white and purple kinds. The engraving here given, represents some of the seedlings produced by Mr. Isaac Buchanan, the well-known florist of this city. Being dissatisfied with the double varieties, he turned his attention to those with blotches and markings. Beginning with a blotched plant which he brought from Gand, he has, after several years of careful culture, succeeded in obtaining some well marked varieties—the beauty of which is reproduced in the engraving as well as can be done in black and white. In the specimens we have seen, the markings are well defined, of a rich purple color, on a clear, white ground. We cultivated some of these varieties last Summer, and their striking contrasts of color made them the most brilliant ornaments of our grounds. The petunia, from the ease with which it is propagated, is exceedingly popular. Though a perennial, it is cultivated like an annual, and blooms very early from seed sown in the open ground. Towards the end of summer cuttings may be made from desirable sorts. These strike readily, and may be kept for winter blooming, or in a dormant state for spring planting. A paper of seeds of the finer sorts will be likely to give a considerable variety of colors and markings.

For the American Agriculturist.

Impositions in Grapes and Other Fruits.

These are continually occurring. Here are a few from which I have personally suffered. Several years ago, following the advice of influential persons, I purchased a rooted layer of the *Logan* grape. It was said to be equal to the *Isabella*, but hardier, more productive, and ripening before the *Concord*. Even more than this was said in its praise, but this was enough, if true. So I remitted the \$5 demanded, and received a vine. It has now borne fruit three years, and I must testify that it is *not* equal in quality to the *Isabella*, and not half as productive as that variety. It is early and hardy as could be desired, but it does not set its fruit

well; in this regard it is inferior to the *Concord*. More recently I bought a *Cuyahoga* vine, for \$3; a "knitting-needle" vine, too. The first plant died, and next year I tried again, with another needle, which lived. The recommendations of this grape were very high. Here is

small village near Plattsburgh, N. Y. A recent correspondent of *Hovey's Magazine* writes from that village, saying: "The original *Adirondac* vine stands but a few steps from the lake, in the town of Port Henry. I do not think it equal to the *Delaware*, *Diana*, or even *Concord*, for this region." That is certainly quite a *home thrust*. The writer charges no one with dishonesty, but counsels the public to be extremely cautious not to pay large prices for *untested* novelties of any kind. VITIS.

REMARKS. — We can scarcely wonder at the state of mind, in which "Vitis" finds himself; he has not a few sympathizers. The gist of his letter is contained in one of the last words, which we have italicized. It is not enough that one interested person, with the experience of one locality, shall recommend a grape as the best ever grown, though he may intend to speak ever so honestly. Our enterprising propagators are always on the lookout, and ready to spend money and time in testing all promising novelties, and many of them are honest enough to speak and act upon the facts regarding a new vine. Some are unscrupulous enough to help keep up the factitious merits of any new plant, until the public have repaid to *them* their outlay in the experiments; but there are enough of the former class to soon put a plant upon its proper level of merit. For the masses it is generally safe to wait for the testimony of leading propagators in favor of a



PETUNIA.

one, published in the *Horticulturist*: "Ripens ten days or two weeks earlier than *Isabella*, is free from rot or mildew, ripens its berries uniformly, and they hang well on the bunch. Pulp melting, juicy, sweet—quality best." But last year the facts began to leak out. Reports of its rotting and mildewing found their way into the papers. The specimens exhibited at the different fairs were few, small, and poorly ripened, and, worse than all, they were found to be *later* in maturing than the *Isabella*. That, of itself, kills it for cultivation in a northern latitude.

The *Adirondac* grape has lately come out with a brave blowing of trumpets. This is declared to be certainly superior to the *Isabella*, has a touch of the flavor of that royal grape, the *Black Hamburg*, is very prolific, hardy, ripens before the *Concord*, etc., etc. This sounds well, but I am getting nervously shy of these untried novelties. The *Adirondac* originated in a

grape or other fruit, before investing in it. A little time may be lost in securing a variety that proves to be valuable, but the security against imposition will make up the loss. Men of wealth, those who can afford to lose the outlay, may well experiment with every thing new coming up, whenever there are any reasonable grounds to hope for good results. By so doing, they confer a benefit upon the public.—ED.]

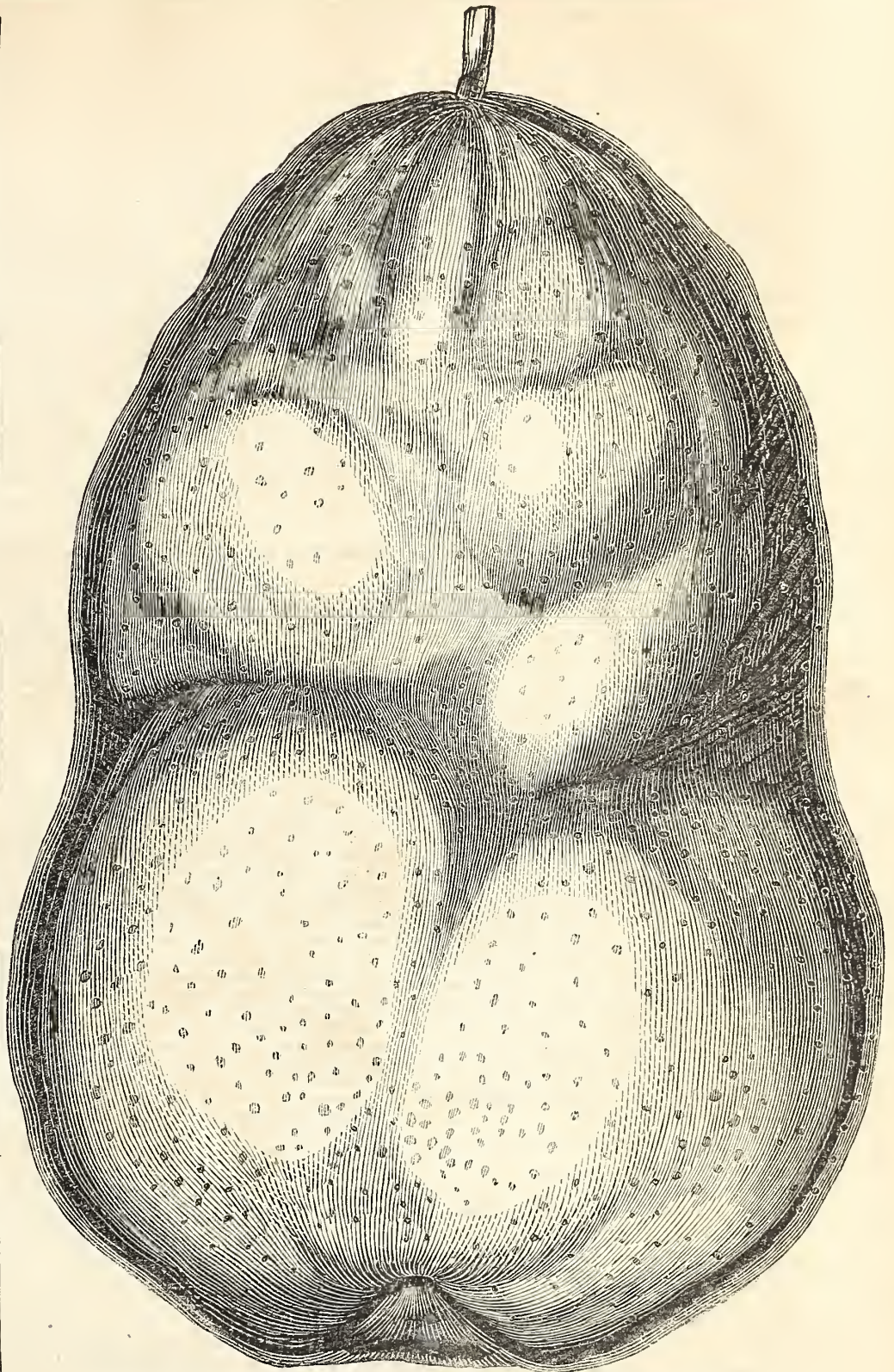
Downing's Everbearing Mulberry.

This variety of mulberry has now become pretty widely disseminated, but of its real merits very little is yet known, except by the few who have eaten the fruit from trees six to ten years old; that from younger trees being always inferior to what is grown on those that are old and mature. Several other sorts very much

resemble the Downing, but do not have that sprightliness of flavor which makes this variety so desirable. The fruit is about an inch and-a-half long, half an inch in diameter, and black when fully ripe. The tree is hardy, very vigorous, a rapid grower, and is also ornamental; leaves, very large, heart-shaped, often ten inches long and seven broad. It is said to be a seedling of the *Morus Multicaulis*, which it very much resembles in foliage, but it has not the peculiarity of the multicaulis, of growing readily from cuttings. We are not aware of any one having succeeded in growing it in any quantity in that manner. The most successful method has been to graft it on roots of other varieties, performing the operation in the months of March and April, under glass. In this manner every graft can be made to grow, and as soon as they have become firmly united to the stock, they may be planted out into the open ground. The planting should always be deferred until all danger of frost is past. It may also be grafted or budded upon stocks in the open ground, at the usual time for budding and grafting other trees. We know several instances where this has been practised with moderate success. The fruit begins to ripen in this vicinity by the middle of June, and continues without intermission until the middle of August, thus filling up the space between the strawberry and grape. It is too soft for market purposes, and has one other serious fault, viz.: the stem of the fruit adheres to it so firmly that it must be either cut off or eaten with the berry, as it can not be pulled off without breaking the pulp.

Severe Treatment for Peach Trees.

A correspondent, Samuel Godshall, of Hubbard, O., seeing hot water noticed as a remedy for diseased peach trees, in the *Agriculturist* for January, sends an account of his experience which, like the others, is published for those who wish to make an experiment. It strikes us as rather a severe remedy. If the heat did not kill the tree it would be quite sure to destroy the grubs. It may be that the killing of the grubs is due to the potash contained in the ashes, and that cold ashes would be as efficacious. At any rate the potash contained in the ashes would be useful as a manure to the tree. "Some years ago, I had a large peach tree standing in the corner of my garden. When it put out in the spring the leaves were yellow, knotty, and curled; every thing indicated that the tree must die. When digging that part of my garden, I concluded I would try an experiment on the old tree. I took my shovel and bared the roots for more than a foot round the body of the tree. I then carried three large shovelfuls of hot hickory coals and ashes, threw them on the roots, and immediately covered them up with the fresh dirt. I noticed immediately a great steam rising from the roots. In a few days the tree cast off its leaves, and put out afresh, and before harvest it was covered with a dark green foliage, and year after year while I lived on that property, that old tree was the admiration of all who saw it, both in fruit and foliage. Since that time my cure for the peach tree is hot coals and ashes, and I have always found it a success. I have on my lot at this time a small orchard of perhaps as healthy peach trees as can be found in the State of Ohio. And my mode of treating young trees is, in the Spring to examine the roots, and if I see signs of grub, to apply the hot ashes immediately, and through the season apply night soil."



The Great California Pear.

This pomological monster, the anticipated arrival of which was announced in the February *American Agriculturist*, came safely to hand—thanks to the careful packing of Col. Warren, and the courtesy of Wells, Fargo & Co. It was placed on our Exhibition Tables, and was examined by many thousands, and we have had it engraved for the benefit of other tens of thousands who were not able to see the original. The engraving is of the exact size, and gives a very faithful representation of the pear. It is 20 inches in circumference one way, 16 the other, and weighed here 3 lbs. 7 ozs. A model in wax, colored by Dr. Newberry, so truth-

fully that many were in doubt which was the original—is still on exhibition. No information as to the variety of the pear, accompanied it. A committee of the Fruit Growers' meeting was appointed to test it, Jan. 29, but decay had progressed so far that they were unable to form a satisfactory opinion. It was thought by some of the committee that, notwithstanding the dissimilarity of form, it was a monstrous specimen of the old Pound Pear. Whatever it may be, it has certainly been very interesting to amateurs in fruits, and others, and our thanks are due to Dr. Bellows, to whom it was sent by Thomas Brown, Esq., and to all who participated in enabling us to show what the wonderful soil and climate of California can produce in the way of

pears. We have heard of larger pears, but this excels in weight and size any other one that we have ever seen. It weighed full *three pounds and seven ounces* after its arrival here.—P. S. Since writing the above, a gentleman whose name we did not learn, called and informed us that he was a neighbor of Dr. Beard at the San Jose Mission, and that he was knowing to the fact that the tree was taken to California six or seven years ago, from the nurseries of Messrs. Parsons & Co., of Flushing, N. Y. Both himself and Dr. Beard ordered a considerable number of trees at the same time, among which was the one producing the above specimen, as well as its predecessor, the "Bushnell Pear."

Dwarf Apples.

To any of our readers who may be discouraged with dwarf pears, we would recommend a trial of dwarf apples. They are produced by grafting the ordinary apples on the Paradise, or Doucin stock. And here lies an advantage or two; one does not have to wait and carefully experiment, as with pears, to find out what kinds will succeed as dwarfs, what need double-working, etc. Take any sort desired, and, if properly grafted, it will succeed, and be fruitful much earlier than the common apple tree. Those grafted on the Doucin stock will usually fruit the fourth year, and those on the Paradise the third year. Fire-blight, sap-blight, and hard winters seldom trouble the dwarf apple.

These dwarf trees are desirable for small gardens and village door-yards. Common apple-trees need to stand 20 to 30 feet apart, and of course there can be very few of them planted in ordinary town-yards, but dwarf trees may stand at eight feet apart for the Doucin and six for the Paradise. This will enable a family to raise quite a pretty assortment of dessert apples. Of those which naturally form roundish, symmetrical heads, we note the Red Astrachan, Porter, Baldwin, Dyer, Summer Rose, and Sweet Bough. The following, though a little rampant and irregular, yield fine fruit: Lady Apple, Early Strawberry, Wagener, Northern Spy and Tompkins' King. As a general rule, summer and autumn fruits should be raised on the dwarf stock, and the orchard depended on for the general winter supply.

Hints in Pruning.

Pruning is not an indiscriminate cutting, but is an operation to be performed according to certain rules. The cut should always be made near a bud. If the cut is made for some distance above the bud, the wood will die down to it. Hard wooded trees should be cut as shown in fig. 1. The cut commencing opposite the base

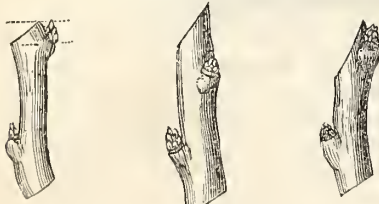


Fig. 1.

Fig. 2.

Fig. 3.

of the bud and sloping up to a point opposite to the top of it, as shown by the dotted lines. In fig. 2, the cut is too far above the bud, and a stub is left which seldom heals over, but rots. In fig. 3, the cut is made too near the bud, with too great a slope, and there is danger of its dying.

Recollect that the bud will form the future branch, and the shape of the tree will be governed by the choice of the bud left to continue the growth. Soft wooded trees and shrubs should not be cut quite so close to the bud as those having hard wood.

Dwarf Pears.

J. Franklin Spaulding, of Nashua, N. H., thinks that the pear throws out roots only on strong loamy soils, unsuited to the growth of the quince. He removed some dwarf pear trees which had been planted for 23 years, and found the quince stocks all in healthy condition. These trees had all been set with the juncture of the pear and quince about 6 inches below the surface. His experience is, that upon soils suited to the quince, the stock will last as long as the pear. He doubts if the pear will throw out roots where the soil is properly cultivated, unless the trees are mulched, as the soil would otherwise become too dry to favor the formation of roots.

Notes from the Fruit Growers' Meetings.

JANUARY 15.

KEEPING FRUITS.—Dr. Ward presented a plate of Lawrence pears, in good condition. This has not hitherto been regarded as a Winter variety. He allows the fruit to remain late upon the tree, which holds its foliage longer than most other pears. It is then placed in the cellar, which is ventilated by admitting air from without as often as it can be done without danger of freezing. He thinks that fruits keep much better when the exhalations arising from them are removed. The specimens had been kept in a warm room for about two weeks, and upon testing were found to be of most excellent quality. Dr. W. thought he would have no difficulty in keeping the Lawrence until the 1st of March.

Mr. Carpenter had not been so successful; all his specimens of Lawrence were gone before Jan. 1st, while the Vicar of Winkfield and Glout Moreau would keep until April. He thought the quality of the soil affected the keeping of the fruit. The subject of retarding fruits was regarded as one of great importance. It was conceded that nothing was equal to ice for this purpose.

Dr. Ward was convinced that the best and most economical method of using ice had not yet been discovered. He was making some experiments, which he hoped to lay before the meeting at another time.

Mr. Carpenter had found nothing like ice; he had, by means of it, kept the Bartlett into October, and thus realized three times the usual price, and believed that a correct method of using ice would not only be profitable to the fruit growers, but would be the means of benefitting the public by prolonging the season of choice fruits.

Mr. Fuller wished for some simple way to preserve fruits which could be practised by every farmer, and asked if fruit in closed boxes or barrels, kept better than when open. He put them in tight boxes, after sweating. It was thought that no general rule could be given, that it depended upon the peculiarity of the kinds. Pears with a thin skin, like the Flemish Beauty, should be exposed, while those with a tough skin, like the Lawrence, should be confined.

In reply to the question whether any packing material was useful, Mr. Carpenter stated that it was, for preserving a uniform temperature. He thought rice chaff was best, and next to that oat chaff. He packed his fruit in it, and left the barrels out until there was danger of freezing, and then removed them to the cellar. He found, on opening a package the day before, that the fruit was 10 or 15 degrees cooler than the atmosphere of the room in which it was kept.

GRAPES.—In the discussion upon a list of grapes to recommend for cultivation in the vicinity of New-York, several cultivators gave their experience. Mr. Oliver advocated the claims of the Concord for prolific bearing; was planting 17 acres of this variety; considered it the only native grape that would make wine without sugar, and presented samples of brandy, which were pronounced good. It took eight gallons of grape juice to make one gallon of brandy.

Dr. Ward said that the Concord stood the sun as no other grape would; had it growing by the side of other grapes, and found that the foliage remained fresh, while that of the Isabella and other grapes was curled by heat.

Mr. Fuller remarked that the wood of this variety ripened early—long before the leaves fell.

Mr. Field said we needed a substitute for the Isabella. People would go on planting that variety, because they knew of nothing better. This was a great mistake, and would only lead to disappointment. The Isabella was not adapted to exposed situations, and would only grow upon the south side of some protecting object. In city yards it did well, but in open places it was not worth planting. Knew a vineyard which had been planted seven or eight years that had never yielded a perfect cluster. He thought that the Concord was the best grape he ever knew.

Mr. Carpenter thought the Concord the grape for the million—it gave good fruit if neglected, and better if cared for. As the Delaware needs more care, he would place the Concord at the head of the list. The Hartford Prolific was very early, ripening two weeks sooner than any other, but it would not give fine fruit without extra care, and on that account was not proper to recommend; the same with the Diana. The Isabella he would condemn, for it disappointed thousands. The Iona he thought highly of, and believes it will supplant the Delaware.

Mr. Fuller objected to recommending a variety which, like the Iona, was not generally obtainable.

Dr. Trimble had seen an abundance of the fruit of the Delaware at the exhibitions in New-Jersey. Knew of 35 bunches being raised on a graft two years old.

Mr. Field thought the Delaware would improve with time. The Diana had improved with him, and made stronger wood. He thought the Delaware would beat the Diana and Isabella anywhere, in open grounds.

Mr. Saxton had 100 bunches on three vines of the Delaware, planted out only two years.

JANUARY 22.

GRAPES.—*Varieties recommended.*—After examining the great California Pear, the varieties of grapes to be recommended for general cultivation, especially in the vicinity of New-York, were discussed.

Dr. Trimble moved a resolution, which was passed, that Mr. Borland of Bucks Co., Pa., be requested to communicate his method of grape grafting to the meeting.—Mr. Cummings thought that this method of propagation might often be useful when slow growing varieties of grapes were grafted on quick growing stocks.

Dr. Ward thought we should be very cautious in coming to a conclusion about this method of propagating the grape, from a single experiment. When the grape was grafted on an old root it was a long time before a good plant could be secured. The old roots decayed before there was sufficient foliage to keep them growing.

Mr. Mead would place the Delaware at the head of the list, but it needs the high culture and care that few persons will give to it. He would then place the Concord first, and the Isabella third. He would substitute the Creveling if it could be obtained. It ripens 10 to 12 days earlier and is superior to the Isabella; but he would not discard an old variety for one which is not generally in the market. He would name as those which promise well; Creveling, Allen's Hybrid, and Cuyahoga. There are others which he considers more promising than these, but they are not before the public.

Mr. Field gave as his selection Delaware, Concord, and Hartford Prolific, and for particular localities, Diana, Catawba, and Isabella.

Mr. Fuller named Delaware, Concord, and Hartford Prolific for general culture; and for special localities, Creveling, Cuyahoga, and the Iona if it could be obtained.

Mr. Carpenter gave Concord, Delaware, and Hartford Prolific as his choice. He put the Concord first, not because it was a better grape than the Delaware, but because it will bear neglect and make its own way, ripens in good season, and will flourish as far north as any grape will. As promising well, he would name Iona, Allen's Hybrid—would add Cuyahoga but fears it ripens too late, therefore substitutes Creveling.

Mr. Cummings was surprised that no one had mentioned the Adirondac, which ripens early in a high latitude. It was answered that no one present had fruited it, and that it was not right to recommend varieties which had not been tested, or those monopolized by one seller.

Dr. Ward recommended Concord, Delaware, and Diana. The Concord would grow in any soil, will carry its fruit to perfection, has large bunches, is of fair quality for the table, and good for wine. Is already to be found in the market while, though he often visits the Washington market, he never saw a bunch of the Delaware on sale. While the Delaware would, with high culture, give a superior fruit, he preferred the Concord for these reasons. Has had experience with the Isabella, cultivated and carefully trained a vineyard of 500 vines for 10 years, and it has never paid the original cost of the vines. He was tired of it. Objects to the Hartford Prolific as, without being earlier than the Concord, it requires careful pruning.

Mr. Judd gave as a list for general culture, the Concord, Delaware and Diana. The Delaware was, from all accounts, the best flavored grape, and to be recommended. He named the Concord first in such a list, on account of

its great vigor; a root stuck in the ground carelessly, would be likely to grow with or without care, and produce an abundance of fair quality grapes. It would perhaps best meet the wishes of the great mass of careless or inexperienced cultivators. The Delaware would give the best fruit to those who would take any pains in cultivating it. The Hartford Prolific was an early grape, a vigorous grower and bearer, but these qualities were nearly equalled in the Diana, and its sweeter flavor would be relished by many; to make up a variety, therefore, he would put the Diana third in the list, instead of the Hartford Prolific.

Solon Robinson gave Delaware, Concord and Hartford Prolific as his choice.

Mr. Pardee would place the Delaware at the head of the list: thinks from what he has seen, that when the vines get older they will bear as well as the Concord. It has not had time to show what it will do. He would add Concord and Diana, and for those which promise well, Hartford Prolific, Allen's Hybrid, and Isabella. The latter is, in many localities, too fine a grape to be discarded.

Mr. Cavanagh said he had had charge of the original Isabella vine, and did not believe that one vine in ten of those known by that name, was of the true kind.

The vote on varieties for general cultivation was taken as noticed in another column.

JANUARY 29.

Discussion upon Grapes resumed. In answer to queries about the Anna, Messrs. Field and Carpenter concurred in considering it too late, but that it is not yet fully tested.

Mr. Carpenter thinks that, among White grapes, Allen's Hybrid is the most promising. It ripens with the Diana, or a little before it. A hardy white grape is very much needed. The Rebecca is a good bearer, has a fine bunch and desirable fruit, but makes a very delicate growth.

Mr. Fuller considers that all of our native white grapes are seedlings of the Isabella—are albinos, so to speak, and are of weak constitution. Allen's Hybrid has poor foliage; he thinks it is not a hybrid. Hopes it is, but doubts. A Committee was appointed to test the great California pear. Their decision will be found on page 81.

Mr. Carpenter exhibited about half a peck of Vicar of Winkfield pears, which were freely tested and showed the efficacy of his plan of preserving them in oat chaff.

Some lists were handed in by members of the Committee on Apples, which gave rise to some discussion.

In answer to the question if fruit growers near New-York had found the apple crop profitable in a year of such plenty as the last: Mr. Carpenter replied that with cider at 10 cents a gallon, it would pay even for cider making. He thought that all good and well cared for fruit had brought paying prices during the last season, and that he was encouraged to increase his orchard.

Harvey Dodge of Worcester Co., Mass., has been preparing ground for an orchard by thorough draining, at an expense of \$200 per acre. Is planting largely of the Hubbardston Nonsuch. Is trying the Northern Spy, which does well.

FEBRUARY 5.

Mr. Baldwin, of Hanover Neck, N. J., exhibited Peek's Pleasant apples of great beauty and fine size. Considers the tree a great bearer, and knows of nothing better. They sold readily this winter at \$1 a bushel.

The Diana grape was discussed. Mr. Fuller does not fancy it much, as it ripens poorly, and of uneven size; considers it an improvement on the Catawba.

Mr. Judd planted Dianas in 1856, and finds them to be strong growers and prolific, and prefers it to the Concord.

Mr. Wood stated that at Croton Point, it does not ripen every year, but when well ripened, it is superior to the Delaware. Placed on the list for special localities.

The Isabella next came up for consideration, but the remarks upon it were of a similar character to those already given above.

Large Returns from Small Outlay.

A correspondent, Joshua Thornby, of Greenfield, Mass., wishes us to call attention to a profitable kind of gardening which he has followed for some time—that of raising early plants for sale. He thinks that, from his experience, one subscriber of the *Agriculturist* in every village in the country, can realize a handsome sum by raising plants and properly advertising them. From beginning in a small way, his sales have increased to \$100 annually. He says: "It will be necessary to carefully tend, and properly transplant the hot-bed plants, that they may form large fibrous roots and short, stocky stems; to be very careful in getting the best varieties,

and the purest seed, and by judiciously timing the sowing and transplanting of the various plants, to keep the beds always occupied to the end of the season. I have one hot-bed 18 ft. by 3½, and another 25x6, and from these beds I last year sold, 1000 tomato plants, 600 celery plants, 500 asters, 100 pansies, 150 Japan pinks, 100 Winter Cherry, and a few Verbenas, Fuchsias and other bedding plants, and notwithstanding the comparatively large sum realized, I might have sold \$20 worth of cabbage and other hardy plants which I lost by cut worms and severe weather. Now, Sir, don't you, and some of your subscribers think that \$100 is worth trying for when it may be made with so much pleasure, and so little expense or trouble. I attend to sowing my beds and transplanting after factory hours, and wife attends principally to the sales. But don't think, dear Sir, that we deny ourselves any good thing from our garden just to make it pay; for besides what we sold last year from our farm of 16 rods, we raised ½ bushel of Isabella grapes, (and laid the foundation for future Delawares), many quarts of strawberries, 30 bunches celery, a bushel each of beets and turnips, (White French), tomatoes *ad infinitum*, 20 cauliflower, 30 cabbages, (and I must confess it, several pounds of tobacco,) a dozen fine squashes, besides enough peppers, salads, corn, beans, currants, and etceteras, and ½ dozen beds of as beautiful flowers as even you would wish to see."

What Grapes to Plant.

The Fruit Growers Meeting, having disposed of the pear question (as reported in the January *Agriculturist*, page 17,) next proceeded to the discussion of the varieties of *Grapes*, a brief summary of the first part of which is presented in the preceding columns. It was agreed to adopt four separate lists of three kinds in each. Special reference was had to a circuit of 100 miles around New-York City as the center, though the lists adopted, apply pretty generally over the country, exceptions being made for wide differences of climate, location, etc. The four lists are:

- I.—Three best kinds of grapes, sufficiently tested to warrant their recommendation for GENERAL CULTIVATION.
- II.—Three kinds known to be good in SPECIAL LOCALITIES, as on favorable soils or where sheltered, or under the ameliorating influence of large bodies of water.
- III.—Three kinds PROMISING WELL, but not so extensively tested as to warrant their being yet placed in the first or second lists.
- IV.—Three good WINE GRAPES for general cultivation.

After full discussion and comparison of views, during several weeks, the question was put to a direct vote by handing in written lists, the voting being done only by those qualified to do so by experience and observation. The votes stood: 19 for Delaware; 19 for Concord; and 13 for Hartford Prolific, and some for Diana, etc. On a division vote, as to which should be placed first, the vote stood 13 for Delaware, and 8 for Concord. This settled, the Concord received a unanimous vote for the second on the list. For the third, Hartford Prolific received 17 votes, and Diana 4 votes.

Over the second class there was also much discussion as indicated in our report. The Diana was placed first by general consent, all conceding it to be of excellent flavor, and a strong grower, but some complained that it did not ripen evenly. The Isabella was placed second,

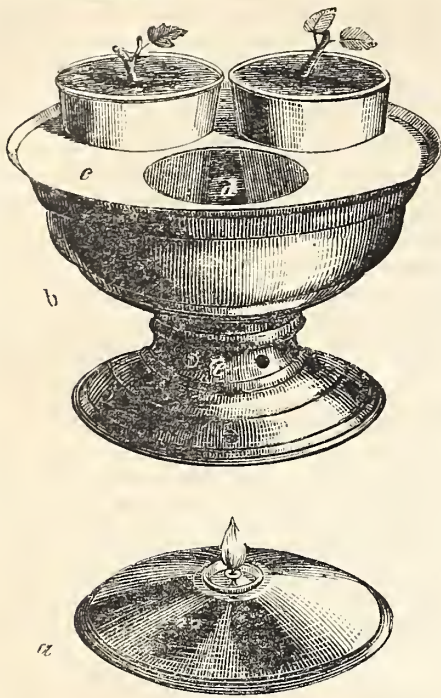
but not without some protests, several gentlemen claiming that it should be discarded entirely. Its great success in the city yards of New-York and Brooklyn where many tons of it are annually grown, also at Croton Point, at Naples, N. Y., and elsewhere, was sufficient to save it from being thrown aside. It usually needs special protection of buildings, or of surrounding hills, or the influence of large bodies of water upon the atmosphere. The Catawba was placed third, with the same general qualification as the Isabella, and the additional one that it ripens later, and can not therefore be grown as far north. The first two lists therefore stand:

For General Culture.	For Special Localities.
1 DELAWARE.	1 DIANA.
2 CONCORD.	2 ISABELLA.
3 HARTFORD PROLIFICO.	3 CATAWBA.

The third and fourth lists are still under discussion at the time of this writing (Feb. 10th). There are several candidates for favor. Two or three would stand a fair chance for recommendation, but for the fact that the whole stock of vines is yet in the possession of a few individuals, and there is, at these meetings, a decided opposition to favoring individual interests. But of these lists hereafter.

Tobacco—Preparation of Seed Beds.

We have already received a number of essays on Tobacco Culture, but as all that are expected, have not yet come in, we are not able to publish the prize article this month. It being necessary to commence the preparation for the crop as soon as the ground can be worked, we give a few directions for the seed-bed. It is better to prepare the plot in the preceding Fall, but where that has not been done, the bed should be made ready as early as possible. A sheltered locality, where the cold winds are broken by woods or some other protecting objects, and having a good exposure to the sun, should be chosen. The ground should be made rich with plenty of hog manure, well spaded in; and then, just before planting, it should be covered with brush, which is to be burned on it. The burning of the brush serves to destroy the seeds of weeds, and furnishes a dressing of ashes, which is beneficial to the young plants. The time of sowing will depend upon the season and latitude: from the first to the middle of April being the time for Connecticut. About a square rod of ground is allowed for the seed bed for an acre. It would be better to lay this out in strips of about three feet in width, so as to allow the weeding to be done, without trampling on the bed. If the seed is good, a very small quantity will furnish plants for an acre, but it is best to have an abundance. A tablespoonful, well mixed with a pint of ashes or soil before sowing, will be plenty. The bed being thoroughly raked, the seed is sown, and the earth either rolled, or pressed down by a plank. When the sowing is made late, the seed is sometimes sprouted by moistening it, and covering with a damp cloth, and keeping it in a warm place. It takes about three weeks for the seed to germinate, and when it comes up, the plant is exceedingly minute. If the bed becomes dry, it should be watered with blood-warm water. The choice of varieties should be governed somewhat by the experience of others in the neighborhood, there being many local sorts, which are considered best adapted to certain districts. The leading varieties in the market are: the Connecticut Seed Leaf—valued as wrappers to cigars—the Kentucky, Maryland, Ohio, and Havana.



A Convenient Propagating Case.

The apparatus represented in the above engraving, invented by C. B. Miller, of this City, is designed to furnish a simple, cheap, and expeditious mode of propagating plants by cuttings, and starting seeds difficult of growth. It consists of a zinc vessel, *b*, for holding small pots which are set in the top, *c*. When in use, the hollow part, *d*, is to be partly filled with water, enough to nearly reach the bottom of the pots. The lower division, *e*, is also hollow, and its bottom rim fits upon the broad-based lamp, *a*. Air for the flame is supplied through the holes shown near *e*. The wick tube of the lamp is made very small, only large enough for a bit of cotton twine. Alcohol or burning fluid is used in the lamp. The bottom of the division, *b*, immediately above the flame of the lamp when the two parts are fitted together, is cone-shaped, to receive and retain the heat, and communicate it to the surrounding water. The small amount of steam generated, gives a uniform and gentle bottom heat, and sufficient moisture to the plants or seeds contained in the pots, thus affording the most favorable conditions for growth. If it be desired to keep a humid atmosphere about the cuttings, a glass tumbler is placed over each pot. The apparatus is neatly made, occupies but little space, and costs from \$2 to \$5, according to size. By its use, amateurs can supply themselves and their friends with many choice plants which would otherwise be unattainable save from the collections of professional nurserymen.

A Mess of Greens.

Most people highly enjoy a dish of greens. It is the first contribution of the season which the garden makes to the table, and it brings the assurance that Spring is at hand, and is a promise of more good things to come. Many persons rely upon the spontaneous growth of the fields and make use of dandelions, marsh-marigolds (improperly called cowslip), dock, and other things. These are better than nothing, but they are far inferior to what may be produced with a little care from the garden. At the head of the list we put Spinach, as the most delicious of all. This can be had very early by

planting in the Fall and giving a slight protection through the Winter. Or sow in Spring as soon as the ground is suitable and the rapidly growing plants will give an early supply to the table. Next, we place the Swiss Chard, a kind of beet which is grown for the leaves only, the root being small and useless. The outer leaves are pulled off for use and others quickly succeed them; a small bed will supply a family. Cabbage stumps, and turnips planted out, will yield numerous shoots which make good greens. They should be taken when still tender. Young beets, which are pulled up when the beds are thinned, are cooked with the roots on and are relished by many. Borecole or kale is a great favorite with the Germans. This is a hardy kind of cabbage which does not head, but forms a tuft of leaves which are eaten after they have been exposed to frost. Planted in the Fall and left out with little or no protection, it furnishes an abundant stock of greens early in the season. These are the principal varieties of greens grown in the garden, though others are occasionally used. The custom of boiling greens with pork or other fat meat is a bad one. The delicate flavor of spinach especially is destroyed in this way, and all greens are rendered less digestible. It is much better to boil them in pure water and dress them with butter and other seasoning as they are sent to the table.

Salsify or "Vegetable Oyster".

This vegetable is not as extensively cultivated as it would be, were it better known. It is grown with the same ease as carrots and parsnips, and helps make up an agreeable variety for the table. It should be sown upon good, rich soil, which should be worked deeply. Some English cultivators prepare the soil by bastard trenching,—that is, the top soil is removed a spade deep, an abundant supply of manure spaded into the soil below, and then the top portion is returned. By having the richest soil below, it is claimed that the roots have much less tendency to fork. We have found no difficulty in cultivating it, without this trouble, in soil prepared as for other root crops. The seed, which should be of the growth of the previous year, should be planted as soon as the soil becomes warm. Plant in rows 15 inches apart, and at the first weeding, thin out to 4 or 5 inches in the rows. The after-culture consists in keeping down the weeds until the leaves become so large that it is difficult to work among them with a hoe. The roots may be used when they are as large as the little finger; they increase in size until the growing season is over, but never grow to be much over an inch in diameter. The supply required for use during Winter may be buried in sand in the cellar, and the remainder left out to be dug in the Spring. Some of the finest plants should be left for seed, which is produced the second year. Birds, especially the yellow bird, are exceedingly fond of the seed, and, where these are numerous, it is difficult to secure it. The best way is to cut up the plant, before the seeds are fully ripe, and place them under cover to mature. The root is cooked in various ways. It may be boiled and mashed, and dipped in batter and fried, or cut in slices and stewed with the addition of milk and butter, after the manner of oysters. Boiled soft, first with water and then with milk, it makes a very good "oyster soup." The addition of a little salt codfish picked fine, makes the resemblance to oyster soup sufficiently near to warrant the name "vegetable oyster." When prepared for

cooking, it should be scraped and thrown into water; this will prevent the milky juice which the root contains from turning brown, as it will do if exposed for a long time to the air.

Chicory.

In a former volume of the *Agriculturist* we gave some articles upon the culture of this plant. It is now attracting so much attention that we present a brief account of it in reply to frequent inquiries. It is botanically known as *Chicorium Intybus*, and is sometimes confounded with the endive, which is a different species, (*Chicorium Endivia*.) The plant is a native of Southern Europe, and has become introduced into this country where, especially near the Eastern cities, it is a very common weed. The fleshy perennial root throws up a stem the second year which bears an abundance of pretty blue flowers, which open only in the sunshine. The general appearance of the plant in the wild state is well represented in the engraving; the detached flower is about half the natural size. Like the dandelion, to which it is closely related, all parts of the plant have a milky juice. In Europe the blanched leaves are used as a salad, but it is for the root that the plant is chiefly cultivated. The roasted root has long been used to mix with coffee, and, now that the real article bears so high a price, it is advocated as a substitute.

The culture is the same as that of carrots, about four pounds of seed being required for an acre. The roots may be taken up in the Fall or in the Spring before the flower stalk shoots up; some claim that the roots are of better quality when two or three years old. The root is



washed, sliced, and dried, and then roasted or burned. In England, 1 lb. of lard is added to 50 lbs. of the chicory while roasting, in order to improve its appearance. With regard to the propriety of using this as a constant beverage,

age, we have already spoken pretty strongly. It is believed to excite the nerves unduly, to derange the digestive functions, producing headaches and other ills. Some say they have used it with impunity, and that those who are unpleasantly affected by coffee find the change to chicory to be beneficial. Much of the coffee sold ready ground, is more or less mixed with chicory, and some prefer it. Those who wish to try it as a substitute for coffee or to mix with it, can cultivate a small patch for the experiment.

THE HOUSEHOLD.



About Nutmegs.

"Spice to suit the taste" is a frequent direction in cookery, and the taste is very frequently for nutmeg. Like many other articles in every day use, which are so common that we seldom stop to think much about them, but little is generally known of the history of the nutmeg. The tree is a native of the Spice Islands. These were for a long time in the possession of the Dutch, who endeavored to confine its cultivation to three of the islands, and had the trees cut upon all the rest. Their intentions were interfered with by a bird which swallowed the nutmeg for its pulpy covering, and voided the nut unharmed; in this way the tree was carried to the neighboring islands. The Spice Islands fell into the hands of the English, who, during the time they had possession of them, distributed the plants to other countries, and the monopoly was broken up. The tree has considerable resemblance to a pear tree, and has fruit on it all the year round. The fruit is about three times as large as the largest one in the engraving, and consists of an outer husk which is somewhat woody when the fruit is ripe, at which time it splits in halves and exposes the nut. The nut as it comes from the husk, is shown in the engraving. It is enveloped with a peculiar covering; this covering, when removed and dried, is the spice known as Mace, which has a flavor quite distinct from that of Nutmeg, and is by many persons preferred to it. When fresh, the mace is of a bright crimson color, which turns to brownish, on drying. The nutmeg is still within another covering inside of the mace. To remove it from this, the nuts are exposed to a gentle heat, and when dried so that they will rattle, the shell is broken and the nutmegs removed. They are then put into lime, which gives them their whitened appearance; this is done to prevent the attacks of an insect which is very fond of them. The value of nutmegs depends upon the oil they contain: the oil is sometimes extracted by distillation and the nutmegs limed again and thrown into the market. This fraud can be detected by the experienced, by the lightness of

those which have been so treated. A sure way, and one which every one can practise, is to prick the nutmegs with a pin,—if the surface around the pin-hole appears greasy, the spice is good. Taken in large quantities, nutmegs produce narcotic effects similar to those of opium.

Drying Clothes—Air in Rooms.

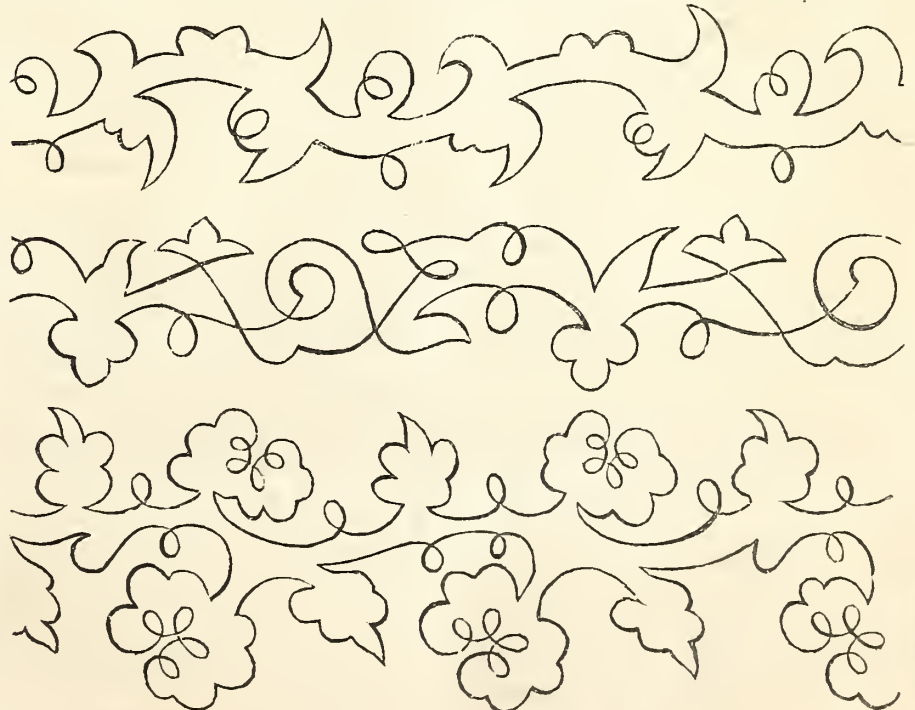
Good housekeepers are anxious that washing-day should be a good drying day. It is a matter of common observation that on some days the clothes will dry more rapidly than on others. To understand why this is, we have to consider some of the relations of the air to moisture. The air possesses the power to take up water and hold it dissolved, as it were, in the state of invisible vapor. A given bulk of air can hold a certain amount of moisture, and when it has that, it can take up no more, the circumstances being the same. If the air has all the moisture it can hold, the clothes will not dry. If it has but a small proportion, they dry with a rapidity corresponding to the amount of watery vapor already in the air. When the clothes do not dry out of doors, they are brought into the house where they readily dry. Why is this, if the air within and without contains the same amount of moisture? This brings us to a remarkable change that heat effects in the power of air to take up vapor. The air at the freezing point of water can hold the 160th of its weight of vapor, and this capacity for moisture is doubled with every 27 degrees of additional heat. Air that is saturated with moisture and can take up no more at 40°, when heated to 67° is capable of taking up as much as it already contains, and wet clothing exposed to it, dries very rapidly. In the heating of our dwellings, by whatever means, the air has its capacity for moisture increased, and takes it readily from the objects in the room; the wood-work and furniture shrink and crack, and the leaves of the house-plants curl up and fall off, not because the room is overheated, but because the air is dry. The cold air from without, even though it may be damp at the time it enters the room, by heating, suddenly becomes capable of holding twice as much moisture as before, and everything in the room capable of yielding moisture, gives it up to supply the deficiency. Our bodies are unpleasantly affected by this dry air. Evaporation goes on with un-

ing is not entirely due to the presence of plants and flowers, but is in good part owing to the air which, to properly promote the health of the plants, is kept not only warm but moist; and it is this moisture, rather than the odors of the flowers, that makes the air of the green-house seem so balmy and spring-like. Let us take a lesson from the gardener in the care of our little human plants, and, whether the house be heated by stoves or by a furnace, be sure that the air is not too dry for health and comfort. There is a very curious way of telling the amount of moisture present in the air by means of a thermometer. It is no doubt familiar to every one that evaporation produces cold. The wetted hand, in drying feels cool, and if we pour alcohol, which evaporates more readily than water, over the hand, the cold will be much greater than with water. We have seen that water will evaporate more rapidly in a dry air than in a moist one, and that the more rapidly it evaporates, the greater will be the cold produced. Now we have only to take two thermometers and tie a bit of muslin around the bulb of one, and wet the muslin by dipping the covered bulb in water of the same temperature as the air of the room. If the air is as full of moisture as it can hold, no evaporation will take place, and the mercury in both thermometers will stand the same. But as we seldom find the air in this condition, either in or out of doors, the water will evaporate with a rapidity corresponding to the dryness of the air; the bulb will be cooled more or less rapidly, and the mercury will sink in the tube. Such thermometers have a table accompanying them which show, from the difference in the height of the two thermometers, how much moisture is present in the air.

Designs for Chain-Stitched Handkerchiefs.

To the Editor of the American Agriculturist.

While you cater for the boys' amusement, allow me to provide something for the benefit of the girls. Now that chain-stitched pocket-handkerchiefs are all the fashion, I dare say the girls, and women too, will be glad of some pretty patterns to mark them. Let them draw with a pencil the accompanying patterns, by placing the article to be worked, over the designs, and then chain-stitch in red marking cotton. The designs are suitable for braiding also, and to obviate the trouble of drawing the pat-



DESIGNS FOR CHAIN-STITCHED HANDKERCHIEFS.

tern on cloth, tissue paper may be used. Copy the designs through, on to strips of thin paper, baste these on the cloth to be braided, and sew through braid paper and cloth. The paper may be torn out when the work is finished.

Every one who has entered a green-house, has noticed what a pleasant impression is produced; it seems like a sudden transition to Spring. This feel-

tern on cloth, tissue paper may be used. Copy the designs through, on to strips of thin paper, baste these on the cloth to be braided, and sew through braid paper and cloth. The paper may be torn out when the work is finished.

AUNT SUE.

Why Don't the Butter Come?

A correspondent of the *Agriculturist* writes that: "at times, particularly in Winter, great difficulty is experienced in bringing the butter. Sometimes the cream requires one or two hours' churning, and occasionally the butter appears in small globules, but can not be made to gather." The trouble probably arises from not having the cream at the right temperature when the churning is commenced. It should be at from 50° to 55° Fahrenheit. If lower than this, only a few of the minute saes containing the butter will be broken, and the oily matter will coat over the remaining ones, forming the globules noticed by our correspondent. Try the cream with a thermometer before churning, and if too cool, set the cream vessel in hot water, until the proper heat is attained. If the cream be made too warm, the small saes containing the butter break very easily, and the oily particles run together, making grease; in this case also, much butter will be lost, as the contents of the saes first broken, will envelop the remaining ones, and many of them will not be ruptured. A correspondent, "Mary," at Harrisonville, Me., gives the following suggestion on the same subject: "In cold weather a double cream forms upon milk; the top layer thick and tough, with a thin stratum underneath. It is not fit to be churned in this condition; the butter will not come. Neither should it be mixed with sour cream which may be ready for churning. If I want to use such milk, I always place the cream in a separate vessel, and if needed to make out the churning, it is set near the fire, where it will sour quickly. When it is *all thickened*, it can be churned with the other cream."

Washing Comforters.

Mrs. Margaret R. Ball, Rush Co., Ind., writes to the *American Agriculturist* as follows: "Having noticed the statement that cotton comforters for bed-clothing are not healthful, especially on account of the difficulty of cleansing them, I give my plan: First make them light enough to be quilted with a long needle. At any time they may need washing, but especially in Spring, spread them out on the grass before a heavy rain, and when thoroughly drenched, hang them on a line until dry. Then by beating them with a light rod, as a rattan, they may be made as light and pliable as ever." [It will require a very heavy shower to wash a comforter much soiled. Mrs. B. may intend to recommend to wash them first, and spread out afterwards. The whipping or beating will doubtless aid in making them more light and pliable. Comforters filled with cotton, are out of the question, however, at the present price of that article. We shall have to raise more sheep, and use woolen blankets.—Ed.]

The Clothes-Wringer a Good Thing.

We can not too frequently speak of the value of the modern household implement known as the Clothes-Wringer. From several years' experience with it in our own family, from the testimony of hundreds who have used it, and from the construction of the implement itself, we feel certain that it is worthy a place in every family where the washing is done at home. It is set upon any wash-tub, no matter what its form, and then by turning the crank with the right hand, and picking up the wet garments with the other hand, they are quickly passed through, and drop out into a basket, quite as dry as when twisted in the hands. The garments pass between two India rubber rollers which set close together, but which yield at different points, as needed, so as to squeeze the water out of the smallest pocket-handkerchief, or the largest garment. The fibers are not twisted and wrenched as in hand wringing, but are simply pressed between the yielding rubber, the water falling back into the tub. A child can readily wring out a tubful of clothes in a few minutes. It is in reality a clothes saver, a time saver, and a strength saver. The saving of garments will alone pay a large percentage

on its cost. We think the machine much more than pays for itself every year, in the saving of garments. There are several good kinds, nearly alike in general construction, but we consider it important that the wringer be fitted with *cogs*, so that they shall both turn invariably together, otherwise a mass of garments may clog the rollers, and the roller upon the crank slip and tear the fibers. The cogs of the wheels should be long enough to fit into each other when the rollers are pressed apart by large garments. Our own is one of the first made by the Metropolitan Washing Machine Company, Middlefield, Conn., and it is as good as new, after nearly four years' constant use. They have introduced many improvements since ours was made. We have given away several hundreds as premiums, (see premium No. 2, in our list), and shall be ready to furnish others in the same way, whenever desired. We have a contract, under which *this* premium will be continued for some time, whether the others are or not.

To Prevent Woolens Shrinking.

A correspondent, "M. B. B.," objects to the plan for drying stockings, by stretching them upon blocks shaped to receive them, published in a former number of the *Agriculturist*. Though it would prevent their shrinking, she thinks it would be too troublesome in a large family. She recommends the following plan: In doubling the stocking up to wring it, fold it at the heel, and lay the foot upon the leg. Then roll it tight, and wring it cross-wise. The same method is recommended by another housekeeper, H. A. Ingersoll, and we think there must be something in it. The latter lady writes, that in washing woolen fabrics, they should be put into very hot water, which may be allowed to cool until the hands can be borne in it. In changing the water for rinsing, be careful to have it several degrees hotter than that from which the articles were last taken. This will in some measure prevent fulling or shrinking.

Tim Bunker on the Farmer's Old Age.

"*Sallie Bunker Slocum*, is the baby's name," said Mrs. Bunker, as she took off her spectacles and laid down the letter from Shadtown, which I had just brought in from the Post Office.

"I like the name well enough, except the spelling of it," she continued. "Sally was my mother's name, it is my name, and my daughter's, and if they wanted to keep up the name in the family, I don't see why they didn't spell it in the old way. If I set out to do a thing, I would do it right."

"I suppose it is a little more genteel," I replied. "That is the way they spell it among the aristocratic families of the South."

"That is just what I don't like," said she. "It is a miserable affectation of women who read novels more than they do their bibles. We have no aristocracy up here, and judging from what I saw when I was down South, I never want to see any. Isn't this wretched war carried on to bolster up an aristocracy, and that a few families may live in idleness at the expense of the poor? I don't want to see any aristocratic trumpery on my grand-children. *Sallie* won't look well on a grave stone."

"What does Sally write about it?" I asked.

"Not a word about the spelling. She seems to think it is all the same. She writes: 'We carried the baby out to meeting for the first time last Sabbath, and it was baptized *Sallie Bunker*. We never thought of calling her any thing else, out of regard to you and grandmother, though we did not tell you at the time you were here, lest you should be too much puffed up with your honors. She is a nice child, and little Timothy thinks a world of her.' That is all she says about it. I shall write her immediately," said Mrs. Bunker, with emphasis, "that my name is not *Sallie*."

Now we do not always agree on small points, but on the larger matter of having grand-children, we see pretty much alike. It is one of the greatest comforts of old age to have children's children around us, to cheer us while we live, and to bear

our names and to take our places when we are gone. We can hardly have too many of them, and I shall not be very particular whether their names have a letter more or less, if we only have the children.

This is a matter of considerable solicitude, not only here in Hookertown, but in a great many farming towns around us. The present generation is getting pretty well along in life, and we do not know who is going to take our places. You would be surprised to see how few young men there are in the meeting-house on Sunday. The men who sit at the head of the pews are almost all gray haired, and some of them are about as white as snow. It looks a great deal worse than it did a year ago, before so many went off to the war. Uncle *Jotham Sparrowgrass* has no son to take his place, and *Seth Twiggs*, *Jake Frink* and myself have boys in the army, and a dozen more went from our parish. It is about an even chance, whether we ever see many of them again. The war bids fair to be a long one, and what the bullets don't kill, the hospital will be likely to finish. But then we ain't sorry the boys have gone, and if they don't come back, *we are going ourselves*, if the rebellion is not crushed. It is pretty certain that our farms won't be worth much to ourselves, or to our grandchildren, if *Jeff. Davis* is going to rule. It is the old battle of despotism and liberty, and we are bound to see it through, whatever may be the cost.

We have got things fixed up pretty comfortable, and it will be pretty hard to go off and leave them, but we might say that, I suppose, when we start on a longer journey. We can't expect to stay here forever, and a few years more or less won't make any particular difference with us, when we get into the promised land. Most of us here in Hookertown have kept old age in view for a good many years, and I guess we are about as comfortable and jolly a set of old people as you will find among your hundred thousand readers. We have most of us got good houses that keep us just as comfortable and entertain our friends as well as a house that rents in the city for a thousand dollars or more. We are as independent as woodchoppers, on fuel, for if coal runs up to ten dollars a ton, as it has this winter, we can say to the coal merchant, "No you don't Mr.," and turn to the wood-pile. We have been using coal for several years, because it was cheaper than it was to hire labor, and chop and cart the wood. But there isn't a man of us but has a good wood lot, and I guess there is more wood in this town than there was fifty years ago. It is a great consolation to know where your fuel *can* come from, in case of a pinch. And then in case the house or barn wants repairs it is mighty convenient to know that you have a living lumber yard close by, where every shingle, plank, and timber you need, is on hand. Twenty acres of woodland that you have watched the growth of for forty years or more, is about as good as any bank stock I know of. I suppose I could sell the timber on any acre of mine for two hundred dollars, to say nothing of the fuel. That same land only cost me seventeen dollars an acre. Perhaps some folks who are in such a mighty hurry to cut off their forests, might as well stop and cipher a little.

And while I am talking of trees, as a shelter for old age, I want to say a good word for orchards, apples, and indeed fruits of all kinds. I waked up to planting apple trees when I was young, and I think I have now about as good an orchard as there is in town. With the low price of fruit this last year, it has brought me in over three hundred dollars, sold on the trees to the buyer. I only regret that I had not begun to plant pear trees sooner. They are quite as hardy as apples, yield as well, and sell for more than double. A man with a dozen acres in pears, of the right kinds, would have a comfortable income for old age, if he had nothing else. But aside from profit, a plenty of fruit in the family is a great comfort and luxury, and an important means of health. We have seen very little of the doctor in forty years, and we have had fruit in some shape every day in the year. Put these two things together: long lived people eat much fruit.

Perhaps we don't live quite so well out here on the farm, as some of the nabobs in the city, though

about that there is room for a difference of opinion. All the raw materials of their extra fixings come from the farm—poultry, eggs, milk, cream, butter and cheese, and the fine fruits. They have better cooks, perhaps, though some of us out here have things about as nice, in that line, as it is safe for sinners to enjoy. I should be loth to swap my cook for the best you have got in your biggest hotel. When Mrs. Bunker gets on her checked apron and spectacles, and lays herself out on a soup or a roast, you see, common cooks might as well retire.

In the matter of dress, we in the country are not quite so independent as we used to be, when there was a spinning wheel and a loom, in every house, and men wore the linen and woolen made at home, because they had nothing else. But we clothe ourselves easier now, for we can buy cloth a great deal cheaper than we can make it. But if the war continues, and prices keep going up, we may have to come back to homespun again, and then I guess the old folks will be about as independent as any body, for we know how to use the spinning wheel and loom. But that day is some ways off, I guess, judging from the finery we see in the Hookertown meeting-house on Sunday. That two-story bonnet of Miss Almada Georgiana Bottom has done the work for our young women. They tittered at it at first, but it was no use laughing at the fashions. They had to cave in, and the meeting-house on Sunday now looks like a big flower garden. The old ladies who were freest in their remarks, I notice have bonnets as high as the highest. I suppose I should not have said so, but I couldn't help asking Mrs. Bunker, as we started for meeting, if she would have the carriage top let down.

Hookertown,) Yours to command,
February 20th, 1863.) TIMOTHY BUNKER ESQ.

Night Clothing of Children in Winter.

"Let me tell you what Charlie wore at night last Winter," said an active young mother to me some time ago, speaking of her three year old boy. "He had on, besides his flannel shirt and drawers which he wears in day time, a pair of cotton flannel night drawers, two pairs of socks, a cotton flannel night gown, his double wrapper, and then a large shawl wrapped over the whole of it; for" said she, "I was afraid he'd freeze, for he would kick the covering off." I thought it no wonder. Being bundled up in that way, the weight of an ordinary amount of bed-clothes was unbearable, and the child became restless, and soon began trying to rid himself of some of the incumbrance, and the sudden transition from an overheat to comparative cold, made a cold a sure consequence. Let the little fellows be stripped of everything at night, excepting the flannel shirt worn next to the skin, then put on a soft night gown reaching to the feet; add to this barely bed-clothing enough to keep them comfortable, and they will cuddle down and go to sleep, and never offer to kick the cover off. They will shiver a little at first, but they will soon get over that, and sleep soundly, and awaken bright and lively. MARY.

[In addition to the above, we suggest that it is advisable to change all clothing worn during the day, before retiring to rest. The under-garments having absorbed much perspiration, are good conductors of heat, and a person sleeping in them will feel, first an unpleasant chilliness, and afterward a disagreeable clammy sensation, as the clothing becomes warmer. If the supply of flannel shirts be scanty, or the extra washing be too much to allow two garments per week, it would be an improvement over the common custom, to wear one for the night the first week, and during the day the second week; thus giving each a daily airing.—Ed.]

659 Pies!

A correspondent writes to the *American Agriculturist*, that in his family, consisting of six persons, an account was kept of the number of pies eaten in one year; they amounted to six hundred and fifty-nine! [This is nearly one-third of a pie a day for each person. But how large were the

pies? If of the size of those sold by a Nassau-st. eating-house, cut into six pieces, at a sixpence each, they wouldn't do much harm, (nor good); but if like Savery's pumpkin pies, or those our mother used to make "out West," where we raised "some pumpkins," the other items of board in the family aforesaid would not cost much.—*Query, apropos.* Does the brief pleasure in eating pies pay for the trouble and expense of making them, and the dull feelings arising from trying to digest the conglomeration, yecept mince-pies, or the lard mixture called "short pie-crust?"—ED.]

Adulterations in Coffee.

In ordinary times, roasted and ground coffee, especially that sold at low prices, was liable to adulterations. Now that the price of the berry has increased there is still greater inducement to mix foreign substances with it. We have before us a report of an examination made in London upon 34 samples of coffee, of all grades, and 31 of these were found to be adulterated. It is not to be supposed that Yankee dealers are any less ingenious than those over the water, and we have no doubt, from what we have seen of coffee bought ready ground, that adulteration is largely practised here. The articles used to mix with the coffee are often harmless in themselves, but are a fraud on the purchaser, as he pays for a cheap and worthless article at the price of a genuine one. The articles commonly mixed with coffee are chicory, peas, rye, and other grains, beans, and old ship biscuit. These may be mixed with coffee to a considerable extent, and it will still have the peculiar odor. To detect these adulterations with nicety, requires the skillful use of a microscope, but there are some rough tests which any one can make use of. Pure coffee, when put into cold water does not color it very rapidly, while the articles with which it is adulterated, readily give up their coloring matter. If then, water mixed with a sample of coffee, soon becomes dark, the presence of foreign substances may be suspected. The fragments of the coffee berry are quite hard, and remain so for some time after being wet with cold water. If a little be placed on a plate and moistened, and the separate particles tried with a pin or needle, the pieces of chicory, bread, etc., will be found to be very much softer than those of the coffee. The true way to be safe against adulterations is to buy the raw berry and roast and grind it. Then, if any mixture is needed, or desired, it can be added much more cheaply than to pay for it as coffee.

Scalded Emptyings, or Yeast.

Contributed to the *American Agriculturist*, by Mrs. David Brush, Suffolk Co., L. I. Take sweet, light rye dough, roll out and cut into pieces about three inches square, and dry on platters well floured, as quickly as possible, without baking them, turning them frequently. When thoroughly dried, put them in a small muslin bag, and keep in the flour barrel. When you wish to make emptyings, take, at night, one of the dried pieces, break it up and pour on tepid water enough to soak it. In the morning, drain it off and pour on a teacupful of tepid hop water, and thicken with rye flour and a half teaspoonful of ginger, to about the thickness of cream, and let it stand in a warm place until light. The next morning boil about 3 handfuls of hops in water enough to have 3 quarts left. Strain this, and pour it scalding hot on rye flour enough to make a very stiff batter; add one handful of salt. When the lumps are stirred out, let it cool until the finger can be borne in it. Then pour in the leaven you raised, mix thoroughly, set in a warm place until light, and carry to the cellar. It is ready for use at any time, wants no working up, and will keep six or eight weeks in cold weather, and three or four weeks in Summer. A heaped tablespoonful mixed with the bread or sponge, is the allowance for each loaf. By its use you will never fail to have sweet, light bread, as the writer knows by an experience of 16 years.

The leaven cakes will remain good for one or two years if kept as dry as flour should always be kept.

How to Make Soft Soap.

Contributed to the *American Agriculturist* by "Ann Eliza," Cold Spring, N. Y.: Take 5 lbs. potash, 5 lbs. grease, and 16 gallons of water. Break the potash in pieces the size of walnuts—if large, it will not dissolve so quickly. Put it in a clean tight barrel, melt the grease, and pour it in. Any grease will answer, as skimmings, old lard, etc. Have the water hot, and pour half of it immediately into the barrel, stirring it until the potash is dissolved, which will require from twenty to thirty minutes. Then add the rest of the water, stir again until thoroughly mixed, and afterward occasionally for three or four days. This will make about a half barrel of white soap, hard enough to cut with a knife. Should the potash be very strong, it sometimes requires more water, which may be known by small crumbling pieces remaining in the lye at the end of four or five days. In breaking the potash, be careful to prevent it from adhering to the clothing, as it would soon spoil the texture.

How to Make Hard Soap.

Seeing in a recent number of the *American Agriculturist* the call for Housekeepers' contributions, I send directions for making a soap that we have used for years: Take 3 lbs. of unslaked lime, and 6 lbs. of soda, and put in 5 gallons of water. When they are dissolved, pour off the water from the top, (throwing the sediment away,) and add to it 6 lbs. of fat. Boil till thick, pour in a tub, and when cold, cut in bars and dry. It is injured by freezing before drying. D. TAYLOR.

Hints on Cooking, etc.

Good way to Cook Eggs.—Contributed to the *American Agriculturist*, by "Mary."—Put into a spider not quite as much lard or meat drippings as for frying eggs in the ordinary way. While it is heating, break the eggs into a plate, and when it is hot slip the eggs into the spider evenly—not all on one side, or the grease will slip out from under them, and they will stick to the spider. Sprinkle them with pepper and salt, pour in nearly a teacupful of hot water, cover them quickly with a closely fitting lid, let them steam three or four minutes, when they will be found nicely whitened over the top, like eggs which have been cooked by breaking them into boiling water, and much more palatable than those poached without grease.

Pate de Veau.—Contributed to the *Agriculturist*, by a subscriber at Montrose, Pa. Take four pounds of the tender part of a leg of veal, chop raw, and with it mix six or eight small crackers rolled fine, two eggs, a piece of butter the size of an egg, slice of salt pork chopped fine, and enough salt and pepper to season well. Mix all well together, and mold into a loaf form; put small pieces of butter over the top, and grated bread; put on a dish with very little water, and bake two hours; when cold, cut in thin slices for tea, or use as a side dish at dinner. [This is similar to "Minced Veal" recommended in the *Agriculturist*, and which we find both convenient and palatable.—Ed.]

Ginger Snaps.—"A Young Housekeeper," recently sent to the office of the *American Agriculturist*, some excellent samples of this cake, with the following directions for making: Take 2 cups molasses, 1 cup lard, 1 tablespoonful ginger, 1 teacupful salt, 2 teacupfuls soda. Let these ingredients boil up once, then add flour until stiff enough to roll out, and bake in a quick oven.

Hominy Pudding.—It may not be known to all the readers of the *Agriculturist*, that pudding made of hominy is quite as good as that made of rice, and far cheaper. After having cooked the hominy by boiling in the usual way, add eggs, milk, sugar, and flavoring if desired, as in making rice pudding. We have tried it, and know it to be good.



A MOUSE'S DREAM—THE CAT IN COURT.

(Designed and Engraved for the American Agriculturist.)

The Editor with his Young Readers.

A fine time these mice are having. Their old enemy, the cat, is securely muzzled, bound hand and foot, and led in triumph to be tried for high crimes against the mouse community. The judges have taken their seats in due form, the clerks of the court are ready to record the testimony, the armed guards are prepared for any emergency, and the lookers on are in high glee. Our artist calls it the *Mouse's dream*; we suspect he himself must have been visiting dream-land. However, if mice do ever dream, they might be supposed to have some such a vision in sleep. No doubt the little fellows would be as happy over the prospect, as boys we have seen—grown-up ones as well as children—dreaming with their eyes open, and their hands idle, about triumphing over supposed obstacles to their happiness. And it would be as profitable in one case as in the other. The mice will awake to find the cat as active, powerful, and cruel as ever; so the idle dreamers about lucky numbers in lotteries, plenty of money without hard work to get it, respectability and honor without living to deserve it, will learn that such acquisitions are not to be had by dreaming for them.

An Ingenious Boot Black.

The street Boot Blacks are one of the "institutions" of New-York, as well as of some other large cities. You see them on the side-walks, in and around the hotels, and frequently on the ferry boats. They carry a box containing their "kit of implements,"—the brushes, blacking boxes, etc. This is suspended by a strap over the shoulders, and when a customer nods assent to their generally polite invitation: "Black yer boots?" or "Shine up, sir?" they quickly set down the box for your foot to rest on, drop upon their knees on the pavement, and work as rapidly as possible, so as not to detain their patrons. They first turn up the pants to keep them from being soiled, then with one brush they clean the boots, with another apply the blacking, and with two others, one in each hand, polish away. They return a "thank ye" for the half dime, or dime, given for their labor. These boys are generally so polite and so industrious that we rather like them, and sometimes take a "shinc up" just to see them work, and to chat with the smart little fellows.—Here is a case illustrating their ingenuity: A well dressed man standing at a hotel door not long since, was hailed by one of them with the usual question, "Shine up sir?" "What do you charge for blacking boots?" asked the man, who was somewhat noted for stinginess. "Five cents," was the reply. "Too much, too much, I'll give you three cents," said the man. "All right," said the youngster, and at it he went with might and main, and very soon had one boot shining like a mirror: but instead of commencing on the other, he began to pack up his brushes. "You haven't finished!" exclaimed the man. "Never mind," replied the boot-

black, with a twinkle in his eye, I won't charge you any thing for what I've done; there comes a customer who pays." The man glanced at the shining boot, then at the other, which was rusty and bespattered with mud, thought of the ridiculous figure he would make with one polished boot, and amid the laughter of the bystanders agreed to give the sharp boy ten cents to finish the job, which he did in double quick time and with great pleasure.

Good Manners—An Anecdote.

A correspondent of the *Agriculturist* relates the following incident, which he says occurred some years since in the State of Rhode Island. Colored persons are allowed to vote there, and to hold office, if elected. On one occasion, Mr. R., a very pompous, but not very popular man, desiring to be chosen Inspector of Elections, gathered his friends around the polls early on the morning of election day—the custom being to select an Inspector by vote of those happening to be present at the opening of the polls. Some mischievous young men, who disliked the pompous candidate, had heard of his plans, and they were also present with a large party, and, to his great disgust, they gave a majority for a huge, burly, but good-natured negro, well known to the citizens. When the voters came up to deposit their ballots, as usual each one took off his hat in presence of the Inspector. Soon Mr. R. approached. "It is customary to take off the hat when voting," said he, "but in this case I don't know about it." "Oh!" immediately replied the colored man, "jest as you please; it depends on a man's brought up; dere's Mr. S. and Mr. B., (naming two wealthy citizens), dey took off dere hats, but if a man has'nt been brought up to manners, why we 'seuse him." The roar of laughter which followed, so discomfited Mr. R., that he hastily left.

Robbed Advantageously!

A lady riding in a rail-car in Brooklyn recently, was somewhat crowded upon by a well dressed man, who soon after left the car. She found he had abstracted her purse containing \$7, but in doing so, he unintentionally slipped off into her pocket a valuable diamond finger ring, for which a friend, a jeweler, gladly gave her \$100, leaving her a gain of \$93. The man has not called for his ring.

A Thoughtless Boy Punished.

"I shall never forget," writes a correspondent of the *Agriculturist*, "an incident of my childhood by which I was taught to be careful not to wound the feelings of the unfortunate. A number of us schoolboys were playing by the roadside one Saturday afternoon, when the stage coach drove up to a neighboring tavern and the passengers alighted. As usual we gathered around it to observe them. Among the number was an elderly man with a cane, who got out with much difficulty, and when on the ground, he walked with the most curious contortions. His feet turned one way, his knees another, and his whole

body looked as though the different members were independent of it, and of each other, and every one was making motions to suit itself. I unthinkingly shouted 'look at old rattlebones!' and the other boys took up the cry with mocking laughter, while the poor man turned his head with an expression of pain which I can never forget. Just then, to my surprise and horror, my father came around the corner, and immediately stepping up to the stranger shook his hands warmly, and assisted him to walk to our house, which was at but a little distance. I could enjoy no more play that afternoon, and when tea-time came, I would gladly have hid myself, but I knew that would be vain, and so tremblingly went into the sitting room. To my great relief, the stranger did not recognize me, but remarked pleasantly to my father as he introduced me, 'Such a fine boy was surely worth saving.' How the words cut me to the heart. My father had often told me the story of a friend who had plunged into the river to save me as I was drowning, while an infant, and who in consequence of a cold then taken, had been made a cripple by inflammatory rheumatism; and this was the man whom I had made a butt of ridicule, and a laughing stock for my companions. I tell you, boys and girls, I would give many dollars to have the memory of that event taken away. If

ever you are tempted as I was, remember that while no good can come of sport whereby the feelings of others are wounded, you may be laying up for yourselves painful recollections that will not leave you for a lifetime."

The Boy's Reproof.

A minister in a country village received his supply of milk from one of his deacons, and his son Robert, about ten years old, was sent for it daily. A railroad had recently been built in that vicinity, and the boys had learned to imitate the whistle. When Robert was within a few rods of the deacon's house, he used to give a loud "loo-o-o-t," to let them know he was coming, so that the milk might be ready. It happened that milk was needed for a young child one Sunday afternoon, and Robert being sent for it, unthinkingly gave his usual too-o-t. Upon entering the house the deacon said to him rather severely, "Robert, the cars do not run on Sunday." Presently the deacon remembered that he had not seen the weekly paper which the minister was accustomed to lend him. "Robert, said he, "did you bring the newspaper?" The little fellow very archly, but respectfully replied: "The cars do not carry the mail on Sunday sir!" The deacon was fairly beaten with his own weapons.

An Unfortunate Mimic.

A correspondent of the *Agriculturist* writes: "A young lad of this neighborhood whom we will call Thomas, has practised imitating the sounds made by various animals, until he has become quite expert at it. He often sets the hens to cackling, the dog to barking, or the cow to running for her calf by mimicking their cries. Being full of mischief, he loves to play practical jokes. On one occasion he led a hunter a chase of more than a mile through the woods by imitating the chattering of a gray squirrel, and keeping just out of sight of the sportsman. He was partly cured of such practices, however, by the following occurrence. A man living near had a great aversion to cats. Thomas, knowing this, loved to tease him by going near his windows in the evening, and setting up a complete concert of squalls, as though all the cats of the neighborhood were trying their vocal powers. One night he had just commenced this performance, when to his horror a passing dog attracted by the noise, leaped over the fence and sprang toward him. Away he ran, shouting for fear, the dog in full chase after him. He succeeded in getting near his own door, when the dog was just upon him, and he was obliged to face him or be bitten. He swung his cap, kicked desperately, and managed to keep him at bay, at the same time shouting for help. His father heard the noise, but merely remarked, "Oh, it's only some of Tom's nonsense," and paid no attention to it. Presently there was a loud scream, which really alarmed him, and hastening out he found the dog had bitten his son severely, and the animal was with difficulty driven off."

A Heretofore Unsupplied Want. THE NATIONAL ALMANAC AND ANNUAL RECORD FOR 1863.

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NEW SERIES—No. 195.

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Suggestions and Notes for the Month.

The showers of April melt the icy fetters which have bound the northern streams, and they sing their hymn of freedom as they run along. The opening of an American Spring is a very matter of fact season. We have few of the flowers which have had the charm of English poetry added to their own loveliness. The Snowdrop does not bloom through our melting snows, nor have we many spring flowers that have been widely celebrated in song. The *Epi-gaea*—the fragrant and modest May Flower of the Pilgrims—did it only grow all over the country might well be taken as our emblematic Spring Flower, but this is found in comparatively few localities. Our most common harbinger of Spring bears the unseemly name of Skunk Cabbage. This with its curiously shaped and mottled horns which are lifted up in the swamps, is the forerunner of the great floral procession which will soon come crowding on. Showers and sunshine in fitful alternation are the characteristics of April. Under their influence the dull pastures brighten into a tender green, and the sombre hue of the woodlands is enlivened by the red of the maple buds, and the warm gray of the poplar tassels. Nature begins to paint the great landscape, and the farmer, did he but know it, is an artist working with nature to help make up the picture. In plowing the fields he is preparing the canvas on which the waving grain and ripening corn shall paint gorgeous and ever-changing colors.

Let us stop here upon the threshold of spring work and consider if the plans formed during the season of rest, have included all that may be accomplished. The main work of the farm has been laid out and the labor for that must be done. Having provided for the staple crops, is there not some other spring work for which

time can be spared, and which will add much to the comfort and attractiveness of the homestead? In the Autumn we look upon the orchard with its ripening fruit, with great interest, but we are very apt to forget it in the Spring. In spite of neglect the generous trees still yield fruit, which might be increased both in quantity and quality, by a little extra care. If the orchard bears good fruit it may be made to bear better by a coat of thorough manuring now, and judicious pruning at a late season. If the trees are still vigorous, "natural" ones which bear fruit fit for cider only, now is the time to renew them by grafting. If they are old and have suffered from long neglect, now is the time to plant a new orchard to replace them. Last year established the value of orchards. It was one of unprecedented plenty, yet, in most places, good fruit brought remunerative prices, and orchardists are extending their plantations. An orchard of well selected trees will be a great comfort in one's declining years, will be an excellent inheritance to leave children, and, if the homestead should have to be sold, will add to its value an amount that will pay well for the investment.

Another thing that should claim attention is the front yard, or approach to the house. A home-like look can, with a little pains, be given to a very rude dwelling. It is not boards and brick and mortar alone that make an attractive home; it is the manner in which they are put together. Every one, no matter how poor, has certain materials at his disposal, and the character of his home will depend upon the way in which these are used. In the first place, let the front-yard be neat, and if there is neither time nor taste for adornment with flowers and shrubs, have a smooth grass plot with here and there an elm or maple, or other forest tree. We have seen a climbing rose give to a log house an air of rural beauty which is quite wanting in the bleak, staring white houses that many a wealthy farmer builds. Were farmers' dwellings made more attractive both within and without, their sons would be much less willing to leave them.

Work for the Farm, Household, etc.

Accounts—In the haste to commence plowing and sowing, other important interests should not be overlooked. A successful cultivator must be also a man of good business habits; observant of markets, and ready to improve the favorable moment for either buying or selling. Keeping accounts will add to the thrift, and give more certainty to all operations.

Let every transaction of purchase and sale, all contracts, terms made with hired help, time of their commencing work, amount of outlay and return for each field, animal, etc., be plainly noted, for reference. A fairly kept book is better evidence in a court of law than a treacherous memory, or an interested witness.

Barley has proved a profitable crop in many

localities. Sow Spring variety on rich and well pulverized soil, $2\frac{1}{2}$ to 3 bushels per acre. Smut will be prevented, and growth hastened, by soaking the seed 24 hours in a weak solution of blue vitriol and then rolling it in air-slaked lime. Moistening with tar water and rolling in lime, answers a similar purpose. It should not lie long after being prepared, or it will heat.

Birds.—Prepare houses for martin and wren s in the vicinity of the dwelling, and allow swallows access to the barn. They are a very efficient police against destructive insects. Tame pigeons feed upon grain, and are not cleanly.

Bones.—Save all found upon, or brought upon the premises, and lay in a large stock, if they can be procured cheaply. They are better than any "patent" manures. Break them with a sledge hammer, and put them freely in the soil around fruit trees. For immediate use upon annual crops, they need to be dissolved in a wooden hooped barrel, in one part of sulphuric acid and two or three parts of water. They need four or five weeks time. The fluid is to be poured off and mixed with a large quantity of muck. Some recommend to moisten them with the acid and then bury them in a heap of horse manure, where they will soften.

Buildings.—Lose no time in finishing such as will be needed for shelter or storing produce. Clean out all rubbish from barns, stables, and sheds, and add all suitable materials to the compost heaps. Whitewash cattle stalls, poultry houses and roosts, and the insides of other out-buildings. Keep all in repair. A good coat of paint where needed will more than repay its cost in preserving woodwork. It is better applied now than later in the season. Trellises for training vines to buildings are preferable to fastening the plants directly upon the boards.

Cabbages.—Those raised in hot-beds for earliest marketing, may be transplanted in favorable weather. Early York is a favorite field cabbage for market. Set in rows 2 by $2\frac{1}{2}$ feet.

Calves.—Raise enough of the best to keep the farm fully stocked. Teach them to drink when one or two days old. After the first week their food may be gradually changed from new to skim milk, and a few weeks later to gruel of shorts, rye, oat or barley meal. A little wheat flour boiled in milk will relieve the scours. Keep their pens dry and clean.

Carrots deserve more extended culture as a field crop. They are of high value for feeding horses, cattle, and sheep, in Winter. Sow on highly manured, mellow, deep soil, free from weeds, in drills 14 inches apart. An acre requires about 2 lbs. of seed. It should be tested by sprouting before sowing; it is often poor.

Cattle, both young and old, need an extra relish of roots, if at hand, or grain, to keep them in condition as Spring advances. Restrain them from the pasture until a fair bite of grass is

grown, otherwise their appetite for hay will diminish, before they can gather enough to keep them in flesh. Deal liberally with working oxen; an occasional feed of potatoes will be beneficial, with a regular allowance of corn meal or shorts. Give roomy stalls to cows about calving, and watch, to render them assistance if needed. In breaking heifers to milk, avoid teaching them to kick by roughly handling their teats when sore. Keep these well oiled, and treat them gently at all times.

Cellars.—Clean out and whitewash at once, if not already done. Windows of fine wire gauze, millinet, or "mosquito cloth," are useful to admit air and exclude insects. If milk be kept there, it should be in an apartment separate from the general store room. Cement the floors, or lay plank flooring wherever it is necessary to walk.

Clover is an important crop. In no better way can a soil be fertilized than by turning under a heavy growth of it. The first of this month is a good time to scatter seed over old meadows and pastures, and especially on winter grain fields. Choose the first still morning, when the ground is full of little frost cracks, and sow seed liberally with or without herds-grass seed—with it if designed for a meadow or pasture for two or three years. The seed falls into the frost openings, and is finely covered in thawing. We have seldom failed of a good "catch" by this method.

Corn.—Good seed, and either good soil or plenty of manure, are the essentials. Corn is one of the seeds most readily injured by dampness or heating—in the shock or crib. It is always best to test an average sample selected from the whole seed in advance, by sprouting in warm soil. It is much better to do this than to risk the loss of a crop, or of many hills. The seed is the least part of the expense. Corn is a gross feeder, and revels in plenty of manure of any kind. It is a sun plant, and not a water one. *Rich land*, warm and dry—drained if at all needed, is what fills the corn crib—and the purse. A heavy sod turned under is a good place for corn roots to revel in.

Cranberries have almost always brought a high price, and are likely to. Many a useless swamp might be turned into a cranberry silver mine, with proper skill. We have given considerable information on the mode of doing it, in previous volumes. Eastwood's little work (costing 50 cents), gives some information on this topic, and is the only book on the subject we know of.

Draining.—"It pays," is the testimony of hundreds of our old readers who followed our earnest advice and suggestions years ago. While waiting for sun and wind to dry out wet land, lay plans to prevent such delays in future, and execute these plans at the earliest practicable moment. Air is essential to roots growing in a soil. Air and water can not both be there at once. Warmth is equally necessary, but rapid or slow evaporation of water from the surface is like an ice bath.

Fences.—A rail was thrown down in Winter; an ox saw it, and went over, leading his companions; they trampled down in a night ten thousand square feet of surface, and half spoiled a dozen or twenty young fruit trees. Enough said.

Grain Fields.—A single animal will soon tramp out plants that would yield a bushel. See page 38 (February). If plants are much heaved by frost, a roller will often benefit them, if used where the ground will not be injured by the team. Fill up the bare spots by harrowing or hoeing in spring-wheat—better have a crop of mixed wheat on the ready prepared ground, than a crop of weeds. Carefully clean the dead furrows, and outlets of under-drains; a small amount of back water may kill out a bushel of grain, which two minutes time would save.

Grass Seed.—See on Clover. Grass seed may be sown at the last harrowing in of oats or other spring grain. The lighter the covering the better.

Hedges.—It is high time to set Osage Orange plants, for at any point where they will flourish, the ground is now ready to work. We should not set

them north of 40°, as a general rule. Let somebody else test the White Willow. Buckthorn will answer in many northern localities. Clean up the useless hedge rows along the fences; they are nurseries of foul weeds, and vermin.

Hogs will probably be in better demand next Autumn, than during the past year, and the pigs should be cared for. Good food to the sows will reappear in the sucking pigs and produce earlier and more rapid development.

Horses.—Inure them to hard work, gradually. Have a merciful harness; a hard spot or badly adjusted draught may give them constant pain, and consequent loss of flesh, and produce a serious galling or sore. More work; more strengthening grain. Washing off mud and sand from the feet and rubbing down at night, will give them comfort and vigor, and may save scratches or other sores. Mares near foaling can not do hard work and bear good progeny: a hard day's drive may take \$10 from the value of a colt.

Manures.—Don't leave any to "waste its sweetness in the desert air," while rotting all Summer in the barn-yard corners, in the pig stys or hen roosts, or in the privies. Every shovelful put under or around crops and trees will reappear greatly multiplied in the grain bin, corn crib, or fruit cellar, before the season is over. No manufactured fertilizer purchased can equal the barn-produced material. After all this is used, it will do to try genuine Peruvian guano, superphosphate made of *unburned* bones and not mixed with cheap matters, and a few other honestly made fertilizers made up principally of animal matters.

Meadows.—It is easier and cheaper to pick up a stone now, than to grind a scythe in haying time; to remove bushes and stubs now than to mend scythe snaths then. A roller settles the frost-heaved roots, and sinks the hummocks and small stones. Fill up the bare spots by sowing seed. Cattle droppings in heaps, if scattered with a long handled mallet, will fertilize several square feet instead of spoiling one. Fine manure, or ashes, or lime, spread broadcast as a top-dressing, will show itself in the hay mow, after (not) many days.

Oats are relatively the highest priced grain in our market—75 to 83 cents a bushel just now. Where the insect is not feared, they are worth looking after. The earlier they can be sown the better. They like good soil but not too much rich manure, or the straw will grow rank and fall.

Onions often pay well as a field crop. Any one cultivating them will find it well worth while to consult the lengthy, full directions given by 17 practical men in our onion book, which costs but two dimes. See advertisement on page 127.

Pastures.—The young grass shoots that would hardly make a bite for an animal now, will, after a few weeks growth, afford several mouthfuls of good nourishing forage. *Ergo*—keep animals off from the pasture until well started. Sheep gnaw so closely as to give the grass no chance to start. Fertilize and fill up pastures the same as meadows.

Plowing.—See page 112. Remember that all the soil below you is *yours*, and appropriate a little more of it every year. Too much of the new soil brought up at one time may injure the whole for the *first* crop, though not afterwards.

Potatoes.—Plant early on good, mellow clean soil. Coarse, or thoroughly rotted manure is best; fermenting manure is not always safe. Ashes or lime is generally useful, in the hill or whole soil.

Poultry.—More rations, more eggs. Fresh meat while insects are wanting, is the basis of eggs. Ashes or lime to roll in, helps them to keep off insects. Greasing the roosting poles smothers the insects on them.

Roads on the Farm.—A stone removed, or a root pulled up, may save a broken wagon or harness, and perhaps a balky horse. We find coal ashes and cinders make the hardest and best walks and public street crossings without raising high ridges.

Rye.—The same remarks apply to winter rye as to wheat. We are unable to say much about spring rye, and would like to hear from those who can.

Sheep were never before in greater demand, or at higher prices. Every lamb will be worth saving and nursing. Take good care of the ewes; shelter from cold and rains, and separate them from the rest of the flock. Keep them in good heart; feed sparingly, if at all, with grain; they should be in good health, but not fat. Tag locks and filth should be removed from their udders and elsewhere.

Sorghum.—Prepare the soil the same as for corn, and plant as early as the ground and season will admit, covering very lightly. We prefer 3½ feet drills, the seed sown thickly, and when well started thin out to 10 or 12 inches apart in the row, leaving the best stalks.

Tobacco.—See pages 108 and 104.

Tools.—We can not too often impress the fact, that two men with first-rate implements will do as much as three men with poor ones, while the difference in cost is not great. To be short of good implements is the worst economy, especially in these times of scarcity of help, and high wages.

Trees add to the beauty, comfort, and saleable value of a farm. A purchaser will pay much more for a farm with a few well arranged trees; it looks better to him, though he may not notice why. Fruit trees are of course doubly valuable.

Wheat.—See grain fields above. Spring wheat will come in well to fill the bins and take to market in Autumn. Sow at the earliest date the ground will do to work. After frosts will seldom injure it.

Orchard and Nursery.

This will be a busy time with both the seller and the purchaser of trees. The nurseryman will now experience the utility of preparatory work. If a good stock of trees was heeled in last Fall, in anticipation of the Spring sales, and if labels and packing materials are at hand, a large amount of orders can be rapidly dispatched. The conscientious nurseryman will never send out a badly-grown plant or one about which there is any doubt as to the name, nor will he substitute a variety which he has for one which is not in stock. To those who buy trees we say, deal directly with the nurseryman, and do not buy of traveling treading-peddlars. Consider that an orchard is generally planted for a life-time, and a little care now will save much future vexation. In the first place, find out what varieties of fruit have done well and are most salable in your locality, and make the main planting of such sorts. Doubtful and fancy kinds can be sparingly planted by way of experiment. Having determined what to plant, send the order directly to the nearest reliable nurseryman. If you know of none, look over our advertisements. It will be better to pay the cost of freight from a distance, than to plant unreliable trees if they were furnished without cost. If not ready to set out the trees as soon as they are received, dig a trench large enough to hold the roots, and set them in as close as they will stand, and cover the roots well with earth. Should trees become shriveled from drying, dig a trench and bury the whole, branches and all. In a few days they may be taken out plump and bright.

Apple Trees should be planted early. Manure well and thoroughly plow the soil intended for the orchard. Stake the trees as soon as they are planted. Old trees should be cleansed as directed in basket note on page 103, and have a dressing of manure and ashes spaded in about the roots. See list of varieties adopted by the Fruit-Growers' Meeting, on page 115.

Drainage.—Except in a naturally dry subsoil, drains should be laid in the orchard. Stone sewers or large tiles should be used, and laid at the depth of 3, and better 4, feet, and near enough to remove all water standing in the soil.

Grafting may be done this month, and even later. Cions should be secured before vegetation starts.

The same care should be exercised in selecting cions as in purchasing trees. Merely grafting a tree does not, as many suppose, improve it, unless the graft is of a good kind. Root-grafts may be planted in the nursery as soon as ground is ready.

Insects.—The war on these should never cease. Crush the eggs wherever found, and kill every moth, no matter how beautiful and innocent it may appear.

Manure pays as well in the orchard as anywhere. Some varieties which will not bear at all if neglected, are fruitful and profitable if properly manured. Put it into a considerable area where new trees are to be planted, and on the surface around those already growing.

Pear Trees.—For orchard culture the best growers advise standards; that is, the pear grafted on pear stock, and not on quince. There is no danger that the supply of late pears will equal the demand. See note on page 116, and list of varieties on page 17 of January *Agriculturist*.

Seeds of fruit and ornamental trees should be planted as soon as the ground is ready. These should be sown in drills in good mellow soil.

Stocks.—Seedling stocks taken up last Autumn should be got into the ground. If neglected then, take up as soon as the ground is thawed, and cut back the root and top.

Pruning.—Consult last month's Calendar.

Kitchen Garden.

When the Calendar for March was prepared, there was every prospect of an early Spring—much more so than now, as a month later we make up these directions for April. The ground is frozen, and we have more snow than during February. Still, before this paper reaches the readers, the spell of Winter will perhaps be broken, and the weather admit of active operations in the garden. Nothing is to be gained by "hurrying the season;" the ground must have time to thaw, settle, and become warm, and this will take place much earlier if the garden has been properly drained. In many localities, especially at the North, the suggestions for last month will be appropriate now, while further South, and along the sea-shore, much other work may be done. To those who have a good garden, nothing need be said upon its importance. To those who have not given sufficient attention to this valuable part of the homestead, we would say, it will *pay* to make one. A good warm, rich soil is best, but if that be not found near the dwelling, almost any soil can be brought into good condition by draining, deep plowing, and *plenty of manure*. We know that the garden is almost always the most profitable portion of the farm. Keep a careful debt-and-credit account with it, crediting every item taken off at a fair valuation, and our statements will be proved. Should there be a slight deficit in the course of two or three years, it will be more than made up by the pleasure given. Have a good garden, even though it diminish the staple field crops by a few bushels. A wealthy farmer friend of ours always has early and choice vegetables upon his table, but to save trouble, he buys them in the market of a neighboring city. This may do for him, and others of like means, but not for the great mass. But every one may, with a little exertion, have most luxuries of the garden without going to market. It may be owing somewhat to imagination, but we always think the vegetables of our own raising are better than any that can be bought.

A Hot-bed or Cold-Frame Substitute.—In these hints we often refer to hot-beds and cold frames,—the former a glass-covered box with a bed of warm, fermenting manure under the plants; the latter the glass covered box without the fermenting manure. Their construction has often been described in the *Agriculturist*, and they are so cheaply made, so easily managed, and so convenient, that they may well find a place in most gardens. But when they cannot be had, other methods may be adopted

to secure early plants. Small earthen pots are the best, but one of the cheapest is the use of sods. Cut up good green turf three or four inches deep, and divide it into many little squares with a knife or spade. Pack these pieces closely together, bottom side up, in boxes, or on boards, and plant in the centre of each piece, one or more seeds, of any plant desired early—vegetable or flower—corn, peas, tomatoes, melons, cabbages, etc. Whole or cut potatoes may also be put in. Set in a warm place, as on the south side of the barn, house, or shed, but carry them to the cellar or a warm room, if a cold night or day occur. The more sunshine they have the better. The only further care needed will be to always keep the sods moist, *not wet*. This may be done by wetting on the under side along the bottom boards, or by occasional light syringing or sprinkling from above, as needed. The seeds will start and get two or three weeks' growth—a clear gain of so much time. When the soil and season admit, separate the pieces, and set them out in hills or drills, as required, putting the earth well around them. The plants will grow right on, all the better for having the sod decaying around the roots.

Artichokes.—Uncover, and if desired to increase the bed, plant out suckers from old plants, in well-prepared beds. This is not much cultivated, however, and we look upon it as rather a fancy vegetable, which costs more than it comes to.

Asparagus.—This is worth far more than it costs. Rake off the coarser part of the winter covering of manure, and fork the finer portion into the soil, taking care not to injure the crowns. Water with refuse brine, or apply salt. See directions on forcing in March Calendar. Sow seed for new plantations in drills one foot apart. New beds may be made by planting out two-year-old roots. Lay the plot off in beds 4 feet wide, with convenient alleys between. The ground cannot be made too rich or worked too deeply. It is high culture rather than any particular variety that makes large asparagus. Three rows, one foot apart, may be put on a 4-foot bed, with the plants one foot apart in the rows. Put the crowns of the plant at least 4 inches below the surface. Many otherwise good beds are ruined by planting too near the surface.

Beans.—Should not be planted until all danger of frost is past. In some places Early Valentines and Six Weeks may be planted late in the month.

Bean-Poles and Pea-Brush.—These should have been already secured, but if it has been neglected get a snappy at once. Nothing looks more unsightly than peas stuck with brush cut after the leaves have started.

Beets.—Sow the Early Bassano as soon as the frost is out of the ground. The seed may be sprouted by soaking over night in warm water; then pour off the water and keep in a covered vessel in a warm place. It is well to dry the seed off before sowing, with plaster if you have it. In sprouting these and all other seeds, the growth should not be allowed to proceed too far, for if the little root be broken off, as it is apt to be in sowing, the germ will perish. As soon as it breaks the seed-coat and appears, the seed should be sown. What passes for the seed of the beet is really a kind of woody cup containing several seeds. If all grow, we have a number of plants very close together. A correspondent suggests to break up the seeds before planting; he finds it to be a saving of seed, and renders future thinning much easier. We have never tried it, but give the suggestion for those who wish to experiment. The seed may be broken by carefully rolling between two boards. Sow in drills 18 inches apart.

Broccoli.—Treat like cauliflower.

Cabbage.—Sow in hot-beds, if not already done, or in sods as above. Transplant from hot-beds as soon as the season will allow. Early York and Sugar-Loaf are still among the best early sorts, and the excellent Winningstadt comes on soon after them. At the last of the month the sowing for a late crop may be made in the open ground.

Carrots.—Sow the Early Horn in rich, deep soil, in drills 1 foot or 15 inches apart.

Cauliflower.—Early plants in the hot-bed may now be potted off or pricked out in a cold frame, if they are getting large, and the season will not permit their being set in the open ground. They will be none the worse for a second transplanting. In planting out, recollect that the ground can hardly be made too rich.

Celery.—The great difficulty with this crop is to get the seeds started, for they are very slow in germinating. They may be sown on a warm border or in a cold frame. A friend of ours, who never fails of getting a crop, piles the brush and rubbish of the garden upon the bed and burns it, and then rakes the ashes in with the soil, and sows the seed when the bed is cool. No doubt this burning over the bed may be advantageously practised with many seeds that are slow to start. The seeds of weeds are killed, and the ashes act as a fertilizer.

Cold Frames.—These may still be advantageously used, to start tender seedlings. Those in which the plants are already up, should have the sash removed every fine day.

Cress or Pepper-Grass.—Sow early in rows 6 inches apart. Sprinkle the plants with ashes to keep off insects.

Cucumbers.—Nothing is gained by planting too early in the open air. Some for an early crop may be started in the hot-beds or on sods. The Early Russian is a favorite sort for an early crop.

Drain wherever needed. There are but few gardens that will not pay well for draining. This improves the texture, admits air and warms the soil, making it much earlier. A drain or two costing but little, will sometimes double the yield of a whole garden, and bring everything forward earlier.

Egg Plants.—These cannot be forwarded too soon. If not already growing in the hot-bed, they should be sown at once. Pot off the plants which are large enough. The Long Purple is the earliest, but the large Purple is most generally cultivated.

Garlic.—Set out the divisions of the bulbs, or cloves as they are called. This is little employed in cooking in this country. Judiciously used in very small quantities, it imparts a most delicious flavor to soups, stews, etc.

Horse Radish.—New beds may be made by planting crowns or pieces of the root. Make the bed where it can remain permanently, as it is almost impossible to eradicate it to make room for another crop. The benefit of liberal manuring will be seen in the increased size of the roots.

Hot-beds.—Give plenty of air to prevent the plants from becoming too delicate. Stir the soil between the rows, which has become hardened by frequent watering. Weed carefully, and thin out the plants where crowded. In many localities the first of this month will be quite early enough to start a hot-bed for plants for the family garden.

Kohl Rabi.—Sow in hot-bed or sods for early, and in the open ground at the last of the month.

Leeks.—Sow in rich soil in rows 15 inches apart.

Lettuce.—Transplant from the hot-bed as soon as the season will allow; sow in hot-beds, or cold frames, or in sods, and in the open ground. There are so many varieties that we are puzzled to make a selection. The Neapolitan Cabbage, the Butter, and the Ice Drumhead, will satisfy every one.

Manure.—There should be a bank of well-decomposed manure always ready to honor all demands. Prepare for liquid manure. A peck more or less of hen-dung in a barrel of water makes a wonderful persuader to vegetation.

Mustard may be sown for salad or greens as soon as the ground is open.

Melons may be started in the same way as cucumbers. Try the White Japan, if possible to procure the seeds. The Jenny Lind is very early and good.

Nasturtiums are useful and ornamental, and very easily grown. They make the best of pickles, and

yield beautiful flowers. Sow in a warm place the last of the month, and give them some support. Pea-brush will do, or, if near a fence, they may run upon strings or wires.

Onions.—Put out Potato and Top onions, and sow seed in rich mellow soil. Avoid the use of manure containing foul seeds. Muck and ashes are excellent for this crop. Some cultivators burn over the bed to destroy the weed-seeds. Use great care to get pure seed. Sow thinly in drills 15 inches apart.

Parsley.—Sow early. It is always a long time in coming up. It is sometimes sown along the margins of beds, for which it is a very pretty edging.

Parsnips.—Sow in rich, deep soil, at the last of the month, if the weather admits. A correspondent suggests that those of last year's crop still in the ground have the tops cut off about half an inch: in this way they will keep good until the ground is needed for another crop.

Peas.—See article on page 115, this number.

Peppers.—Sow in hot-bed or sods. The true thick-fleshed squash pepper is the best for pickling.

Radishes.—A light, quick, sandy soil is essential. Unless a radish grows rapidly it is worthless. Sow early, and at intervals for succession. The Turnip-rooted and Olive-shaped are good sorts. Water with liquid manure; use ashes if attacked by insects.

Rhubarb.—Set out whole roots or crowns, as soon as the ground will admit of working. Three feet apart is usually quite near enough to give the leaves room to expand. Make the ground rich with well-rotted manure. Fork in plenty of manure around the old stocks. See Calendar for February. Seed may be sown as early as convenient. All who could not get one or two year-old roots or crowns, have doubtless sent for seed from our distribution. The young seedling plants will require less room the first year, and may be kept in a bed, thinning out, or transplanting as needed to prevent crowding. Note the best and largest plants for after use. Ten to twenty roots are all that will be needed by any ordinary family.

Salsify.—Sow as early as the season will admit. See article on page 84, last month.

Seeds.—Many of these can be profitably raised in the garden, while others may be purchased more cheaply of those who make a business of growing them. Set out all roots which have been saved for seed, as well as seed onions, in a rich spot, and where they can be daily noticed, in order that they may be gathered at the right time.

Squashes.—Summer squashes may be started as directed for cucumbers. Winter sorts should not be planted until the ground is thoroughly warmed.

Sweet Herbs.—There should always be a bed for these humble, yet useful tenants of the garden. The perennial sorts, like lavender, thyme, hyssop, etc., may be propagated by division of the roots. We prefer to start sage from the seed or from cuttings. Summer savory, basil, and sweet marjoram, may be sown when the ground is warm.

Sweet Potatoes.—The roots may be placed in a hot-bed, in order to get sets for planting. In absence of a hot-bed a frame of boards may be placed over a heap of fermenting manure covered with a few inches of earth. The potatoes will soon sprout. The frame should be covered with boards at night and during cold days.

Spinach.—There should be a good supply from the wintered crop. Sow early for succession, in drills a foot apart.

Tomatoes.—Pot off from the hot-beds those that are large enough, and place the pots in a cold frame. See article on page 114. If not done already, start seed in the hot-bed, or in sods.

Tools.—Clean every one before it is put away. If you have never used a spading fork or hayonet hoe, try them and you will not readily give them up. A man with a first-rate hoe or other implement will do twice as much as two men with poor

tools, and the saving of time will often pay in a single day for the greater cost of the former.

Turnips.—Early kinds should be sown.

Winter Cherry or Physalis should be grown as directed for Tomatoes.

Flower Garden and Lawn.

The work here will be mainly that indicated in last month's Calendar. Clearing up, planting shrubbery, and making preparations for the open season, will fully occupy all the time that can be given to this department. New grounds may be laid out, and old ones enlarged or improved. A garden is never finished. Each year presents suggestions towards that perfection which we all take so much pleasure in striving for, but never fully attain.

Annuals.—Asters, Balsams and others may still be sown in hot-beds, or, in absence of this, in a cold frame, or in sods as described under the Kitchen Garden. Those started earlier should be thinned and weeded if they need it, and if large enough they should be put into small pots to be ready to turn out as soon as the season will permit. As a general thing sowing is done in the open air too early.—See article on early sowing on page 115.—Still many hardy annuals can be properly put in as soon as the ground is in working condition. Two years ago we were unable to sow a large assortment of over a hundred varieties of annuals until June 1, and we had better success than in any previous year. As a general rule those annuals which readily spring from seed that is self-sown in Autumn may be put in early. Among these are Petunias, Whitlavia, Portulacca, Larkspurs, Candy-tuft, Sweet Alyssum, etc.

Bulbs.—Many of these will show flowers this month. In most localities the winter covering may be all removed very soon. Tall-growing sorts, such as Crown Imperials and some of the Hyacinths, will need to be staked, to prevent winds from breaking them down.

Cold Frames and Pits should be opened every mild day, to harden off the plants before they are turned out.

Climbers should be pruned and trained. Plant new ones in appropriate places. The Wistaria is one of the favorite climbers, and will stand the Winter wherever it is not colder than around New-York. In colder localities it may be laid down and covered with earth. For foliage merely, nothing is more beautiful than the Virginia Creeper, sometimes called the American Ivy or Woodbine. It grows everywhere, and can be readily transplanted from the woods. It is not poisonous, as many suppose. The poisonous Ivy has a three-parted leaf, while that of the Virginia Creeper is five-parted.

Edgings.—These are of great importance to the neatness of the garden, and are always a source of trouble. Tile edgings are very neat, but they are too expensive for most people. Box makes a neat edging, but it must be frequently cut, and needs to be reset every few years: besides, when the Winter is severe it dies out in spots and becomes ragged. Grass edgings are easily obtained, but they require frequent trimming to keep the roots from spreading. Whoever will introduce a neat, hardy, and easily-kept edging plant, will do a good deed. We prefer grass edgings, neatly kept and trimmed. They should be 6 or 8 inches wide. It is best to cut the turf in an old pasture, in strips twice as wide as the edging, as they are more easily transported, and can be divided with the edging-knife or a sharp spade, near the place they are to be laid.

Evergreens are transplanted with best success in May. Norway Spruce and Arbor Vitæ will bear removal earlier. Never let the roots of an evergreen be exposed to drying winds. More attention should be given to broad-leaved evergreens like the Holly, Laurel, Rhododendrons, etc.

Gravel Walks.—Remove all weeds and give a dressing of fresh gravel where needed. In making

new walks, be careful to select gravel that will pack firmly. Coarse river gravel will not answer.

Hedges and Screens may be set out. Buckthorn, Privet, and Hihiseus or "Shrubby Althæ," make good hedges. Arbor Vitæ, Red Cedar, and Norway Spruce, are best for screens.

Lawns.—If there are but few bare spots of moderate size, they may be filled with turf; if large, it will be necessary to sow seed. A top-dressing of fine compost will be beneficial: even coarse manure may be used if the lough stuff is raked off after the rains have washed out the soluble portions. Plaster is a valuable application, on most lawns.

Manure.—If the borders had a dressing in Autumn, it should be forked in. If not, give them a good supply of fine compost. Don't forget that the trees on the lawn will thank you for manure by increased growth and beauty.

Perennials and Biennials.—Set out as early as practicable. See page 117 for a good selection. Hollyhocks and Sweet Williams should have been put out in Autumn; if neglected then, attend to it now. When it becomes warm enough for the main sowing, do not forget to put in seeds in a reserve bed, for a future supply of these plants.

Roses.—Plant out new, and transplant any old needing removal early. For ordinary culture, we prefer only those which bloom freely on their own roots. Many fine kinds are grafted, but they will soon disappoint those who cannot give them extra attention.

Shrubs.—Plant in masses as a rule. Single large growing specimens have a fine effect on the lawn. Have a regard to the winter aspect of the garden, and introduce evergreens where they will appear to good advantage when all other shrubs are bare. Wiegelia, Spiræas, Japan Quince, Lilacs, Flowering Almond, and Plum, should be in every collection. Where it is desirable, increase by divisions of large specimens. The purple-leaved Barberry makes a fine contrast to the green of other shrubs.

Trees.—Plant in every appropriate spot. Study the effect that will be produced, and do not plant a round-headed tree like a maple where a graceful elm would be more pleasing. Every tree has its particular expression, and where much planting is to be done, the advice of a landscape gardener should be taken, or standard works upon the subject should be consulted.

Fruit Garden.

These hints are given under a distinct head because in the best culture vegetables and fruits are grown in separate grounds, but they are equally applicable where circumstances require that both be grown together. In planting fruits of any kind it is important to get good sorts, and this is equally necessary with small fruits as with large. We have already given lists of pears and grapes, and on other pages of the present number will be found lists of other fruits fixed upon by practical growers after a full discussion upon their merits.

Cherries.—Plant standards or dwarfs as early as possible. Most varieties may be dwarfed by budding on the Mahaleb stock, when they form compact bushes suitable for the garden.

Currants.—Old plants need no attention now beyond liberal manuring. Currants are generally left to take care of themselves, but no plant more readily responds to good cultivation. Chip manure is excellent for them, but they will be glad of something better. Rooted cuttings of last year may now be put out where they are to stand, cutting back the last year's growth to three or four buds. Cuttings made in the Fall and Winter should be put out; they should be put two-thirds of their length in the ground, and have all the buds which are buried removed.

Figs.—These are sometimes grown at the North, but they require great care in laying down in Autumn, and even then are killed by a severe Winter.

Remedy for Foot Rot in Sheep.—A correspondent at Wilmington, Del., gives the following directions for treating this disease. "To 4 ozs. butter of antimony, add $\frac{1}{2}$ oz. of corrosive sublimate. Pare off all the loose parts of the hoof and apply some of the mixture; then tie a rag around the foot. Examine it next day and if any part has escaped, apply again. It is very difficult to eradicate this disease from a flock where a number are affected, as with the greatest care new cases will occasionally occur, and unless the sheep are valuable, the butcher had better have them. [We hardly dare endorse a medicine composed of antimony and corrosive sublimate. It may be safe, however, and if so, would probably be effective.—Ed.]

"Blind Staggers" in Sheep.—N. D. Townsend, Vermilion Co., Ill. From the description of the disease among your flock, we judge it to be "Hydatid on the brain." The Hydatid is a minute parasitic insect, that in some unexplained manner finds its way to the brain, and forms a small sack containing watery fluid, in which it multiplies. These sacs increase in size, press upon the brain and absorb its substance, causing derangement, and ultimate death of the sheep. No certain cure is known. As the disease is most prevalent in weak animals, the preventive is to keep them in good condition. The malady is most frequent in wet marshy districts, and little known upon upland or dry pastures.

Grub in the Head of Sheep.—"Farmer's Son." The grub found in the head of sheep is the larva of a small fly, (*Astrus ovis*). The winged insect is common during the months of July and August. It seeks to enter the nose of the sheep to deposit its eggs. The animals have a great dread of it, and may often be seen standing in a circle holding their heads near the ground, to escape it. From the egg, a small worm is hatched, which makes its way up to some of the cavities opening from the nose, where it remains and feeds upon the mucous secreted by the membranous lining. The following Spring the full grown grub crawls out, and enters the ground, where it changes to a chrysalis and then to a perfect fly. The only difficulty known to be caused by the grub, is an unpleasant irritation to the animal: this may result in inflammation and disease, but no well authenticated instances are on record. A partial preventive is to plow a furrow through the pasture where the sheep may protect their noses. Some shepherds recommend to tar the noses of the animals during the Summer. We know of no cure. If let alone, the worms will leave of themselves in the Spring.

Poisoned Sheep.—Samuel Cone, Berkshire Co., Mass., inquires if wild parsnip is poisonous to sheep, and if so, what is the remedy. He has lost several sheep apparently from eating hay containing the wild parsnip.

Apple Pomace for Feed.—William Hull, Wayne Co., Pa. We have no experience in feeding stock with apple pomace, but should judge it to be of small value. Mixed with plenty of corn meal, it might be of some service. The experiment is worth trying.

Hungarian Grass for Horses.—E. Boyd, Cayuga Co., O. We have seen no account of injury done to horses by the beard of this grass adhering to the coat of the stomach. The seed alone is too hearty food, and liable to induce inflammation. If fed with the straw it is generally thought to be safe, we believe.

Disease Among Poultry.—"J. E. R.," Orange Co., N. Y., writes that many choice fowls have died in that place of what seems to be chicken pox. The head becomes swollen, and sores the size of a pea appear on the combs, gills, etc. The fowls soon become entirely blind, and consequently die of starvation.

To Keep Birds from Corn.—A correspondent at Wilmington, Del., directs to put a bushel of corn into a half hoghead or other convenient vessel, and set it in the sun, or where it will be warmed. Pour over it a half pint of gas tar or a pint of common tar, and mix well until every kernel is smeared. Then stir in ashes, fine lime, or plaster, until the grains are separated, and spread it out to dry. [Without regard to the birds, it is generally well to smear the corn with tar, dissolved in from four to five times its bulk of warm water, and dry it off with fresh slaked lime. This kills smut; the tar is a good fertilizer itself; and the lime fits some of the soil to nourish the young plants. Birds will not eat it, but generally they are not satisfied without pulling up the kernels to find out whether they are tarred or not.—Ed.]

What of the Italian Bee?—Since the excitement attendant upon introducing this variety of the bee into the United States, but little has appeared on the

subject. We have heard of fair success in raising them by a few individuals, but hardly enough to yet advise substituting them for the ordinary kind. A reliable statement of facts, showing their comparative value, from those who have fairly tried the experiment, would be of interest.

Good "Coon Hunting."—E. Haynes, thus describes how he got the *American Agriculturist* for 1863. "I was out of money and did not know how to get any. The thought came that I could make the coons pay for my paper; so I got up at 4 o'clock, one morning in the middle of last December and started out with dog and gun. I got back at 5 $\frac{1}{2}$ o'clock with two coons, being gone just 1 $\frac{1}{2}$ hours. I sold one skin for one dollar, the other a small one, for 63 cents. I got 3 quarts oil out of both coons; sold 1 quart oil for 31 cents; have 2 qts. left worth 62 cents. So you see I made \$2.56 before breakfast. I send for the *Agriculturist*, *American Missionary* and the *Advocate and Guardian*. It pays don't it? [Certainly, such successful hunting pays, at such prices for coon skins; but it is not often that like good fortune is met with. As a rule, hunting hen's nests will prove more successful. Another subscriber says that the eggs and chickens produced by one hen last year, sold for enough to pay for his paper two years; and that the increased product of eggs by 12 hens, from following one hint in his *Agriculturist* about giving them fresh meat scraps, has paid for several years' subscriptions, during the present Winter. It always pays to hunt for good papers.—Ed.]

Crop for Newly Drained Land.—P. Putnam, Washington Co., N. Y. Almost any grain crop will succeed on well-drained land. A plentiful application of lime will be beneficial to ameliorate a sour mucky soil. If in good heart, a crop of potatoes will be likely to succeed, to be followed by rye the next Fall.

Re-seeding Bare Spots.—C. B. Huntington, Craneville, N. J. Give the bare spots in pasture land a thorough dressing with a heavy harrow; sow the seed, roll it in, and top-dress with finely pulverized manure.

Giving Corn a Good Start.—Gideon Archer, Monroe Co., N. Y., writes that he has obtained excellent results with corn by applying a mixture of equal parts of lime, plaster, and ashes, a handful to a hill, before the grain comes up. A vigorous start given to any young plant enables it to make strong and rapid growth.

Binders for Corn.—"L. F.," writes us that corn which has been sown thick for fodder, makes the best binder he has ever used. Strips of the inner Basswood tree are sometimes used for the same purpose.

English Seed Drill.—Wm. Grawcock, Whitely Co., Ind. We know of no implement answering your description, made in this country.

Flax Seed.—This is so high, partly because of the unusual demand for sowing this Spring, and partly because the manner in which a large share of it is cultivated, keeps it in a few hands. In many places the manufacturers of linseed oil furnish the farmers with seed and contract for the whole crop at a certain price. This prevents the growers from benefiting by the present advance.

Cotton in Illinois.—Rev. J. A. Bent, of Hoyleton, Ill., (incorrectly printed in March, as Hazelton,) sends us the following additional note: "Since writing you concerning my attempt at raising cotton, I have made inquiries at places in Southern Illinois, where cotton gins are in operation, and I am convinced that in this part of the State, cotton may be reasonably expected to do better than mine did. I think in our rich soils it should be crowded in the drill to prevent overgrowth of stock, and to hasten maturity. Tennesseans resident here now, with whom I have conversed, think that from 500 to 1200 lbs. of unginned cotton can be raised; or from 150 to 350 lbs. of ginned cotton to the acre.—The people, stimulated by the extraordinary price of cotton, will plant a very large amount in Southern Illinois this year. All the seed is eagerly obtained at the gins. If nothing untoward prevents, you may expect to hear of an unprecedented cotton crop this year. Many are proposing to plant from 1 to 15 acres.

Garnet Chili Potatoes.—P. Putnam, of Putnam Co., N. Y., noticing our remark that this variety became hollow, says that he has not found it to be the case, and he thinks we may have mistaken the Chili Red for the Garnet Chili. The seed we used came directly from Mr. Goodrich, the originator, and was planted the first year on tilled land well manured, and the second year upon old pasture sod without manure. The potatoes were in both instances hollow and unfit for the table, though the yield was very large. We shall be glad to

learn that this is an exceptional case, as the variety seems to have the other qualities desirable in a good field potato.

Beet Sugar in Illinois.—C. H. Thayer, of Livingston Co., informs us that an extensive factory for beet sugar and sorghum is being erected at Chatsworth. The Ill. Central R. R. freight all beets raised along the line of the road free of charge. Preparations are being made for extended planting of the beet, and he promises to advise us of the success.

The Big Beet Beaten.—J. V. Kinney, Somerset Co., N. J., writes that last Summer he raised a beet of the Bassano variety, from seed distributed at the *Agriculturist* Office, which measured three feet in circumference. This beats the beet mentioned in the January number, by ten inches. [How much did it weigh?]

Quantity of Seed to the Acre.—Pres-ton H. Smith. Seeds vary so much in their quality, especially some of the kinds you enumerate, that it is difficult to give precise quantities. There are sown of beets from 2 to 4 lbs; carrots, 1 $\frac{1}{2}$ to 2 lbs.; parsneps, 2 to 4 lbs.; turnips, 1 to 1 $\frac{1}{2}$ lbs.; $\frac{1}{2}$ lb. of cabbage seed should give plants enough for an acre, and enough to replace all destroyed by the cut worm.

Hard Coal Ashes.—Chas. Booth, Worcester Co., Mass. If the soil of the garden is stiff and clayey, coal ashes would be beneficial. Composted with the contents of the privy they would not be as good an absorbent as muck or loam.

Grass for a Name.—T. C. Wells, Kansas. The grass is *Uniola latifolia* or Broad-leaved Spike-grass. It grows wild at the West, and is so beautiful that it is often cultivated in gardens. It is a perennial.

Average Yield of Grain.—A statistical subscriber wishes to know if any one can inform him of the average yield per acre of wheat, corn, rye and oats in the United States, or in any single State or district.

Chenango Strawberry Apple.—The account of this apple, given on the authority of one of our best pomologists, is objected to by another fruit grower of large experience who says: "To my taste it is very nearly 'very good'—ripe in September and continues until the middle and last of October. Flesh tender, juicy, pleasant sub-acid; a very good amateur's fruit, but too tender for carriage to market. This is distinct from the Washington Strawberry."

Sweet and Sour Apple.—"T. H." This is an old variety which becomes unequally flavored. One side of it is slightly different from the other. The stories about producing an apple half sweet and half sour by budding with two half buds of different kinds, is all *bosh*.

Apples in Southern Illinois.—A. R. Rankin, of Crawford Co., Ill., says the following apples have proved good in Southern Indiana, and Illinois, viz.: Rawles Jannet, Belleflower, Rambo, Domine, Golden Gate (very fine,) Newtown Pippin, and Pryor's Red, Fall Pippin, Red Streak and Smokehouse also do well.

Trees from Cuttings.—N. Gilbert, Oswego Co., N. Y. Peach, plum and cherry trees can not be successfully raised from cuttings in this climate. The quince is propagated easily from cuttings planted in a shaded place in the Spring.

Stocks for Dwarf Apples.—J. H. Miller, Pa. Doucin and Paradise stock are propagated by layers. The plant is cut off near the ground so as to induce it to throw out numerous shoots which are allowed to grow one season. The next Spring a mound of earth is heaped up around the shoots, so that the base of each one of them will be covered by at least three inches of earth. The shoots will take root and may be removed from the parent root in the Fall. The stocks can be procured cheaply from the large nursery establishments.

Ashes for Peach Trees.—E. Rex, Crawford Co., Ohio, says that when the trees are large enough to bear, he removes the sod in the Spring so as to lay bare the upper roots, and fills in the space with leached ashes. In the Fall the ashes are removed, and leaf or other vegetable mold put in their place. He says that he finds doing this every other season, preserves the trees in fine condition and prevents the attacks of the borer.

Apples from Sprouts.—I. G. Wolfe, Union Co., Pa. "Like produces like," even in apple trees. Trees from sprouts nearly always throw up suckers or shoots about the trunk. True, they can be frequently cut away; but the tendency to form suckers weakens the parent, besides involving the labor of removal.

Hamburg International Exhibition.

—The following gentlemen have been appointed Delegates: Hon. Ezra Cornell, Ex-President N. Y. State Agr. Soc.; Hon. Dan. Needham of Quincy, Vermont; Ex-Gov. Dyer, of Providence, R. I., and Chas. L. Flint, Sec. Mass. Board of Agriculture.—Messrs. Austin, Baldwin & Co. inform us that several Express Companies agree to reduce their freight 25 per cent. on all articles intended for the Exhibition, viz. American, Adams, National, California, and the Eastern.

Butter and Cheese in Vermont.

In a recent conversation with Mr. G. Merrill, Superintendent of the Vermont Central and Sullivan Railroads, he informed us, that during the year 1862, there were shipped at the St. Albans' Station alone **2400 tons** of Butter and Cheese. This is equivalent to 4,800,000, or nearly *five millions pounds*. Can anyone give us anywhere near accurate statistics of the amount of each, butter and cheese, produced in the whole state? We have one fact of interest, viz., that in proportion to the inhabitants, there are more copies of the *American Agriculturist* taken and read in Vermont than in any other state, with perhaps the exception of Pennsylvania and the "State" of Long Island. Connecticut, Rhode Island and New-York, are nearly on a par with Pennsylvania. On Long Island every Post Office has its club of subscribers to this journal, and many of these clubs are very large. In our own town there are over 200 subscribers, who get the paper through the Post Office and in the city, though no canvass has been made for Premiums, and no other special efforts have been put forth. Not being a "prophet," this of course does not invalidate the general rule concerning that profession.

Willow Hedges.—James D. Blaeker, of

Long Island, writes that he made a trial of the Osier willow for a hedge, and found that the roots so monopolized the soil that nothing would grow near it. Potatoes planted near the hedge could only be dug by cutting among the roots of the willow with a sharp spade. A fence of the willow which had been set out four years, sent out roots 30 feet long into his garden.

White Willow.—W. S. Grow, Vt. We have not seen the willow cuttings advertised by any one at the East. The tree is common enough in all old settlements, and doubtless grows in your own State.

Osage Orange Seed.—W. E. Thomas, DeKalb Co., Ill. The seeds should be sprouted by covering with scalding water. When cool, this is poured off, and the seeds kept covered in a warm place until they sprout, when they are to be sowed. If large quantities are sprouted at a time, take care that they do not heat.

Sorghum Seed.—B. Borden, Pa., suggests that pure seed could be obtained by cultivating upon an island or upon a peninsula sufficiently remote from any place where any other variety is cultivated. He thinks if some one would cultivate thus for the seed, he would do a profitable business, and be a public benefactor. [If he gets pure seed to start with.—Ed.]

Lima Beans.—M. Witherill, Saratoga Co., N. Y. "Learns by observation" that Lima beans when they germinate do not come above ground like other beans. This is contrary to our observation. Perhaps his were planted so deeply that the leaves did not reach the surface, but their usual way is to behave like other beans.

To Save Cucumber Seeds.—W. W. Cook, of Hopedale, Mass., says "when the fruit is quite ripe, cut it open and scrape out the seeds into a suitable vessel, add an equal bulk of water and stir well together. In from 24 to 48 hours the mass will become quite sour, when, by rubbing and washing, the seeds may be made very clean. This method will answer for tomatoes or other similar seeds."

Sweet Potatoes kept in Cut Straw.

—We received, March 1st, from Mr. J. C. Thompson of Staten Island, a basket of Nansmond sweet potatoes which were as fresh and nice as the day they were dug. Mr. Thompson practices what he preaches, and the directions he gave for keeping sweet potatoes on page 335 of last volume (Nov. No.) prove eminently successful. It is now satisfactorily demonstrated that sweet potatoes can be profitably raised at the north, and successfully kept until Spring. We gave very full directions for the culture in the last volume of the *Agriculturist*.

Notes on New Seeds.—W. W. Johnson, Penobscot Co., Me., writes that Mammoth Millet distributed from this Office, and sowed by him in May, did not go to seed. In this latitude it ripens seed annually. Spelt, from our distribution, except one head, acted like winter

grain. A package from the Patent Office marked "Bald Barley," contained several kinds of that grain, and numerous *foul seeds*! After sorting, three-fifths proved to be a Bald variety, two rowed, and apparently good. The remainder was the common two and six rowed sorts. "St. James Carrot" from same source, yielded well, was shorter and more tapering than the Orange, was easily pulled without digging, and better than the Orange for the table.

Soot in the Garden.—C. A. Winthrop, Otsego Co., N. Y. Soot, from the amount of ammonia it contains, would be too stimulating for strawberry plants. It is a valuable fertilizer for all root crops. 6 or 8 quarts in a barrel of water will make an excellent liquid manure.

Weight of Turnips.—G. Lee, Middlesex Co., Mass. The laws of different States fix the weights of turnips at 55 lbs. to 60 lbs. per bushel. In Connecticut, where farmers raise many for stock, the weight is 60 lbs.

Black Spanish Winter Radish.—Geo. E. Lane, of N. H., says that he received some seeds of this and the Brazilian Swiss Chard from the Patent Office, and does not know what to do with the crop.—The radish is eaten by some; the Germans prize it highly. To our taste it is very strong, tough and unpleasant. The Chard should have been used for greens. See article on page 84 of last month. The roots if put out will give you seed next season.

Treatment of the Orchard.—W. S. Carpenter, of Westchester Co., N. Y., one of our most successful fruit growers, scrapes the trunks of his trees after a day or two of wet weather, and then applies soft soap with a brush. This kills the insects and moss. If the soap, as it is found in the market, is too firm to put on with a brush, it is brought to a right consistence by working it over like mortar.

Pear Stocks.—"G. N. H.," Jamesport, L. I. Pear stock are more difficult to raise than apple stocks, as they are liable to blight. Very early planting in a thoroughly prepared soil so as to secure an early growth, is recommended. The soil should be manured the Fall previous with vegetable mold, stable manure and ashes, and lime, if the soil does not contain it. Sow in rows three feet apart, or far enough to work with a cultivator.

The Nectarine.—J. T. McLain, of Morrow Co., Ohio. The Nectarine is quite hardy and will flourish wherever the peach will grow. Where the curculio is abundant, the fruit, like the plum, is liable to be injured. The tree, like the peach, should be pruned in February or early Spring. Cut away half the previous year's growth.

Cherries for Iowa.—Isaac H. Page, of Wapella Co., Iowa. Dr. Kirtland's cherries are said to belong to the Bigarreau class. If these cherries do well in your latitude, it would doubtless be safe to plant Dr. Kirtland's Seedlings. The Patent Office Report can probably be obtained by writing to the member of Congress for your district.

The Persimmon.—George Smith, of Hancock Co., Ill. The persimmon prefers a rich and rather moist soil. It is a small tree, sometimes 20 or 30 feet high. It grows wild in some parts of your State. Mr. Thomas Hogg, now in Japan, writes that the most delicious fruit of that country is a kind of Persimmon. He hopes to be able to introduce it here.

Rabbits in the Orchard and Nursery.—"J. R. D.," Warren Co., Ill., says that rabbits may be kept from young trees by greasing the trunk for about two feet from the ground. He uses either fresh lard or the fat of a rabbit.

Grape Cuttings.—Isaac H. Page, Wapella Co., Iowa. The Delaware grape is more difficult to raise from cuttings in the open air, than most native varieties. A propagator of our acquaintance succeeds by keeping them moist.

Nursery Catalogues and Tree Planting.—We have received a large number of Nursery Catalogues, more than we have room to speak of in detail. The one issued by S. Hoyt & Sons, of New Canaan, Conn., deserves more than a passing notice on account of its full directions for selecting, planting, and the after-care of fruit trees. They say: "Never buy or set a tree until you have made up your mind to give it proper care. Order from responsible nurserymen. In planting, expose the roots to sun and air as little as possible. Cultivate the orchard for five years, but do not plow too deep or too close to the trees. Buckwheat is admissible for a crop, but never sow oats or rye. Wash the trunks each Spring with a solution of 1 lb. potash to 6 or 8 quarts water. Ex-

amine Spring and Fall for borers. Cut back half of each season's growth of dwarf trees, for three or four years."

Creveling Grape.—Mrs. A. R. Sprout, Lycoming Co., Pa., writes that in her locality this is not considered an untried variety. She says: "We have now fruited many of the new varieties of grapes and are not so easily pleased with new grapes, after having so long enjoyed the superior flavor of the Creveling. The vine, most seasons, requires winter protection."

Bleeding Grape Vines.—Craig Gilmore, McLane Co., Ill., writes that having failed to stop the bleeding of a grape vine with grafting wax, or a hot iron he applied a mixture of flour and salt in equal proportions. This had the desired effect. He had seen this recommended in the *Agriculturist* to stop bleeding from flesh wounds, and found it good for lacerated vines.

Keeping Grapes.—Mr. George Barclay, of Dutchess Co., N. Y., while travelling in France, often saw the grape in an admirable state of preservation, quite out of season. He found the secret of their success in thus preserving them, consisted in coating the clusters with lime. The bunches are picked just before they are thoroughly ripe, and dipped in lime water of the consistence of thin cream. They are then hung on wires, and when dry are dipped the second time, and then hung up to remain. The lime coating keeps out air and checks any tendency to decay. When wanted for the table, dip the clusters in warm water to remove the lime.

Inarching the Grape Vine.—J. P. Streep, Milwaukee Co., Wis. We doubt the success of this method. Practised in early Spring they will bleed too much for a union, and though they might unite if grafted in Summer, it is preferable to root-graft in the manner illustrated on another page.

Grafting Wax.—C. Olney says, mix by weight 4 parts resin, 2 parts beeswax, and 1 part tallow, by melting in an iron kettle. Pour it in cold water and work with the hands until it is of an even color.

Shrub for a Name.—Capt. Ely Sperry, 19th Conn. Volunteers, Fort Worth, Va.—The leaves of the shrub sent to us, appear to be Euonymus Japonica, a most beautiful species, but one which will not stand our northern winters. We are gratified to know from the many letters we receive from the army that those who have taken up the sword have not forgotten about the plow, and the garden, and that they remember us.

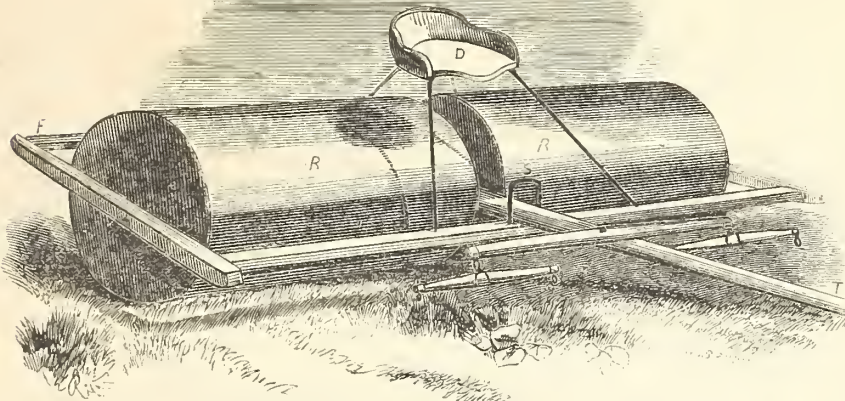
Seeds for a Name.—Elizabeth Wilson, Decatur Co., Ind. The "Forbidden Fruit" is called with us Jerusalem cherry. It is very closely related to the pepper, and has the botanical name of Solanum Pseudocapsicum. The other we can not recognize from the seed. It will be necessary to send the flower at the proper season. The seeds sent by S. A. Myers, Henry Co., Ohio, look as if they were a species of Solanum, but we can not tell from the seeds only.

Milkweed.—H. E. Rhouls, Montgomery Co., Ind. We do know the milkweed, and have several species very abundant here, as they are everywhere. We know of no use to which the silky fibre attached to the seeds, has been put. We learn from a Belgian horticultural journal that some experiments are to be made there upon its culture, with a view to the use of the fibre of the bark as a substitute for cotton.

A Fine Bouquet.—J. J. Otto, of Rochester, N. Y., has sent us a bouquet of choice flowers, which came in fine order and graced our Exhibition tables for several days. By means of a frame made of four wire rings of different sizes, and placed one within another, the flowers were arranged so as to present a perfectly flat surface. The wire frame was entirely concealed by the beautiful *Lycopodium* which furnished the green of the bouquet.

Plant for a Name.—S. S. White, Merceer Co., Ill. The beautifully dried specimen you sent is *Callirhoe pedata*. It has not been long enough in cultivation to have a popular name. We used to see it growing wild in great profusion in Texas, and since it has been introduced to the gardens, it has been among our favorite plants. Sown early, it will bloom as an annual, and with care the roots may be kept over Winter.

Tuberoses.—"Mac," Sullivan Co., N. Y. After the balls have dried, it is customary to trim off the roots before packing them away. We are glad that you have begun to give animals proper treatment while young.



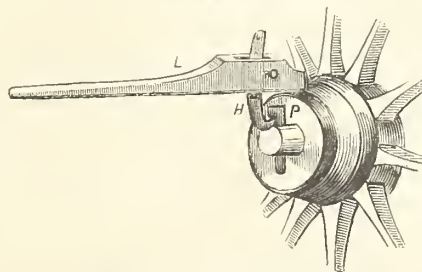
A Home-made Field Roller.

The above engraving represents a cheap and efficient field roller, of which a sketch and description were furnished for the *Agriculturist* by R. S. Cramer, Mercer Co., Ill. To make it, saw off two sections from a log 20 to 30 inches in diameter—the larger the better—two or three inches longer than wanted when the rollers are finished. Have ready four gudgeons, two of them 12 inches long, the other two 10 inches long, all made of one inch square iron. Round one end of two of them four inches, and one end of the others two inches. Bevel the square ends a little, so that they will drive readily, but do not draw them tapering. Find the centers on the end of the logs and bore in with an inch auger if the wood is hard, if soft $\frac{7}{8}$ inch, to receive the gudgeons. Drive one long gudgeon, and one short one into each roller, leaving the rounded part to project. Take a thin strip of board, bore an inch hole in one end, and bore a gimlet hole as many inches from the center of that hole as is contained in half the diameter of the roller. Put the board on the gudgeon, insert a scratch-awl in the gimlet hole, and scribe the circumference of the roller. With an ax and draw-shave, chamfer the ends down to the scribe; then stand behind the log, and with an ax hew the middle down, using a straight edge to show when it is level with the ends.—Finish off with draw-shave and jack-plane. To get the ends of the roller square, take the two pieces of scantling that are intended for the end pieces of the frame, bore them where the gudgeons are to work, slip them on the gudgeons and prop them up so that the roller will revolve on the gudgeons freely. While another turns the roller, hold a scratch-awl to mark where the roller is to be sawed off. Cut it with a cross-cut saw, turning the roller occasionally, so as to follow the scribe. Leave a projection of half an inch around the long gudgeon, to keep the outer surface of the end of the roller from rubbing against the frame.

To make the frame, use $3\frac{1}{2}$ or 4 inch square scantling, of hard wood. Make inch-and-a-half mortises in the short pieces, tenons on the long ones to fit, and fasten with draw-bore pins, (keys work out). The tongue answers for the middle cross piece. It should be four inches square where the gudgeons enter—dress away a little on both sides of the hole (for the gudgeons) to prevent friction with the roller. The tongue must be hinged to the back piece of the frame in such a manner that the top of the

tongue will be nearly as low as the bottom of the piece to which it is hinged. To make the hinges, take a heavy piece of strap iron, bend the end of it around a $\frac{1}{4}$ bolt-rod, the ends of which shall project an inch beyond the strap, and weld it. Bolt this to the tongue and secure it to the back piece with eye bolts that fit on the projecting ends of the bolt-rod. The tongue is then laid on top of the front piece of the frame, it being notched down two inches, and a long staple made of half-inch iron goes over the tongue through the piece the tongue lies on. This staple is not to hold the tongue to the frame, but should be long enough to allow the tongue to vibrate up and down six inches, but should fit neatly sideways. The object of the vibration is to allow the roller to adapt itself to the irregularities of the surface.

The rollers should be four inches shorter than the width of corn rows, and then it will be just right for rolling two rows of corn at a time. This implement might be introduced with great advantage upon many farms. It is needed for pressing down clods left by the plow, pressing the soil into contact with the seed, leveling mowing ground for the scythe, and compacting light land. It should not be used on moist land, at a time when the ground is so wet as to pack.



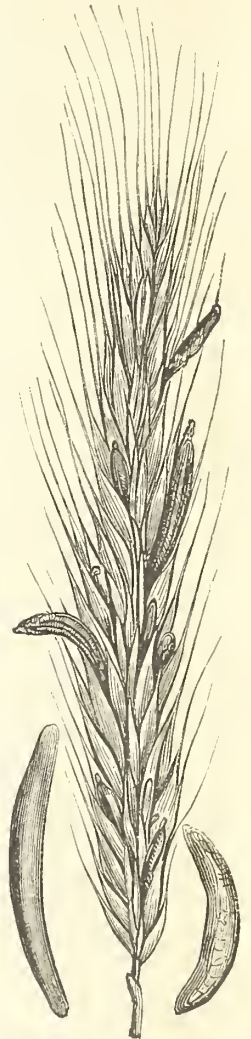
A Linch-Pin Extractor.

A model of the implement represented above was forwarded to the *Agriculturist* by Mr. D. C. Voorhees, Somerset Co., N. J., who says it is very convenient for drawing the linch-pin from carts or heavy wagons, particularly when they are held fast by the dried tar or gum from oil used in greasing the axles. It consists of a lever, *l*, about four feet long. A narrow iron rod, *h*, turned to form a hook, is fastened by a pin in an opening about six inches from the end of the lever. To draw a linch-pin, place one end of the lever on the hub of the wheel, let the hook catch under the head of the pin, *p*, raise the other end of the lever, and the linch-pin is readily extracted.

Ergot or Spurred Rye.

Some cases of poisoning which occurred in Brooklyn, N. Y., having been attributed to the use of ergotized or diseased rye as a substitute for coffee, there has naturally been considerable uneasiness among those who are accustomed to use "Rye Coffee." We give the readers of the *Agriculturist* an engraving of the ergot, which will enable them to recognize the dangerous substance and avoid it. On a head of rye will sometimes be seen some blackish spurs, about half an inch long, in place of the kernels.

Only one or two grains in the head may be affected in this way, or it may be the case with every one. Though it bears no resemblance to the grain of rye, it is really one, much changed by the attack of a minute microscopic fungus or mold. This attacks the grain when very young, and causes it to finally present the appearance shown in the engraving, which represents the ergot as it appears on the head, and also two separate grains. The ergot is often nearly an inch long, and having somewhat the shape of a cock's spur, the name *spurred rye* has been given to it. It has a blackish purple color, and although no odor is noticeable in a single grain, when a quantity is together, it has a very unpleasant smell. When the grain is thus diseased, it not only takes on an unnatural shape and appearance, but its chemical character and its properties are also altered; the grain no longer contains starch, but in its place is found a large quantity (over 30 per cent.) of a peculiar oil, and instead of being a nutritious food, it is a powerful poison. In some parts of Europe, where rye is much more extensively used for food than with us, fearful epidemics have been caused by ergot being mixed with the food. Serious convulsions, loss of sight, gangrene, or mortification of the limbs, and death, have resulted from its use. The presence of ergot is not traced to any peculiarity of soil or season; sometimes it is very abundant, and at others the grain is entirely free from it. Nor is it confined to rye, for we have seen several grasses similarly affected, and it is said to have been found in wheat, though we suspect that the latter rarely occurs. From the well known poisonous character of ergot, it will be seen that it is the duty of those who prepare "rye coffee" for sale, to carefully inspect the grain they make use of; those who prepare it in their own families will be in no danger of poisoning, if the ergot, which is so unlike rye, and so easily detected, be carefully picked out.



Seeding Down Lands to Grass.

To best prepare a field for seeding down, attention should first be given to draining. If it is naturally cold and unproductive, or if water lodges in any portions of it, ditches should at once be opened through it, and laid with good underdrains. Surface ditches are apt to get filled, and coarse grasses and weeds grow up in them, which interfere with mowing and prevent the flow of water.—Draining finished, spread the manure and put in the plow. Do both of these works thoroughly. On poor soils manure is important to give the grass a good "catch," and to supply it with food afterward. Deep plowing and a faithful harrowing, are needful to bring the land into fine tilth and to enable the roots of the grass to spread out and penetrate deep where they will flourish in spite of drouth.

It is in dispute whether, in seeding down, a few or many varieties of grass seed should be used. For a pasture, it is obvious that several sorts are preferable to any one. One sort gives us an early growth, but dries up in mid-summer. Another starts later, but holds on well. Others grow best in Autumn; some grow best on light soils, others on heavy; some are fibrous-rooted, and grow best near the surface; others are taprooted and draw their food from below. Animals crave a variety of grasses, and thrive best on such a diet. The English make the combination of grasses more of a study than we do. They often sow six or eight kinds of seed, and sometimes more. An experienced farmer of our acquaintance favors only a moderate number, as follows: For seeding an acre, 10 pounds of red clover, 5 pounds white clover, one peck of Timothy, and half a bushel of red-top. He salts this mixture down with two bushels of plaster. Mr. A. B. Dickinson recommends, 6 quarts Timothy, 4 of red-top, 2 of blue-grass, 2 of white Holland clover, and 4 of red clover. When several kinds are sown, that best suited to the particular soil, will generally run the others out, and in time mainly occupy the surface.

Other questions relate to the time of sowing, and whether the grass seed should be sown by itself or with another crop. It is quite a favorite practice to seed down in early Autumn, say September, and usually with rye or winter wheat. The argument for this is, that the preparation of the land for wheat or rye is just what it needs to make the grass catch well and grow well; and that by getting a good start in Autumn, it makes a stronger growth the next season than it would if the seeding were deferred until the Spring. But sometimes, the preceding crop (say potatoes,) is a late one, and can not be got off until October; and sometimes other farm work presses so hard in September that stocking lands to grass can not be attended to. In such cases, spring seeding must be adopted. Get the ground in order as early as possible, and sow with oats, barley, or spring wheat, making the grain crop rather light, so as to give the grass all possible chance. The grain crop will shade the grass plants until they get well started, and then it will be removed in time for the grass to get strong before Winter sets in. If the soil is cold and backward in Spring, it is advisable to plow it late in the preceding Fall: it can then be got ready quickly in Spring for seeding. Some of the best farmers prefer sowing grass seed without any grain crop. One crop at a time, they say, is enough. The grain is a coarser and more exhausting crop, it interferes with the growth of the tender grass, and steals away its food. One of the chief objections to

sowing grass seed alone is, that weeds are apt to get the start of the grass. When grass seed is put in alone, the ground should be cleaned and tilled with special care, and a large amount of seed be sown, so as to occupy the whole surface at once, and produce a fine hay.

For the American Agriculturist.

Notes on Wisconsin Farming.

SOWING SPRING WHEAT IN THE FALL.

Of late years, many of our Wisconsin farmers have observed in the Spring, on Fife wheat stubble, quite a thick growth of self-sowed wheat. In one case, I knew as good a crop produced from a piece of Fife stubble, self-sowed and uncultivated, as was raised on some of the neighboring farms in the usual way. These observations, together with the facts that the wheat crop of 1861 fell much below the average, and that of 1862 was nearly a failure, have led many thinking farmers to make some experiments. I have conversed with many such, and all seem to base them on the same general grounds, viz: 1st, that the wheat crop of 1860 was quite double the average of previous years, and the seed for that crop was gotten in from two to four weeks earlier than in any other season for ten years before. The inference was, to get the seed in early would increase the crop. 2d, that the Fife wheat will retain its vitality and lay in the ground all Winter, and when the ground is plentifully covered with snow, will make quite a good growth under it. All, too, seemed to have the idea, that it should be sown so late in Autumn that it will not sprout before the ground freezes permanently. Of course it is difficult to determine just when it is going to freeze up and continue frozen. A farmer in Waterford, Racine Co., sowed ten acres, I think, late in November, but it remained open with alternate freezings so long after, that the wheat sprouted before it froze up for good, and the crop was a failure. One of your subscribers in Vernon, Waukesha Co., sowed a field late, and in three days after, the ground froze hard. After the snow went off in the Spring, the field was fairly green with the growing wheat. Before the ground was thawed more than one or two inches, there occurred a beating storm of rain, which washed out and drowned the young plants in places. Counting out those spots where it was destroyed, the piece yielded at the rate of 40 bushels per acre, of a very fine quality of wheat. In several cases, to which I am knowing, this experiment succeeded well last year. Another of your subscribers in Newport, Lake Co., Illinois, sowed September 15, 1861, a bushel of Fife wheat and a bushel of winter wheat on equal quantities of land side by side. The Fife wheat produced 11 bushels of as fine wheat as I ever saw. The bran was much whiter and thinner than spring-sowed of that variety. The winter wheat produced 12 bushels of good quality. Last September he sowed several acres of Fife wheat of spring-sowed, his opinion being, it will produce as good a crop as that seed would, which was the product of that he sowed the previous Fall. But in order to test the matter, he has sowed a bushel of wheat raised from that put in the previous Fall, and a bushel from spring-sowed, on equal quantities of land side by side. I hope after he has thoroughly tested the matter he will give your readers the result. Hundreds of bushels of Fife wheat were sown last Fall at different dates. How it will succeed, is yet a matter of some doubt: I will take pains to inform myself in proper time and let

you know. A large breadth of winter wheat was sown last Fall, I should judge four times as much as was sown the year previous. The reason is, winter wheat for the last two years has done exceedingly well, yielding from 20 to 40 bushels per acre of fine quality; while at the same time spring wheat has done very poorly. In the harvest of 1861 a majority of fields did not yield more than 10 bushels per acre. Bad seasons and the chinch bug will not wholly account for these light crops. Half of it can be laid to quack farming. Here and there I find a thorough, scientific farmer, who never fails of raising a good crop of spring wheat. These farmers invariably take the *Agriculturist*.

Racine Co., Wis.

R. F. ROBERTS.

For the American Agriculturist.

Market Fairs.

With all that has been written in favor of these institutions, and the efforts that have been made to establish them, they are still a great desideratum in the farming districts. There can be no doubt that our farmers are losing millions of dollars every year for the want of them. In this respect, the British farmer has one of his chief advantages over us. It is not so much that he has cheaper labor, that his living expenses are less, or that he follows his business more closely, that he prospers, but that he has a steady reliable market near home for every thing that he produces. This gives him a great advantage over us, notwithstanding he has to pay a rent of from ten to twenty dollars an acre for his farm and much heavier taxes than ours. Every farming district in England has its weekly market. If a farmer has fat cattle or milch cows to dispose of, they are driven a few miles to the Market Fair and sold nearly as well as he could sell them in the London market, without the large expense of transportation. If a butcher wants cattle he goes to the fairs to buy. Here, there is a middleman, a drover, between the butcher and the farmer, making his profit, often a very large one, which would otherwise go to the farmer. If the English farmer wants store cattle or seeds, he can find just what he wants at the expense of a morning ride. Here, if a farmer wants a stock of cows he has either to go to a distant market, losing traveling expenses and time, or to take his own conveyance and spend a week perhaps, in picking up what he wants, in his own or the neighboring towns, at such prices as he is obliged to pay. There is no steadiness to the prices in buying or selling, except in the large market towns. The regulation of prices is very much in the hands of middlemen.

But few efforts have been made to establish such fairs in this country, notwithstanding their manifest advantages. It takes time to change from a system in which we have been educated, even though that system be a bad one. There is nothing in our circumstances to forbid the establishment of these fairs and the full realization of their benefits. They began as religious celebrations many centuries ago. We have nothing, except our Annual Agricultural Exhibitions, upon which such market fairs could be grafted, and these are quite too far apart to answer the purpose. The place, however, where such exhibitions are held, generally the city or village in the trade center of a county, would be a good starting point for these fairs. It not unfrequently happens now, that a sale of stock and other products occurs at the close of the annual exhibition. More or less exchange

of products always takes place. Where a Society has grounds and permanent stalls and buildings, all the conveniences are provided that would be needed for the accommodation of market fairs. There would need to be some concert of action to get them started, and generally the men most interested in the County Society are the right ones to project the market fairs and make them successful. They might at first be held quarterly or monthly, and then more frequently as they became better known. Once established they would take care of themselves, as it would be for the personal interest of every farmer in the district to buy and sell in that market. This matter should be discussed at our farmers' clubs, and annual agricultural meetings.

CONNECTICUT.

About Liming Land.

The recent letters received at the office of the *American Agriculturist* have contained more notes and queries on the subject of liming land than on any other topic save that of growing tobacco, which from some cause seems to be just now "all the rage," throughout the country. Without attempting to exhaust the subject of lime, we offer a few hints. The precise action or use of lime is not a settled question. Theoretical agricultural chemists have claimed that, since lime is found in the ashes of most crops, it is one of the essential constituents, and must therefore be found in the soil, or be applied, if not already there, in order to supply the elements of the plants. But this does not explain its action. A single illustration is conclusive on that question. The farm on which we were brought up, though a diluvial or loam soil on the surface, is literally filled with limestones, and rests on limestone rocks which often protrude through the surface. The well and spring water is so saturated with lime as to yield a thick coat of it upon the tea-kettle in a brief time. Yet burned lime, and plaster (sulphate of lime,) have always been favorite fertilizers, because their application has proved to be profitable. Many thousands of bushels of lime have been burned from stones gathered upon the surface, and the burned lime has been applied right among the unburned stones with excellent results. The water flowing from the soil is abundantly saturated with lime in a soluble condition, so that there can be no possible lack of this element for the use of the plants. On this point it may also be added, that in the analysis of many samples of water from wells and springs in all kinds and qualities of soils, and from various sections of the country, we have never yet found a specimen of water that did not contain lime enough to meet the wants of any crop.

With the above and other facts in view, we have come to attribute the chief utility of burned lime to its action as an alkaline reagent to neutralize the acidity or sourness of the soil, and to promote the decomposition of organic or vegetable matters, and fit them to become food for the growing plants.* To a limited de-

gree, also, lime acts as a cement to harden and compact light sandy soils.

The burning of limestone simply drives off its carbonic acid, and reduces it to a fine or powdered condition, so that it is easily mingled with the soil. Simply grinding limestone would not remove its acid and render it caustic; this is only accomplished by great heat.

No rule can be given for judging as to whether any particular soil will be benefited by lime. Experience has proved that it is often useful both on clays, and on very sandy loams, where there is but a very limited supply of lime naturally in the soil; and that it is equally beneficial on soils half made up of limestone pebbles, shells, and organic petrifications which are composed chiefly of lime. Actual trials are the only sure tests of its utility or non-utility upon any particular soil. With the above theory of its action as an alkaline reagent we may generally conclude:

1. That on new soils, where there is more or less of undecomposed vegetable matter, and some sourness, an application of lime will hasten the preparation of the natural manure or vegetable material, and neutralize the acidity.

2. On cold soils or those which are not naturally thoroughly drained, the water saturating the soil for the whole or the larger part of the year shuts out access of air. The vegetable matters remain in an undecomposed or in a semi-decomposed condition. An application of caustic (fresh-slacked) lime will dissolve and hasten the decomposition of the organic materials, preparing their elements to enter and nourish the plants.

3. This effect will be most marked upon recently drained swamps, and fresh and salt water marshes. Owing to the great amount of vegetable matters, it is often necessary to make a light application at first, or so much of the natural manure will be prepared as to induce too rank a growth of straw or stalks. For potatoes, or for corn which is a gross feeder, there is less danger of an over-dose, than when grass-seed or the grain crops are sown.

4. On dry, sandy soils there is often too little moisture to decompose the organic materials, and an application of lime is frequently useful. As above stated, lime acts mechanically, cements the soil, and causes it to retain moisture.

5. On heavy clay soils, lime is often beneficial for the same reason as in (2) above, though a large application sometimes cements the clay, and is deleterious.

Mode of Using Lime.—The best form of application is, to sow *fresh slaked* lime, in the finest condition possible, and immediately mix it thoroughly with the soil by harrowing and plowing. Some spread it upon the surface, and plow it in. The better way is to first plow the land, then sow the lime and immediately harrow it in well. When spread in heaps and left for days or weeks, it absorbs carbonic acid from the atmosphere, and is then far less active upon the vegetable material within the soil. When fresh slaked with water, it is an almost impalpable powder, and can be much more thoroughly scattered and diffused through the soil. If it lay in heaps upon the field, or is air-slacked, it becomes carbonated, and though still friable or in a powdered condition, the particles are a thousand times less minute. Sown as a top-dressing, it acts upon a little of the surface, and some of it is washed into the soil, and we have seen good results from this practice, but the effect is far less than when sown fresh and immediately worked into the soil.

Moistening seed and drying it off with lime, just before sowing or planting, often produces good results. We suppose the little lime thus introduced, sweetens a small portion of the soil, and prepares a little of the organic matter immediately around the seed, fitting it to nourish and give a vigorous start to the young plant. A larger application in the hill, or diffused through the whole soil, would of course prepare more of it for the extending roots.

Lime may be applied at the time of putting in seed, or months before. In the latter case it decomposes the organic matters, but these are mainly retained by the soil in store for the roots of the coming crop. Theory and observation indicate, that the time of application is not material, though we are most likely to diffuse it more thoroughly and evenly through the soil, if it be applied when the seed-bed is being prepared. The additional harrowing then given, aids in mixing it evenly through the soil, which we consider a great point to be aimed at.

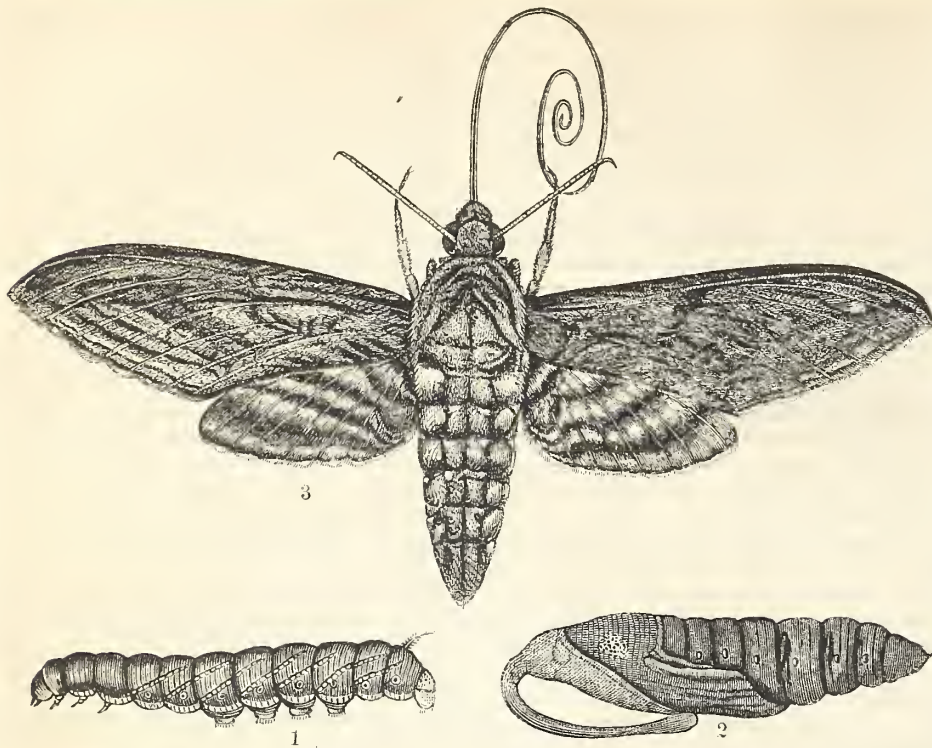
Moderate applications, at frequent intervals, seem to be preferable to heavy coatings at long intervals. A cold, heavy, sour soil may receive 30, 50, or even 100 bushels per acre at one time; but on lighter soils 15 to 25 bushels are usually an abundant supply. To apply 50 or more bushels per acre on a light soil, may decompose and use up nearly all the organic matters in the first year, and render it sterile; while 15 bushels may prepare enough organic material to benefit the first crop; and the roots and leaves of that crop will add more organic matter for a succeeding crop. This may explain why lime has after a time been condemned where it was at first in great favor. We know one instance where the soil of a neighborhood was light and sandy. Lime was hauled 30 miles by teams, and very moderately applied—10 to 20 bushels per acre. The opening of a railway reduced the cost to 8 cents per bushel, and one farmer applied 500 bushels to five acres at once, expecting great results. The first crop was a good one, but the field was ruined until a heavy coat of manure was applied, to restore organic matter.

Large applications of lime on a heavy soil, and not thoroughly diffused through it, as when it is spread on the surface and plowed under, often settles in a layer, and forms a compact bed through which the roots will not penetrate freely. We have seen many such instances, and nothing would grow well until a plow was run below to throw it upon the surface, and then the harrow used freely to break up and commingle the hard layer with the rest of the soil.

Oyster-shell lime is by some thought to be preferable to stone lime, because the former contains more phosphoric acid; but it slakes much less finely, and is therefore less intimately mixed with the soil. On this account we should prefer the stone lime, and we believe the general experience is in this direction. Gas lime is similarly objectionable, and until after considerable exposure to the action of air in or upon the soil, it is poisonous to plants. (The use of gas lime is fully described on page 75 of Volume XX, for 1861.)

The above general hints indicate answers to a multitude of questions addressed to us. Any other specific questions we shall be happy to reply to, when practicable. Lime is perhaps the most important fertilizer we have, aside from barn-yard manure. It is useful on a large proportion of all the farms in the country, and may well be tried, where it has not been used. Its effects, the best modes of application, and the *rationale* of its operation, should be carefully observed and studied by cultivators generally.

* One of the facts of chemistry is, that a compound body will be more readily decomposed if there is present another compound or element having a strong affinity for one of the results of the decomposition. Thus: all vegetable matters, in decomposing, produce a considerable amount of carbonic acid, and this has a strong affinity for lime. Hence the presence of lime in a soil hastens the destruction of dead grass roots and other organic materials, and sets the elements at liberty to act as direct or indirect nourishment to the growing crops.



The Potato or Tobacco Worm.

The above engraving represents one of our most voracious and destructive insects. It is shown in its different stages of larva, chrysalis, and imago, or moth. The larva or worm, fig. 1, is a great pest upon potato and tomato vines, and upon tobacco. It is especially injurious to the latter crop, as it perforates the leaves and renders them ragged and worthless. The worm as it comes from the egg is so small as to be unobserved, but having an enormous appetite, it devours rapidly, and soon grows to about twice the size represented in the cut. When not feeding, it lifts up the head and fore part of the body, and remains apparently lifeless. From its resemblance in this position to the Egyptian Sphinx, Linnæus gave the name *Sphinx* to the genus. The larva, fig. 1, is of light green color, with whitish oblique stripes, and has a horn upon the rear end of the body. Though it is repulsive in appearance, it is perfectly harmless to touch, and may be picked off with the hands without fear. After it has reached its full size, it leaves the scene of its ravages and goes into the earth, where it throws off its skin and becomes a brown colored chrysalis, fig. 2. The curious projection, like a handle, is a sheath which holds the tongue of the future moth. The moth or perfect insect, is represented in the engraving, fig. 3, of the natural size. It is of a gray color, with orange colored spots on each side of the body. As there are five of these spots on each side, it is called *Sphinx quinque-maculatus*, or five-spotted sphinx. The moths may be seen towards night flitting about the flowers from which they suck the juices by means of their remarkable tongue, which is five or six inches long. When the tongue is not in use, it is closely coiled up and hidden between the two feelers. From the manner of their flight and feeding they are frequently mistaken for humming birds, and are called "humming bird moths," and "hornblowers." The moths should always be destroyed if possible; by so doing we prevent the production of several hundreds of most destructive worms. Naturalists make one or two other species, which closely resem-

ble the five-spotted moth, and are only distinguished by characters which would not be noticed except by the entomologist. [The illustrations above were in part re-sketched and engraved from figures in Harris' valuable work on Insects, referred to in our March No., p. 71.]

Tobacco Culture.*

PRIZE ESSAY—BY JUDSON POPENOE, MONTGOMERY CO., O.

I COMMENCED the cultivation of tobacco about fifteen years ago; I therefore write from experience, and shall try to give that experience, in a short and plain way.

VARIETIES.—I have cultivated various kinds of tobacco, but have come to the conclusion that what we call the Ohio seed-leaf is the best and most profitable kind for general cultivation. There are other kinds of tobacco that sometimes are profitable, and do well, but most of these do not cure out so well, nor color so evenly, nor are they so fine and salable as the seed-leaf. The Havana tobacco is too small and has not the fine flavor of the imported. The Connecticut seed-leaf I believe to be identical with our Ohio seed-leaf; the difference in the climate may make a slight variation in the quality, but we plant the Connecticut seed-leaf here in Ohio, and I don't think they can be told apart. The most of the tobacco raised in this district is the Seed-leaf, which is strong evidence that it is the best and most profitable to raise here.

SEED.—At topping-time a few of the most thrifty stalks should be left to grow without topping, for seed. When the crop is set, let the seed-stalks stand, stripping off the leaves and suckers. As soon as the seed-pods are black, the seed is matured; then cut off the seed-heads below the forks of the plant, and hang them in a dry place, out of the reach of mice, to cure. At leisure time, during the winter, strip the seed-pods from off the stalk, rub them in the hands until the seed is rubbed out, sift through a fine sifter, put in a dry place, secure from vermin of all kinds, and it is ready to sow. I have sowed seed six years

* To our great surprise, over eighty persons sent in essays on Tobacco Culture, in response to our Premium offer. Of these 15 were in German. One of the essays was written by a lady. They were handed over to a competent Committee of three, two of whom were engaged nearly two weeks in examining the manuscripts. They found several very fine essays—some of them excellent specimens of skillful use of the pen; others were rather historical; others were complete and very excellent on some points, but did not contain information on all points. The best one, perhaps, on the culture (by Mr. Schneider), had too little practical information on the important matter of curing and packing. The Committee felt constrained to adhere to the terms of the offer, and select the one discussing all points "from securing seed to curing and marketing the crop." Taking all things into consideration, they finally awarded the First Prize of \$15, to Mr. Popenoe, as above; The Second Prize of \$10, to Mr. A. B. Foster, Crawford Co., Wis. The Third Prize of \$5, was so nearly balanced between Messrs. Christian Schneider of Madison Co., Ill., and Oliver T. Bishop and Wm. H. White, of Hartford Co., Conn., that the Committee could not award it to any one of the three; so they decided to recommend the Publisher to increase the amount offered, and pay a Premium of \$5 to each of these gentlemen, which was cheerfully accepted. All these five essays, and a number of others, are published in book form as noticed on another page.]

old which grew as well as new seed. I think it is a good plan to raise seed enough at any time to sow for ten years, as it is thought to deteriorate by constant raising without changing. If seed snaps or pops when it is thrown on a hot stove, it will grow.

PREPARING SEED BEDS.—There are two plans of preparing beds for sowing seed; the first and best, is to spade or plow a bed in rich, dry ground, with a southern exposure; the south side of a barn is a good place, as the reflection helps to warm the ground. Where you have tobacco stalks, as you make a furrow with the plow or spade fill one third full with the stalks and turn the next furrow over them, and so continue until the bed is broken up. The stalks hold moisture, make the bed warm, and help to drain it. Take well-rotted hog manure and spread over the bed to the depth of about two inches, then harrow or rake until the manure is thoroughly mixed with the surface of the bed, and all is well pulverized and as fine as garden mold. For a bed one rod wide and four rods long, take two common-sized table-spoonfuls (as much as will lie on conveniently) of seed and mix well with four quarts of ashes, or slacked lime, and sow broadcast; the ashes will enable the seed to be sowed evenly; then take a hand-roller and roll the bed evenly, or place a board on one end of the bed, walk on it to press the ground to the seed, move it over, and repeat this until the bed is all pressed over. Another plan is to burn a large brush-heap in a clearing, or on any new ground, in the evening; in the morning dig the ground up with the ashes on; while warm, rake the bed fine and sow the seed as above directed. Very little weeding is required where the ground is burned, as the fire destroys the weed and grass-seeds.

If the weather is dry, the plants will need watering after they are sprouted, (which will be in about three weeks); in fact, the surface of the bed should be kept constantly moist; the beds should be kept clear of weeds; do not let the weeds get a start of your plants, or they will soon choke them out. If the plants grow well and evenly, the above-sized bed will plant four or five acres, but it is always safe to have two or three such beds, to guard against a failure, and to supply your neighbors. The usual time to sow is from the middle of March to the tenth of April, or as soon as the ground admits of working in the Spring. I have known seed sown in the Fall make good plants, but do not recommend it.

SOIL.—A rich, sandy, second bottom, I believe to be the best for raising tobacco, although our chocolate-colored uplands, when very rich and highly manured, will grow an excellent quality of tobacco, but will not yield as much to the acre. Black river-bottoms will yield more to the acre than any other kind of land, but the tobacco is not of so fine a quality; it grows larger, has coarser stems, and heavier body, and consequently, is not so good for wrappers or fine, cut as the second bottom or upland tobacco.

MANURING AND PREPARING FOR PLANTING.—Tobacco is a gross feeder and grows rapidly when once started; it therefore needs plenty of food to make it grow well. There should be a good coat of clover to plow under; if the ground is naturally rich, this alone, will make a good crop; but hog and stable-manure well rotted, is what the tobacco, as well as any other crop, delights in, and the more manure, the better the tobacco. The plan that I am now experimenting on is, as soon as I cut my tobacco in the Fall I give the ground a good harrowing, and then drill in wheat; the ground being well cultivated all the Fall, is clear of weeds and mellow and needs no plowing. In the Spring I sow clover; after the wheat is off, I keep the stock off until about September, to give the clover a chance to harden and spread. I then let the stock eat as low as they want to, which drives the clover to root and causes the crown to spread; I do not suffer stock to run on the clover during winter or spring. About the last of May or first of June I plow the clover under, which is now in blossom, and so I alternately keep two fields in tobacco and wheat, at the same time feeding the ground a crop of clover every two years; in this way I expect my land to increase in fertility all the time. The clover turned under, makes food for the cut-worms, and they trouble the tobacco-plants but little. We now harrow thoroughly, following in the same way that we plow, to make the sod lie flat and not drag up; next the roller is put on, and after the ground is well rolled it should be again harrowed, and, if cloddy, rolled again. Make the ground in the best condition possible, so that the roots of the tobacco will have no difficulty in penetrating the soil and searching for food. My plan is to furrow east and west three feet apart, north and south three and a half feet. I plow the tobacco both ways, but do all the hoeing, suckering, etc., north and south. Some mark out the ground 3 feet each way, but I think it is too close. If the tobacco is large, three feet does not give room to work among it conveniently. I mark out the ground with a small one-horse plow, going east and west first, finishing the way that I make my hills. The usual way to make the hills is with the hoe, making the hill where the furrows cross each other, drawing the dirt into a hill about

as large as for covering corn or potatoes. With the flat part or back of the hoc press or flatten the hill down to the level of the surface of the ground, taking care to have it clear of clods or rubbish. I generally make my hills with what we call a jumping shovel—the frame of a single shovel-plow, made light, with a shovel about eight inches square, put on in the place of the common shovel. Hitch a steady horse to this, start him in the furrows, dip the shovel in the middle of the furrows, and raise it, depositing the dirt at the cross of the furrows. Have a hand following to level and put down the hills, and take out clods. In this way I make, with the assistance of a boy fifteen years old, about fifteen thousand hills in a day; with the hoe three or four thousand is a good day's work.

SETTING OUT PLANTS.—From the first to the fifteenth of June is the proper time, although, if it is seasonable, up to the fourth of July will do, but the sooner after the first of June the better. By this time, with proper care and attention, the plants are large enough. The ground should be well saturated with rain, and a cloudy day is much the best. Immediately after a rain, or between showers, call out all the force, for the work is pressing; the success of the crop depends on getting it out at the right time; all hands go to the plant-beds, pull the largest plants, one at a time; don't let two stick together, or the boys will drop them together and a plant will be lost. After the baskets are full, let one hand continue to pull plants. Put the little boys and girls to dropping one plant on the side of each hill; let those who stick, take an extra plant in the hand, drawing the leaves together in the left hand, and with the fore-finger of the right hand make a hole in the center of the hill deep enough to receive the full length of the roots without the tap root bending up; insert the plant up to the collar with the left hand; stick the fore-finger of the right hand one or two inches from the plant, and press the dirt well up against the roots, taking care that the dirt is pressed so as to fill up the hole. Pick up the plant on the side of the hill, and as you step to the next hill arrange it for sticking; in this way you always stick the plant that you pick from one hill in the next, thereby greatly facilitating the work. Sometimes the ground is not sufficiently wet, and the sun coming on the plant is apt to injure it; at such times take a small clod and lay it on the heart of the plant to keep the sun off, removing the clod in the evening. As soon as the plants have started, the first time the ground is wet enough, replant where they have died out.

CULTIVATION.—As soon as the plants have taken root and commenced to grow, begin to use a double shovel-plow, having the shovel next the tobacco, about three inches wide and six or eight inches long; do not go too close to the hill, or you may displace the plant; follow with a hoe, removing all grass and weeds, leaving the tobacco master of the situation. Dig gently the surface of the hill, and draw a little fine dirt around the plant, and strive to keep the soil around the hill as mellow as possible without disturbing the plant. After going over in this manner, plow the opposite way, going twice in a row. Some prefer the cultivator for going over the first two times, and I think perhaps it would be preferable, as it pulverizes the ground better than the shovel-plow. After going over the field twice, in the above manner, commence again with the double shovel-plow, the way the tobacco was planted, following with the hoe, giving it a good hoeing as before. Use your judgment about the amount of tillage needed; keep clear of weeds; keep the ground mellow, and when the plants have spread so that they are bruised by the hoe and plow, stop cultivating.

WORMS.—As soon as worms appear, which is generally when the leaves are as big as a man's hand, go over the tobacco, looking carefully at every plant. The worms usually stay on the under side of the leaf; if you see a hole in the leaf, no matter how small, raise it up and you will generally find a worm under it. Worming can not be done too carefully. Miss one or two worms on a plant, and before you are aware of it the plant is nearly eaten up. When you find a worm, take hold of it with the thumb and fore-finger, giving your thumb that peculiar twist which none but those who are practised in it know how to do, and put the proper amount of pressure on, and my word for it you will render his wormship harmless. Worming must be continued until the tobacco is cut; the last worming to immediately precede cutting and housing.

TOPPING.—The tobacco is ready to top when the button (as the blossom or top of the stalk is called) has put out sufficiently to be taken hold of, without injury to the top leaves. As tobacco is not regular in coming into blossom, it is the usual practice to let those stalks that blossom first, run a little beyond their time of topping, and then top all that is in button as you go. There is no particular height to top at, but, as a general thing, sixteen to eighteen leaves are left; judgment is necessary to determine where to top; if topped too high, two or three of the leaves are so small as not to amount to much; if topped low, the tobacco spreads better. If just coming out in top, reach down among the top leaves, and with

thumb and fore-finger pinch the top or button off below two or three leaves; if well out in top, break off several inches from the button and four or five leaves below it.

SUCKERING.—As soon as the tobacco is topped, the suckers begin to grow; one shoots out from the stalk at the root of each leaf, on the upper side. When the top suckers are from three to four inches long, the suckering should be done. With the right hand take hold of the top sucker, with the left take hold of the next close to the stalk, and break them off, and so proceed, using both hands, stooping over the stalk, taking care not to injure the leaf. Break the suckers about half-way down the stalk, the balance being too short to need removing until the second suckering. In about two weeks from topping, the tobacco is ready to cut; now give it the last worming and suckering, breaking all suckers off down to the ground, and remove every worm, if you don't want your tobacco eaten in the sheds.

CUTTING AND HOUSING.—As a general rule, tobacco should be cut in about two weeks from topping, at which time the leaves assume a spotted appearance and appear to have felled up thicker: double up the leaf and press it together with thumb and finger, and, if ready to cut, the leaf where pressed, will break crisp and short. Do not let your tobacco get over-ripe or it will cure up yellow and spotted; it is better to cut too soon than too late. Take a hatchet or short corn-knife, grasp the stalk with the left hand, bend it well to the left, so as to expose the lower part of the stalk, strike with knife just at the surface of the ground, let the stalk drop over on the ground without doubling the leaves under, and leave it to wilt. The usual practice is to worm and sucker while the dew is on in the morning, and as soon as the dew is off, to commence cutting.

There are some who advocate to cut in the afternoon, say three o'clock, let it wilt and lie out until the dew is off next day, and take it in before the sun gets hot enough to burn it. I prefer the first plan, because a heavy dew may fall on the tobacco, and next day be cloudy, leaving the tobacco wet and unpleasant to handle. After cutting allow the tobacco to wilt long enough to make the leaves tough, so that they can be handled without tearing. Great care is now necessary to keep the tobacco from sun-burning; the cutting should be commenced as soon as the dew is off, and all that is cut should be housed by eleven o'clock, unless it is cloudy; from eleven to two o'clock the direct rays of the sun on tobacco, after it is cut, will burn the leaves in twenty minutes; after two, as a general thing, there is no danger of such burning, the sun's rays not striking direct on the tobacco. Have a wagon at hand, with stiff boards twelve feet long laid on the running gears: as soon as the tobacco is wilted so that it can be handled without breaking, commence loading on both sides of the wagon on the front end, lapping the tobacco the same as loading fodder, keeping the butts on both sides—build about two feet high, and so on until loaded.

TOBACCO BARN.—Mine is 50 by 33 feet, with 18 feet posts; the tiers are four and a half feet apart. I hang four full tiers of tobacco, and hang between the purlin plates in the comb, a half-tier; the bents of the frame are 16½ feet apart. I hang on four-foot sticks made of hickory, rived one-half inch by 1½ inches, shaved and tapered at one end to enter an iron socket; I have sawed sugar-tree scantlings 16½ feet long, 3 by 4 inches thick, for the ends of the sticks to rest on and meet in the centre of the rail, 1½ inches resting on it. Some use sawed lath to hang on, but the split and shaved are far preferable. Hanging on fence-rails with twine is going out of use, as it should. I use my barn to store wheat and barley, threshing just before tobacco-hanging. My barn will hang about seven acres of good tobacco.

HOUSING TOBACCO.—The tobacco being brought to the barn, should be unloaded on a platform or bench convenient for handling. An iron socket, about 6 inches long, ¾ by 1½ inches at the big end, tapering to a sharp point, is necessary; the sticks should be shaved so as to fit the socket as near as possible, but do not bring the stick to a sharp point, or it will not lie firmly on the rail. Have a 1½ inch hole bored three inches deep in the barn-post, three feet from the ground or floor; let the hole be bored



HAND OF TOBACCO.

slanting down a little, so that the socket end of the lath may be the highest; put the end of the stick that is not tapered into this hole and the socket on the lath; take hold of a stalk with the right hand, about one foot from the butt end, bring it against the point of the socket, six inches from the butt of the stalk, grasp the butt with the left hand, and give the right hand a firm, quick jerk, to start the stalk to split; then, with both hands, pull it back against the post, and so on until you have the stick full. The stalks should not be crowded on the sticks; four or five inches apart is close enough; eight or nine large stalks are enough for a four-foot stick. Having filled the stick, remove the socket, lay your stick of tobacco on the floor, and go on sticking until the load is all stuck; or it is a good plan to have rails laid on the lower tie, and hang for the present as you stick. While one or two hands are hanging one load, another may be in the field bringing in another. In hanging, have a single block and half-inch rope, with a hook at one end; secure the block near where you hang, place the hook in the centre of the stick of tobacco, and let the man on the floor draw it up to the one who hangs. There should be a stout pine board, two inches thick, fifteen inches wide, and long enough to reach from tie to tie; this should be placed under where you hang, to walk on. When the tobacco is hoisted up, take it off the hook, and walk to the farther end of the board; have your rail placed to receive the stick, and so continue until the rails are full, then move the board and block to another place, and so continue. A sixteen-foot rail will hang about twenty-four laths; eight inches apart is about the distance to place the laths of tobacco on the rails; if too much crowded, the tobacco will house-burn. Care should be used never to let a load of tobacco lie long on the wagon, or in a pile, as it sweats and heats, and is soon ruined. Always keep the tobacco cool. After it is housed, keep the doors open day and night, so that it may have the benefit of the warm and dry air, for the purpose of curing, closing the doors against high winds and beating rains. When cured keep the doors closed.

STRIPPING.—When the tobacco is sufficiently cured to strip, which will be after it has been well frozen and dried out, you will have to watch for it to get "in case" for handling; when a warm, wet, misty spell of weather comes, throw open the doors to allow the tobacco to take the damp. When the stems of the leaves are so limber that they will not snap, and the leaves are pliable, but not too wet, take down a sufficient quantity to strip for two or three days; take it off the sticks, make a temporary crib of boards about four feet wide, and bulk the tobacco in it, laying the tops in, butts out, next the boards. After you have made your bulk, cover with an old carpet, boards, or anything else handy, to keep it from getting too damp, or from drying out. Care should be taken that the bulk does not heat; if the stalks are wet, or there is any uncured tobacco, forty-eight hours is sufficient to spoil the tobacco. During the Winter there are generally several tobacco seasons, and by improving them the stripping can all be done before March. Having the bulk down, we now proceed to strip for market; lay a pile of the tobacco on a bench or platform about two feet high, and let the most careful and handy man take a stalk in his left hand, give it a shake to make the leaves hang out free, then pick off four or five of the bottom or ground leaves, and any badly torn or diseased leaves, and all such as are not considered *prime*; do not put any frosted or "fat" leaves in, as it spoils the tobacco; pass the stalk that is primed to the stripper, and let him take off the prime leaves. Take off one leaf at a time, keeping them straight in the hand; when a sufficient number are taken off to make what is called a hand of tobacco, take a leaf in the right hand, put the thumb of the left hand on the end of the leaf, about one inch from the butt of the hand or bunch, and pass the leaf around once or twice; an inch is wide enough for the hand; open the hand of tobacco in the centre, pass the end of the leaf through and draw it tight, then squeeze the hand together and lay it down, keeping the leaves straight. An inch and a half in diameter is large enough for a hand. When a sufficient quantity is stripped to commence bulking, make two places to bulk in, one for prime and one for ground leaf; let the space be according to the quantity of tobacco to bulk. A bulk 3½ feet high and 20 feet long, will hold ten boxes, or about four thousand lbs. of prime tobacco; the sides of the bulk must not be inclosed, but left open, so that the butts can dry out; at each end of the bulk put a bulkhead of boards to build against, about three feet wide and four feet high; secure this upright and firm; do not build on the ground, but on a platform or floor. Commence at one end against the bulkhead, take one hand of tobacco at a time, straighten and smooth it, and lay it on the floor at one side of the bulk; take another as above, press it against the first, and so proceed to lay the length of the bulk; then turn and lay down the other side of the bulk, letting the ends of the tobacco lap over the first row about four inches, and so repeat, keeping the butts even. After one or two

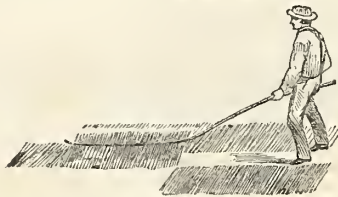
rounds are laid, get on the bulk on the knees, and as you lay a hand put your knee on it, and thus pack as close and compact as possible. When not bulking down, have boards laid on the tobacco, and weights put on to keep it level. Keep the ground leaf separate from the prime.

BOXING.—Boxes should be made 30 inches square by 42 inches in length outside; saw the end-boards 28 inches long, nail them to two 1½ inch square slats, so that the head will be 28 inches square; when two heads are made, nail the sides of the box to the heads so as to come even with the outside of the head, the sides being 28 inches wide; then nail the bottom on firmly; the top can be nailed slightly until after the tobacco is packed, when it can be nailed firm. Set your box by the side of the bulk, and let one man get in the box and another pass the tobacco to him, one hand at a time, taking care not to shake it out, but put in the box as it comes from bulk, with the but of the hand next the end of the box. Place close and press with the knee firmly; lay alternate courses at each end, and if the tobacco is not long enough to lap sufficiently to fill the centre, put a few hands cross-wise in the centre. When the box is full, place it under a lever; have a follower, that is a cover made of inch boards, nailed to two pieces of scantling, and made to fit inside of the box; lay this on the tobacco, and place blocks of scantling on it of a sufficient height for the lever to be clear of the box when pressed. Press down firmly with a strong lever, and, while kneeling in another boxful, let the lever remain so that the tobacco gets set in the box. When ready, take the lever off and fill up as before, about six inches higher than the box; press it below the top of the box, take off your lever and nail on the top as quickly as possible. Some use tobacco-presses for packing, which are perhaps more convenient; they are of various patterns, but a lever saves expense of a press, and is within the reach of all. If tobacco is sold at the shed, it should be sold before packing, being easier examined in bulk than in the box.

Notes on Flax Culture...III.

Before flax can be used by the manufacturer, the fibrous material must be separated from the other portions of the straw. Each stalk consists of three distinct parts, viz.: a woody stem in the center, called the "shoove," or "boon," next to this and surrounding it are the fibers, and outside of all a thin bark or skin. The fine filaments of fiber are cemented together and fastened to the other parts of the stalk by a gummy, resinous matter, which must be extracted in order to separate the filaments and render them sufficiently pliant for spinning. This part of the business is a chemical operation, and properly a separate branch, of importance enough where flax is largely cultivated, to require the services of appliances specially adapted for the work, and skilled operatives to conduct the process. In France a class of men termed "liniers" take the raw flax in the straw from the hands of the cultivator, and attend to all the manipulations necessary to prepare it for the manufacturer. Were this crop grown to a sufficient extent in this country, such a division of labor would undoubtedly soon be made here. In fact, in view of the prospective increase in flax culture, parties are already experimenting and perfecting processes whereby they expect to be enabled to profitably purchase the straw from the farmer and reduce it to the desired state. Until such arrangements are completed, it will be necessary for the flax raiser to follow the method heretofore practised, and to conduct the "retting" as it is termed, upon his own premises. This consists in decomposing the gummy, resinous matter by fermentation and putrefaction; literally rotting it away. It is done by subjecting the flax to the action of moisture and warmth. To this end, it may be steeped in vats, ponds, or sluggish streams, which is called water-retting, or it may be exposed to rain and dew, termed dew-retting. The latter process is almost universally employed in this country. About the last of August, the straw is taken to a smooth meadow, or pasture land,

where it may be kept clean, and spread carefully in swaths, about half an inch thick. Keep the butts even, and make the rows several inches apart, so that the ends of the straw may not become interlocked. If there be not rain and dew enough to wet it frequently and thoroughly, the retting may be hastened by turning it. Many recommend to let it remain until one side is sufficiently retted, before exposing the other. The turning is easily and quickly performed



with a light smooth pole ten or twelve feet long, slightly curved as shown in the engraving. About five weeks is usually sufficient to complete the process of dew-retting. This, however, depends materially upon the state of the weather. Frequent showers and heavy dews may reduce this time considerably. When the flax has turned a silver gray color, and the lint is seen separating from the woody part, particularly at the ends, and when on bending or twisting a small bunch of it in the hands the woody part breaks freely, leaving the lint clear, it is sufficiently retted. When dried it is ready to be operated on with the brake, or to be stored under cover or in thatched stacks, until disposed of.

For the American Agriculturist.

Both Sides of the Dog Question.

The Editor of the *American Agriculturist* indulges in a sweeping invocation to "stir up the public sentiment in favor of enforcing the dog laws:" "To shoot or poison every dog larger than a rat terrier, that looks at your premises." Or to "cut their tails off as short as the Dutchman recommended, viz., close behind the ears." "Very good," exclaims the terrier man, "only be careful to discriminate as to size before you shoot, or poison." "Just right," exclaims the little Miss as she pats her diminutive lap-dog. "Capital," says the sheep breeder. "Just right," echo a host of men. And "quite wrong," retort another host. "Partly wrong and partly right," says the writer. We can not do without dogs, and we can not do without sheep. Every one knows why we can not do without sheep. Every one does not know why we can not do without dogs. One reason is, we can not get rid of them. Another is, the farmer can not be secure in his crops, nor sure of his full quota of lambs without them. [We "don't see it."]

But few farmers that have lost from 50 to 100 bushels of corn in one season, as many have, will be in favor of the faithful dog's tail being trimmed as high up as was the Dutchman's dog. Farmers that have urged bounty acts for the destruction of foxes, would much rather see a well known hound's head with a little more tail left on. The truth is, we need well bred and well trained dogs, if any. Our country is cursed with an endless variety of curs that sneak, and stroll, by ones, twos, threes, and half dozens, scattering racket, wool, mutton, and slaughter and confusion, hydrophobia, frightened horses and broken carriages in dangerous profusion. Every owner of a dog should be responsible for his conduct. If he is too poor to pay damages, he is too poor to own any dog, and if he persists in keeping one, let him (the owner) go to jail like a crimi-

nal. We should not tolerate an irresponsible man in our nation. Every owner of a dog should give him every opportunity to chase sheep when he is a puppy, and if he does it, whip him: if he does it again, whip him harder: if he does it again, place the dog at one end of a rope and an old Heenan and Sayers ram at the other end. After a reasonable number of discharges and recoils, loose, and try him again. If he offends again, deliver him over to the *American Agriculturist*, then anticipate the finale.

Mr. Editor, please compromise in your next number, by excepting from your extreme trimming operation all sporting dogs until duly convicted of crime; but if you will not relax from your apparent incorrigibility, do not suspend the writ of *habeas corpus* in ease you get my dog in your clutches. OHIO.

By a curious coincidence, in the same mail with the above plea, came the following list of damages awarded by the Supervisors of Jefferson Co., Ohio, to owners of sheep killed by dogs during the year 1862.

Tristram Frink, Rutland.....	\$25 00
James G. Kellog, Lorraine.....	6 00
James A. Hunt, Antwerp.....	14 50
Guy E. White, Antwerp.....	6 50
James Dickson, Antwerp.....	7 50
Delos McWayne, Brownville.....	6 50
Bela Case, Hounsfield.....	4 00
James Van Allen, Hounsfield.....	10 00
Daniel Smith, Ellisburgh.....	80 00
J. T. Burton, Rodman.....	5 00
George Cooper, Adams.....	20 00
M. C. Porter, Adams.....	30 00
N. M. Wardwell, Adams.....	8 00
T. V. Maxon, Adams.....	11 00
John W. Arthur, Champion.....	15 00
William Dobson, Henderson.....	18 60
Henry Griffin, Henderson.....	3 00
Wm. E. Overton, Henderson.....	3 00
Geo. Sabin & Bro., Brownville.....	8 00
Patrick Boyed, Wilna.....	6 00
	\$287 60

The above was forwarded by Mr. Robert J. Holmes, of Jefferson Co., who fully endorses the crusade against dogs for their sheep-killing propensities and adds: "I find it don't improve a bed of tulips or a collection of choice asters, to have a pack of dogs running over them." If all would agree to have none but well trained animals, and to keep them in place, there could be little complaint; but the laws can not well discriminate, and it is better that a few should lose their favorite dogs than that many should have their flocks destroyed.

"Lampas" in Horses.

The horizontal bars in the roof of the horse's mouth are undoubtedly intended to aid the animal to retain food in the mouth while it is being masticated. They are abundantly furnished with blood vessels and nerves, and are therefore very sensitive. When colts are teething, the disturbance of the adjacent parts sometimes causes these bars to be inflamed and swollen. Then the animal can not eat without pain, and uninformed persons have ascribed the apparent falling off of appetite under such circumstances, to a disease named "Lampas." To remedy the supposed ailment, it has been recommended and is still practised in some localities, to burn out the swollen bars with a red hot iron made for the purpose. The operation is an unnecessary and injurious cruelty. The portion of the mouth thus destroyed, can never be replaced, and thus the power of perfect mastication is impaired. The only surgical operation allowable in cases needing assistance, is to lance the inflamed parts, the same as a physician would treat the gums of

a child in case of difficult teething. This can easily be done with a sharp penknife. After the lancing, it is recommended to wash the mouth with two ounces of tincture of myrrh in a pint of water, or a strong solution of alum in water. Feed the colt on bran mashes and grass, withholding all grain until he eats without difficulty.

Care of Harness.

T. Oliver Ayres, a practical harness-maker, Kent Co., Del., contributes to the *American Agriculturist* the following suggestions: "Harness should be kept hung up on wooden pegs in a clean dry room with a plank floor, so that it may be free from dampness. When soiled, it should be washed with Castile soap suds. Harness that is in constant use needs oiling four times a year; if only occasionally brought out, as carriage harness, etc., twice a year will be sufficient, if the washing be not neglected.

To oil harness, separate all the pieces, and lay them in water until thoroughly wet through. Then wash them clean, and allow them to dry sufficiently. To know when they are in good condition for oiling, bend a strap, and if the water does not ooze out, it is dry enough. Train-oil (whale oil) is sometimes used, but neats-foot oil is much better. Mix with it a little lamp-black, and with a brush apply it to both sides of the straps. About six hours after oiling, wash the whole with Castile soap and warm water, let them dry, rub well with a woolen cloth, and buckle them together."

Management of Fowls.

J. E. Hardisty, Harford Co., Md., writes to the *American Agriculturist* as follows: "I keep 7 hens and 1 cock. During the last year, ending Dec. 31st, 1862, each hen laid on an average 128 eggs, and raised two broods of chickens. I feed them well on corn; they were shut up during corn-planting time for four weeks, which shortened the number of eggs at least 130. They lay nearly every day when they can get animal food. If I had any way of providing them with cheap animal food in the Winter, I believe they would each lay 250 eggs a year. My neighbors wonder why they lay so well. My plan for several years has been this: I keep none but the game breed, and but few of them; if a hen does not lay at least ten dozen eggs a year, or if she will sit when we don't want her to, she soon becomes a candidate for the dinner-pot, and never fails being elected, her place being filled by a younger one, to undergo a like ordeal. In Spring I generally have 10 or 11 hens and pullets to select from; by May 1st, 7 or 8 remain; I keep two old favorites that lay well, sit well, and take good care of the chickens when hatched. Cost of feeding each hen 50 cents; average price of eggs 12½ cents per dozen; one quart of corn per day, in the Winter, when they can get nothing else, is as much as ten game chickens will eat."

M. L. B., Greenwood, Maryland, found the profits arising from 3 cocks, 5 hens, and 15 pullets of the Black Spanish, Dominique, and Brama Pootra breeds, as follows:

1584 eggs collected and sold at 16c. per dozen.....	\$21.12
179 chickens raised, at 25c.....	44.75
Total.....	\$65.87
23 dozen eggs set.....	\$3.68
Cost of grain for feed.....	25.51—29.19
Profit on 23 fowls.....	\$36.66

As has been frequently remarked in these columns, poultry raising on a limited scale is far more profitable than when attempted largely.

Many have been induced, by accounts like the above, to enter the business on a wholesale plan. But, even with the best arranged buildings for the purpose, and the most careful management, so far as we know there has been only complete failure. It is not natural for poultry to gather in large flocks. Uncontrollable diseases break out among them such under circumstances, or for some unexplained reason they fail to lay, and become unprofitable. From 15 to 30 fowls properly kept will add largely to the family income, both on the table and in the pocket.

Blinks from a Lantern... XXXIII.



VISITS A BACHELOR FARMER.

Since my reappearance, I have had occasion to reform my notions about the opposite sex. They have grown so much more companionable than they were in my day, that a bachelor of middle age living by himself, is the rarest of birds in the rural districts. I occasionally find one amid a group of maiden sisters, temporarily stalled on his road to matrimony, but so humanized by his surroundings that he is hardly to be distinguished from a married man. This certainly is a very great change in the state of society. Mrs. Grundy, who is quite as much of a woman as she is a farmer, suggests that the sweeter temper of the women of modern times may be owing to the improvement of the men. There may be something in that, for I remember now, that even Socrates was not a saint, according to the modern standard.

I recently, however, heard of a Simon pure bachelor, a real woman hater, who set up for himself forty years ago, and has lived to old age in a house unblest by woman's footsteps. A negro attended to his housekeeping, which was of the most primitive kind, and lent a hand in the field when the indoor work was not pressing. I found Jacob Pennywise the owner of a good farm, by his own earnings. The exterior of the house was not so unpromising, for it had been built for a man with a family. It was a good deal larger than Pennywise needed, but as he could not make it smaller without expense it remained as he purchased it. The barn was a model building, the masterpiece of Jacob's life. He could appreciate the wants of animals much better than those of human beings. By his animals he made his money, and these must be comfortably housed and well fed, whatever else suffered. He seemed to take to animals more than to men, and to have a fellow feeling for them. He always fed them himself, when at home, and this was without exception for forty years. He had never slept under another roof in all those years, and the farthest adventure from home, had been to the nearest market town, seven miles off. He took much more pride in the appearance of his cattle, than in his own. He carded and brushed his working cattle and steers, that he was breaking to the yoke, though, judging from his tangled locks, the comb seldom disturbed his own head. He had noticed

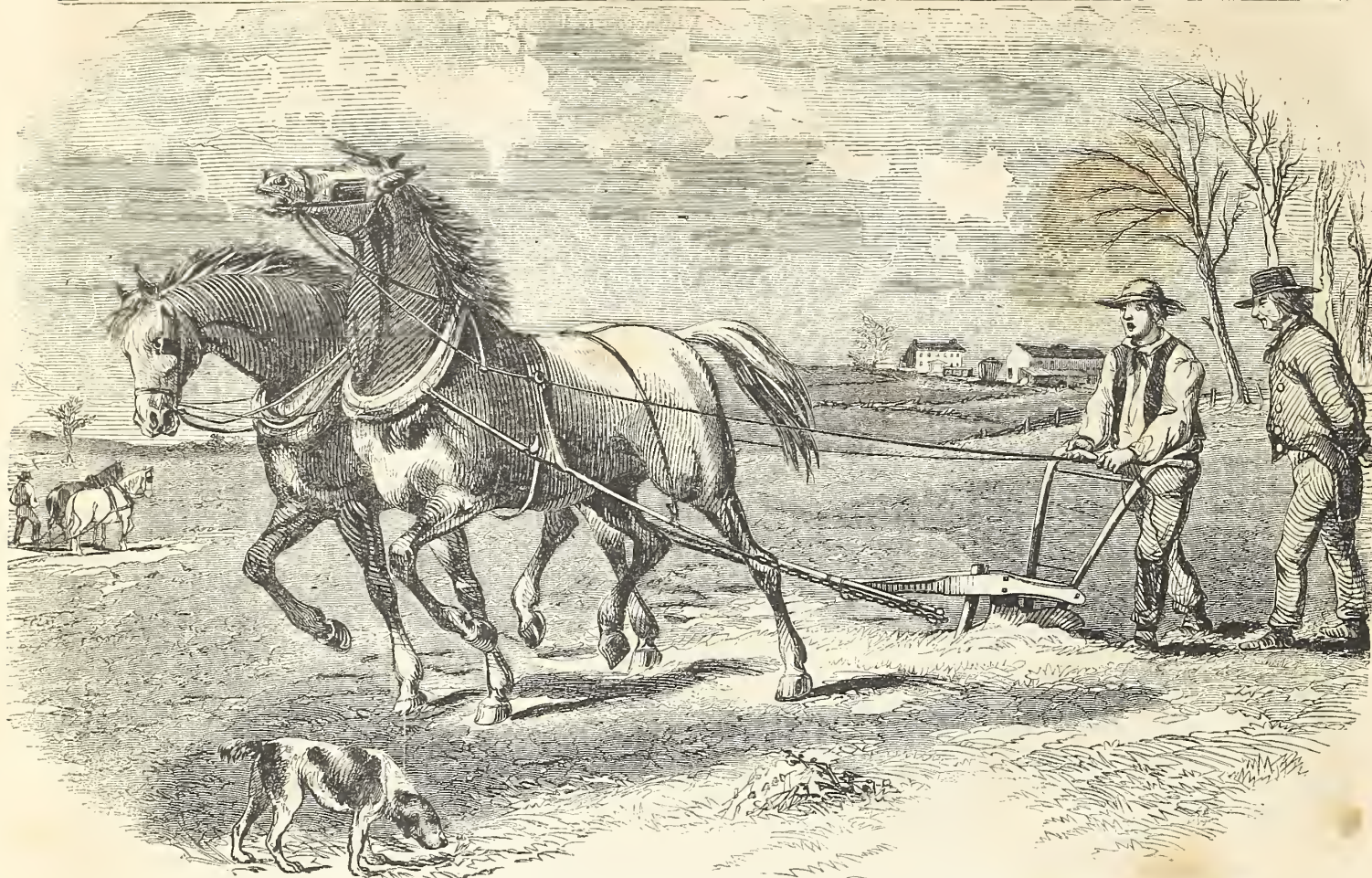
that men who bought oxen were willing to pay something for looks. He used to say it made a difference of ten dollars in the sale of a yoke of cattle, if the hair was kept smooth. He didn't care a straw about looks himself, but if folks wanted looks in cattle, he could make ten dollars as easy by using the card, as in any other way.

He was famous for his colts, in all the county. Nobody raised better, and nobody broke them so well. He had a very handsome income from the sale of animals every year. This was the chief product of his farm, though he occasionally sold poultry, grain, and fruit, when he had a surplus. He was almost as covetous of manure as he was of his money. The cellar was of the full size of the barn, and the droppings of fifty head of cattle all went into this receptacle and were composted with large quantities of muck and loam. He never allowed a rainy day to be wasted. There was always plenty of work in the barn cellar, however hard it rained. There was nothing like manure, he said, to make good colts and steers, and in this he was right.

The management of the barn and of the farm was admirable, indeed I have rarely met with anything more orthodox. But when we come to the management of Jacob Pennywise himself, and of his domicile, the picture changes. I saw at a glance that this was bachelor's hall, where the song of a mother and the merry laugh of children were never heard. There was no carpet upon the floor, no cushioned seat, no rocking chair, no mirror upon the walls, no pictures, not even a lithograph of his favorite horses and oxen. There had once been a coat of whitewash upon the plastering overhead, but it was before Jacob's day. There was a broom in one corner, but it was in the last stages of dissolution, having been used up for tooth picks. There could have been no sweeping done there for many weeks. There was a settee upon one side, and a long table; a half dozen chairs upon another, of the plainest description; a cook-stove and a wood-box upon the third; and on the fourth a long box with a lid, suggestive to more senses than one, of boots and bed-clothes within. This was the sleeping apartment of Scipio, the body servant of Pennywise. Judging from the looks of the lord of the mansion, Scipio's duties were light.

Though Jacob was reputed rich, he was never known to invest in stocks, or to deposit his money in the bank. He occasionally visited that institution, and always carried specie away. He paid his taxes promptly, for he could not help it, but this was his only contribution for the public welfare. His appearance was so seedy that no stranger would think of applying to him for charity, and his neighbors knew him too well to ask aid. He cared nothing for schools or churches, for highways or public improvements. He had about as much as he could attend to, to take care of his farm. He had no near relatives, and was never known to entertain a guest at his house, and he never went a visiting himself.

A few days after my visit I saw the notice of his death. He was found dead on his bed one cold winter morning, by old Scipio. On examining the premises, they found stowed away in various places, gold and silver coin to the amount of over thirty thousand dollars, which was the sum total of all that was left of Jacob Pennywise. Here was a man lost for the want of a woman. He filled no useful place in society. He was a mere machine for making money. The noblest product of the farm is manhood. If the soil can not be made to yield that crop, it were better to lie waste.



Importance of Good Plowing.

The plow will do its work on millions of acres, the present month. The abundant, or meager return in harvest time, very largely depends upon whether that work be well or poorly done. A soil of only moderate richness, if brought to a proper mechanical condition, will feed growing plants far better than stronger land imperfectly tilled. Every one knows that newly cleared forest land usually produces its best crops during the first few years of cultivation. This is not wholly owing to the plant-food yielded by the vegetable deposit which it contains. For many years trees have been sending their fibrous roots throughout its whole substance; scarcely a particle has been left undisturbed. Every square inch is permeated with decayed or decomposed matter. The soil is thus made loose and friable. It holds moisture, admits air and warmth, and the roots of grain or other crops extend unobstructed, and find nourishment at every step. Now, merely manuring such a field will not keep it in this condition. The fertilizing material must be distributed throughout the soil, not only that it may be readily appropriated by the growing plants, but that it may aid in keeping the soil in proper mechanical condition. Those who advocate only top-dressing, lose sight of this fact. The stimulating properties of manure will undoubtedly be felt by the soluble parts being carried to the roots by rain, but an important condition for plant growth will still be lacking. Perhaps for the same reason, in part, guano and other concentrated manures are beneficial for only a limited period. This also explains, in part, the favorable action of clover in rotation: the decaying roots are distributed throughout the soil more evenly than could be

done by any method of manuring now practised. The illustrations are given to enforce the importance of good plowing. The very best execution of this process will only partially supply the most favorable condition for growth. Every care should therefore be taken to have the soil as thoroughly pulverized, and manure as finely mixed through it, as is possible. Good plowing can not be done on clayey land while wet. The furrow slice may roll smoothly as from a brick mold, but it will be compacted into lumps which no harrowing will reduce. A crop put in two weeks later than ordinary on ground in good condition, would stand a better chance than if sown on a field of lumps. The advantages of draining, will be readily seen at plowing time. On drained ground a week or fortnight is often gained for growth of crops.

Much will depend upon the excellence of the implement used. We cannot name the best plow, for the reason that the styles must be varied on the different soils. A variation of one or two inches in depth of plowing may require a radical change in the implement. A plow working easily on stubble may entirely fail on sward. As a general rule it is safest to use a plow adapted for deep work. It may be adjusted to run light; but a plow for shallow work, can not be made to go deep effectively. If possible, purchase a new plow only on trial at first. If it runs with light draft, turns a furrow slice well at from four to eight inches is easily kept at uniform depth, and is well put together, it is a good implement.

A good plowman strikes a straight furrow, leaves it clean behind him, and the surface of the field as nearly level as the nature of the ground will admit. No written instruction will explain how this can be done. A man must learn the art at the plow-handle, and it will re-

quire thought and ingenuity as well as strength and agility. Paying a few dollars extra to an expert hand at this business, rather than entrusting it to an awkward bungler, will in the end be found to be a profitable investment.

Improvements on the Corn Marker.

We have received from Mr. David C. Voorhees, a very neat model of the New-Jersey corn marker described in the *Agriculturist*, page 41, (Feb. No.) fitted with several improvements of his own. These may be readily understood by referring to the engraving previously published, as noted above. The guide pole is attached to the forward beam of the sled where it will be less liable to throw the runners from the track, in marking uneven ground or in meeting any obstruction. A convenient seat is attached, supported by four legs inserted in the beams. A lever or handle three or four feet long is fastened to the rear beam, by which to adjust the sled to its place when starting, and to lift the rear end in turning. The most essential improvement appears to be attaching a cast steel cultivator share or tooth to the back end of each runner, near the bottom. These make the marks more distinct and leave the soil loose. They also prevent the runners from being easily thrown out of place. The cultivator teeth can be procured at small cost at almost any implement store.

How to Stop a Leak—Manure.

A subscriber, "D. C. V.," Blawenburg, N. J., writes as follows: "It is not a cement or patent Gutta Percha liquid for stopping the holes in an old roof, to which I refer, but a way to stop the leaking of golden streams of liquid manure. I call them golden, for who can tell how many

bushels of wheat are running away in this manner? Hints thrown out by the *Agriculturist* about saving manure, led me to look into my own system of making a return to the land for what had been taken off. I thought of the rich stream that was flowing from the barn yard through a ditch that had been dug into a field, for the purpose of drying the yard, which was not only a waste, but was also spoiling a piece of good land along the ditch, where little but weeds would grow. To remedy the evil, I made a pond nearly as long as the width of the yard, twelve feet wide, and eighteen inches deep. With the coarsest dirt I threw up a bank on the lowest side; the remainder was thrown in the pond again. The yard has inclination enough to run the liquid into the pond, and as fast as any liquid makes its appearance there, I throw in any kind of muck, good soil, rubbish, chip dirt, leaves from the woods, etc." Where nothing better can be devised, such an arrangement as this will add many loads of the best manure to the amount that should be used on thousands of farms.

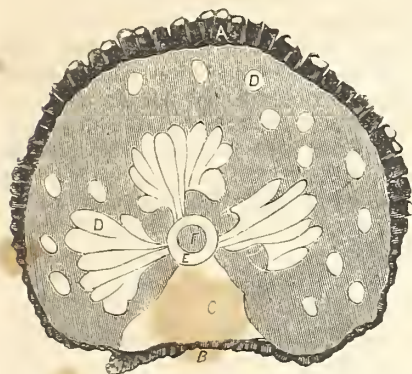


Fig. 1.

Some Observations on the Plum Knot.

BY C. F. AUSTIN.

This disease is not produced, as many suppose, by that great bugbear the curenlio, nor by any insect whatever; neither is it a "cankerous disease produced by vitiated sap," as some imagine, but is simply a *fungus*, which, germinating on the bark of the plum or cherry tree, penetrates to the wood, and increasing rapidly in size, ruptures and displaces the bark, soon forming an irregular naked excrescence, six inches or more long by about one-half inch in width. Its fungoid character was detected more than 40 years ago, by L. D. von Schweinitz, a renowned botanist of Pennsylvania, and described in his "*Synopsis Fungorum Carolinae Superioris*," under the name of *Sphaeria morbosa*. Yet it is evident, from his remarks in his "Second Observations on Fungi," (published in *Trans. Philos. Soc.*, Phila.) in 1832, that he had never examined the excrescence further than to find its fungoid character, and seems to have held the idea that it was produced by the joint action of a fungus and an insect. That it is a fungus is evident to any one acquainted with this class of plants. Even the sub-genus to which it belongs may be readily determined without the aid of a lens, and its habit is so different from that of galls, that it is to be presumed no person who is accustomed to watch the operations of insects would pronounce it an insect-gall. It always appears on wood at least one, and seldom on that less than two years old, and always ruptures the bark or cuticle, and exposes itself to the influence of air and light: while, on the other hand, galls always appear on the present

season's growth, and possess a covering formed from the cuticle of the plant upon which they grow, by cell multiplication. Their internal

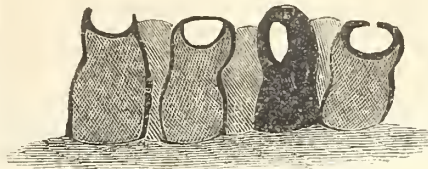


Fig. 2.

substance is formed directly from those cells existing at the time it was stung by the insect.

In the Plum Knot the case is entirely different; its substance originates (covering and all) from a spore, such as is represented in Fig. 3. One of these spores, under favorable circumstances, when attached to the bark of the plum or cherry, divides itself into two cells, each of these into two or four, and each of these again into two or four others, and so on until very quickly a large tumor is formed, which occupies the place of the bark which it has forced off. How deeply it penetrates the wood, my limited observations do not reveal. I have not found it extending to the pith, but it penetrates the present and, sometimes at least, the former season's growth, splitting it up into bundles that are frequently widely separated from each other by the loose cellular tissue which this parasite, by its own proper growth, has thrust between them, appropriating their sap, and arresting their growth. They make their appearance from May until October, and at a certain stage of their existence become thickly covered on their outer surface with *perithecia*, (spore cases,) which, though small, are quite distinct to the naked eye. Fig. 1 represents a magnified cross-section of a diseased branch. (In this figure the dark lines and shaded portion, except at B, represent the fungus; while the white portions represent the proper wood of the branch.) A, perithecia, (spore or seed bearing organs): some of them cut longitudinally, showing the cavity in the upper part, which contains the spores. B, old bark. C, the present year's growth unaffected by the fungus. D, D, the same affected, the fungus penetrating it and splitting it up into bundles. E, previous year's growth, unaffected. F, pith, unaffected.

The perithecia (A) are of a shiny black color, oblong—club-shaped, or bud-shaped, with the apex at first rounded, then flattened, and afterward depressed: soon a little hole appears in the center, which increases in size until finally they become cup-shaped (fig. 2 and fig. 1, A). In the upper part there is a round cavity filled with a white substance composed of *asci* (spore sacs), fig. 3; these are club-shaped and contain several oblong spores as represented in the figure. The *asci* are mixed with a glutinous and filamentous substance. Some of the perithecia have very numerous smaller elliptical spores (fig. 4), which do not appear to be contained in sacs; these are considered by botanists as the *antheridia*, or male spores of the fungus.



Fig. 3.

Remedy.—This deadly disease, can be more easily eradicated than any other we are acquainted with. Let every person having plum or cherry trees, attend to cutting off and burning the excrescences two or three times each year—

say in June, July and September, always being careful to eradicate every particle of the fungus, for if a solitary uninjured cell of it be left, it will rapidly increase by multiplication exactly as if it were a spore, and will soon break out again. In the mean time let the trunks and larger branches of the trees be thoroughly scrubbed with strong brine, say twice during the season to destroy any spores that may have lodged on the bark, and at the end of three years this pest will have become almost literally exterminated. After that it can easily be kept down with proper care.

I believe it does not exist in Europe, and in this country is confined almost exclusively to cultivated species of the plum and cherry; and as long as the practice so common in this country of depending upon the suckers to keep up a supply of these fruit trees is continued, we may eradicate this disease, but another will surely come in its place, and doubtless one that it will be impossible to get rid of without returning to a more rational method for our stock of trees.

It is a notorious fact that not a single race of cultivated plants in this country is ever permanently injured by any disease either of insects, fungi, or the rot, that has not for a long time been propagated by some method other than the seed, to a greater or less extent. Nature abhors imbeciles and sickly creatures, and has her troops of obedient servants in all parts of the earth which she employs to remove them from her sight. Let us remember that all her purposes are fashioned by the highest Wisdom.

I have never seen this fungus upon our native species of the plum and cherry, except in old fence-rows where they had become sickly through repeated attempts to exterminate them with the bush-hook, and where the suckers would still persist in encumbering the ground, though they had so far degenerated as to be incapable of assuming one-tenth of their normal size. In such places I have seen it on all our species except the Beach-plum, which is probably protected by the salt atmosphere peculiar to its locality.



Fig. 4.

These excrescences split up the bark of the tree, forming admirable places in which insects may deposit their eggs, and which they are not slow to discover; but out of scores of specimens examined, I have not been able to find either their eggs, or larvæ, except in old and partially effete ones; yet that they themselves are subject to the depredations of insects, I have not the slightest doubt; it would be a wonder were this not the case.

Are Earth Worms Injurious?

A. Beebe, Medina Co., O., writes to the *American Agriculturist* as follows: "In three instances where my garden had been treated freely with stable and barn-yard manure for a series of years, and thoroughly worked—never when too wet—angle worms, in a measure, destroyed its productiveness, and added more than twenty-fold to the labor of working it. In the spring plowing and spading, I have often plowed up and thrown out bunches of angle worms nearly as large as a man's double fist, where there was not as much as a spoonful of dirt among them. I think that all over my garden, the weight of the worms was fully equal to the weight of one-twentieth part of all land stirred by the plow. The land would plow moderately mellow, with some lumps. But three days

of sunshine after a smart shower, would render the ground almost as hard as a well-traveled road. But little impression would be made upon the ground by striking with a hoe as hard as it would bear without breaking. It was necessary to use a pick to get sufficient dirt to earth up potatoes, and after an immense expenditure of labor, they were worthless. This was also the case with cucumbers, squashes, pumpkins, beets, carrots, and parsneps. After two or three years' trial I suspected the cause, and seeded to clover, which produced an enormous crop. The third year after seeding I plowed again, and had good mellow ground to work, and an excellent garden. The land was a mixture of clay and gravel, with good natural drainage, the clay predominating—good land for wheat. I presume there are hundreds of highly manured gardens in Western New-York, rendered unproductive, indurated, and spoiled, by angle worms.

REMARKS.—Unless it can be shown that clover expels worms from land, the above experiment would merely indicate that the naturally heavy soil had been ameliorated and made more friable by the clover roots. The large amount of vegetable matter left in the earth by a good crop of clover, acts very efficiently for this purpose. We can not consider the experiment conclusive as to the hurtfulness of earth worms.—Ed.]

For the American Agriculturist.

Turning Losses to Profit.

Some time since I had occasion to pass by one of my neighbors, and found him employed in skinning his only cow. I expressed my sympathy for him. He good-humoredly replied that with every loss there was some profit; that feed was very scarce, and he was now relieved from all further trouble on that account; and furthermore, he could now pocket the money for the hide, which he could not have done had the cow lived. While musing on the calm and considerate philosophy he manifested under his loss, it occurred to me I had a similar case at home, and whatever consolation there was in my neighbor's system of financial ethics, I had a right to appropriate the benefit to myself. It is, perhaps, more or less true of every rural district in the Western States, that in them are found a few little-souled American farmers, who are not content with the annual income of their own farms, but appropriate the streets, lanes, and all other open lands of the neighborhood, as summer range for their flocks or herds.

But I now come to the point. Several years since I purchased some sheep from a distance, and in this purchase I innocently, but unfortunately, as I then thought, found I had introduced on my farm that bane of the ovine race, the *Foot-rot*. As soon as I ascertained the fact, I gave notice to my neighbors, promising to confine my flocks to my own premises, and frankly and pointedly stating the risk those would incur who would permit their flocks to roam over the country without restraint. To me this miserable disease was a source of anxiety, labor, and loss; but in the improved morals of trespassers, and to the public at large, it proved to be great gain. From thenceforth every man's sheep were kept at home, where they should be, and the neighborhood was thus relieved from this vexatious annoyance. I do not claim any patent right for my discovery in thus converting men into better citizens, neither do I claim much credit for my disinterested benevolence in the case referred to; but my ex-

perience suggests that, because the teachings of the Bible fail in indoctrinating all men in the first principles of practical morality, such cases should not be despaired of as hopeless. And where the conscience can only be reached through the breeches-pocket, every reader must determine for himself when it is expedient and proper to submit to a similar inconvenience and loss, that a greater gain may be secured to the whole community of which he is a member.

Moore's Salt Works, Ohio, February, 1863. G.

[We of course do not recommend the introduction of the foot-rot as a means of improving the morals of a community. We knew of a man who put broken glass into the road ditches and "mud-puddles" along his farm, to keep his neighbor's hogs from wallowing there. His own swine playfully jumped into one of these puddles, and one nearly severed his foot in two upon the sharp edge of a broken junk bottle, rendering him partially crippled for life. Kindness, patient reasoning, and the inculcation of good principles, and neat habits, and a spread of improvement, by introducing books and papers treating of agriculture and horticulture, will be the cheaper and better mode in the long run.—Ed.]

Analyzing Soils and Plants.

W. L. Robbins, of Suffolk Co., N. Y., thinks it would interest other readers of the *Agriculturist* as well as himself, to have published a table showing the chemical constituents of the different kinds of farm produce, so that the cultivator, by having his soil analyzed, could raise in rotation that class of plants best suited to it. There are plenty of tables of this kind, such as they are. Johnston's Agricultural Chemistry is full of them. Ten or twelve years ago we printed a large Chart closely packed with these kinds of analyses, but now esteem them of little practical value. By the aid of chemistry we are able to know to within a hundredth part of a grain the composition of soils and their products, yet we can make little use of this knowledge. For illustration, we know that the ashes of wheat contain a large amount of phosphoric acid, and turnips but little, yet an application of phosphates to the soil does very little good to a wheat crop, while the superphosphates are the great turnip manure in England. This subject we discussed at some length in Volume XIX, pages 105-6, (1860).

Start the Tomatoes Early.

Those using hot-beds will have their plants up by this time. Those who have no hot-beds can yet gain some weeks by starting them in pots or boxes in the house. After the plants are up and have made two or three rough leaves, transplant them into small pots, and give them plenty of light and air. The small thumb-pots may be used for the first potting, and as they are so small that they readily dry out, a number of them may be placed in a box and surrounded by moss, saw-dust, sand, or anything that will retain moisture. When it is found by turning out the ball of earth that the roots have filled the pot, they may be shifted to those holding about a pint, taking care all the time that the plants have abundance of air and light, and grow stocky. They may be kept in their pots until all danger of frost is past, when they are to be planted out by turning out the ball of earth from the pot. The directions for after-

culture will be given at the proper season. Earlier and better fruit is obtained upon light and sandy soil than from a wet and heavy one. The small pear-shaped and the smooth red varieties are the earliest. The Fejee is a few days later, but is so much more prolific and finer every way, that were we confined to one sort we should choose this. From a single year's experience with the French Upright, or Tree Tomato, we think well of it. It is a very compact and dwarfish variety, bearing its fruit close to the main stem. It needs but a single stake to keep it from being blown over, and as it can be planted as near as 15 or 18 inches, probably as much fruit can be got off the same space as from any other variety. It must be started very early, as the fruit is a little late, but it is very solid and, according to our experience thus far, every way desirable. Those who have no gardens, but have room in the yard to set a barrel or two, can obtain a supply of Tomatoes with a little trouble. John A. Briggs, of Franklin Co., Mass., writes: "Take a flour-barrel, knock out both heads, saw it in two in the middle, place the halves in any vacant place, fill about two-thirds full of earth, and manure and set your plants in them, and you will find your plants, if attended to, will do as well as in any other place. The writer of this has practised this method for the last three years with perfect success. None need want for this delicious and healthful fruit unless they are too indolent to try the experiment." The plants grown in this way may be watered with waste water from the kitchen.

For the American Agriculturist.

Sweet Potato Culture.

One page 6, January No., you say sweet potatoes will pay when planted south of 42°. To show that you are correct, I give you the result of a measured plot. From 13 rows, 3 feet apart and 100 feet long, I gathered 43½ bushels of fine potatoes, 36 bushels of merchantable potatoes, and 7½ bushels of small ones to use for seed.

Mode of Culture.—To cultivate with success, select a sandy soil if possible; if not, then the driest location; *don't move the ground* under the hills or ridges formed for setting the plants. If hills are made, deposit a shovelful of manure on the ground, draw the earth up over it forming a hill 10 or 12 inches high, leaving it a little flat on top and it is ready for the plant. If planted in rows, strew manure (half rotten will do) on the ground every three feet, same as for Irish potatoes. Manure don't hurt them; leave the base under the manure about a foot wide undisturbed. With plow, spade, or fork, make the earth fine between the strips of manure, and throw it on the manure into a ridge 10 or 12 inches high.

Rake off the ridges so as to leave them flat and about 3 inches wide on the top: they are then ready for the plants. The ridges may be made ready long before it is time to set the plants. Setting time from May 10th to middle of June, the earlier the better when danger of frost is over.

When the vines begin to run, lift them two or three times, and lay on the top of the ridge. Keep down all weeds; an 8-toothed cast-steel rake is best to dress the sides. Rake the earth from the bottom to top of ridge to cover and smother the weeds. Run the rows north and south if possible. Planted on *hard ground* they grow thick and chubby, but on soft ground they grow long, thin, and comparatively worthless.

Keeping.—After the first frost, dig on a dry clear day, handling with care. After drying a

few hours pack in barrels or boxes alternate layers of short dry or cut straw and potatoes, and move to a warm room or dry warm cellar; if to a cellar, keep up from the floor and off from the wall. With such treatment they will keep eight or nine months. J. C. THOMPSON.

Staten Island, N. Y.

Early Peas.

In this latitude these may be sown the middle of April, and in some seasons, even by the first of the month. The young plants will endure a pretty severe frost, and may even be covered by a late snow without injury. A warm, dry, rather sandy spot, which last year bore some well-manured crop, should be selected, and if protected on the north by a tight fence or wall, so much the better. Lay off the rows 2½ to 3 feet apart for the taller kinds, and 1 to 2 feet apart for the dwarf sorts. We prefer a somewhat scattered drill for the dwarf, and even for the tall growing sorts. This is made by scooping out the width of a garden hoe, and about two inches deep. Some prefer a single, narrow row, and others plant in double rows 6 or eight inches apart. If the seed is soaked for 24 hours before planting, in tepid water, they will come up much sooner than when sown dry. Cover with a hoe or rake, and after they are up, keep the ground well stirred and free from weeds. The kinds which need support, should be furnished with brush when they are a few inches high, and before they get so tall, as to fall over. A few short rows may be forwarded by a little extra care. Have the rows run east and west, and set up a board upon the north side; this will reflect the sun in the day time, and may be laid over the plants, upon blocks or other supports, at night. In this way the peas will be protected from frost, and the heat the ground has received during the day be retained. Some go to the trouble of making a more complete covering by nailing together two boards, as for a trough, or gutter: this can be put by the side of the plants by day, and at night is turned over them and forms a complete roof. The early varieties are numerous; for the tall growing sorts we have found the Daniel O'Rourke and Princess perfectly satisfactory. The Washington and European are also good early sorts, and recently a variety called the Electric has been introduced, which is claimed to be the earliest kind. We are each year more in favor of the dwarf varieties, as the laborious operation of bushing is dispensed with, and they can be planted much nearer together. Tom Thumb is a good early and remarkably dwarf sort, but as a variety for the family garden, it has the disadvantage that the pods all come to maturity about the same time. Bishop's Long Pod is an excellent sort, as is the Prolific or Strawberry, but neither of these are among the very earliest.

Large Sugar Beets for Stock or Sugar.

The March No. of the *Agriculturist* contains some information on "Beet Sugar," by Prof. Mot, of Ohio. Having made some experiments on beet culture, my experience may be of service to many of your readers. On a plot of ground 38 by 57 feet, planted in June (too late by two months) the product was, by actual weight, 4,226 lbs. They were planted 18 inches by 2 feet—should have been 2 feet each way. This is the secret of success. They want space, light, and air. Manure and prepare the ground

deep and thoroughly the last of March, or as early in April as possible—*frost don't hurt beets*. Drop two good seeds every two feet. Where the plant is large enough, thin out to one, leaving the best plant. I haul the earth around to steady them—cultivate well, and keep clean. I found where self sown seed (dropped from seed beets) came up very early and were left singly to grow where they started on good ground, by digging the ground up around them they would grow to over 30 lbs. each.

My neighbor, Dr. F. Hallick, grows them for stock. In 1861 the seed came up badly and left them thinly scattered: many reached 20 lbs. each. In 1862 he planted 18 inches by 2 feet. This crop averaged 13 lbs. each. This Spring he intends to plant 2 feet each way. Remember to plant early. Deep culture, and good ground are essential to get a fine crop. Do not pull off the under leaves—it stops the growth of the beets, and pock-marks all the remaining leaves.

Staten Island, N. Y.

J. C. THOMPSON.

Early Sowing.

A few bright, warm days, such as always occur the latter part of April, are usually sufficient to bring on an attack of the planting fever. The garden must be plowed or spaded, beds laid off, and in go the beets, carrots, parsnips, turrips, etc. They find a cold bed, the soil is packed over them by repeated rains, and many of the seeds rot outright, or the slender germs fail to lift the heavy soil pressing upon them. It is far better to leave sowing most seeds until the ground is dry and warm. A few of the hardy sorts, such as early peas, potatoes, onions, lettuce, tomatoes, radishes, spinach, salsify etc. may be put in during the month of April, but May 15th is sufficiently early for the generality of seeds. They will then come up quickly and grow rapidly; every one knows, that a quick grown vegetable is far better than one which has taken a whole season to mature. Beets for late fall and winter use do best when sown from the first to the middle of June.

For the American Agriculturist.

The Yellows in Peaches.

BY E. E. CHAPIN, HAMPDEN CO., MASS.

The yellows, though easily distinguished by the weak, sickly sprouts with yellow leaves, from which the disease takes its name, seems to be a malady of the nature of which but little is yet known. The most intelligent cultivators who have written upon the subject can give no other remedy than the severe one of destroying the tree, root and branch, as soon as the disease makes its appearance; the remedies of hot water and hot ashes already proposed by some of your correspondents would certainly seem preferable to this, for if they should destroy the tree they would kill the disease with it, and it is quite possible that a cure may be effected in this way without destroying the life of the tree; my reason for thinking so is this: I noticed the yellows had made their appearance upon a young tree that had just ripened its first fruit, about the 1st of September last. I immediately began to examine closely, and found that the twigs presented nothing unusual; there was about a foot of well-ripened wood, with large dark-green leaves, but upon the body and main branches was a large number of sickly yellow sprouts, most of which were already dead at their ends, though they could not have been more than three or four weeks in growing.

The bark of the tree was good, although it had a rather dry, feverish appearance. On digging away the soil at the root there was not the least appearance of any grubs, the bark was perfectly smooth and to all outside appearance healthy, but on applying the knife, to scrape away a little dirt, I was surprised to find that the outer bark would scrape away as easily as a piece of horse-radish, and disclosed much the same appearance underneath. There was, between the outer and inner bark, a coating of whitish substance, very brittle, full of sap, and easily scraped away, and about one-fourth of an inch in thickness at the thickest part, which was about an inch below the surface of the ground, and extending completely around the collar, there being no appearance of it above the surface, and a gradual decrease, as it went down, until there was little or none at the depth of seven or eight inches. After scraping away all of this substance that could be found, leaving the inner bark exposed, I placed fresh soil around it, and then cut away all the yellow sprouts. The tree appeared perfectly well afterwards, and retained its leaves fresh as late as any others. When a tree has such a covering as this one had, I can readily believe that boiling water or live coals, sufficient to destroy the life of a healthy tree, might be applied, not only without injury, but with benefit, if it should slough away the parasitic growth.

What Apples to Plant.

The Fruit Growers' Meeting at the *Agriculturist* office have recently given the above subject special attention. Lists were submitted by experienced cultivators, and votes were taken in the same manner as has previously been done with pears and grapes. The following list by Parsous & Co., for 15 varieties for an orchard of 50 trees, was almost unanimously adopted.

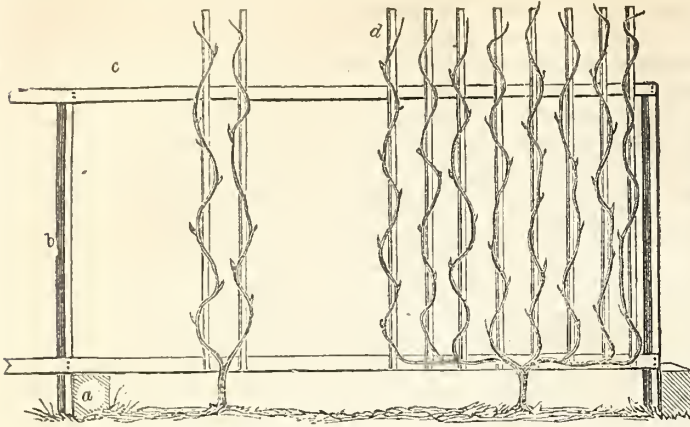
SUMMER.	WINTER.
Yellow Sweet Bough.	Jersey Sweeting.
Yellow Harvest.	Rhode Island Greening.
Primat.	Hubbardston Nonsuch.
Red Astrachan.	Baldwin.
Gravenstein.	Peck's Pleasant.
Porter.	Roxbury Russet.
Fall Pippin.	Newtown Pippin.
	Talman Sweet.

One or two persons thought the Roxbury Russet and Newtown Pippin did not succeed well enough in all localities to be universally recommended. For those who wish to plant largely, Mr. Carpenter, who has an orchard of 30 acres in Westchester Co., proposed the following 20 varieties, with the numbers for 1000 trees.

SUMMER.	WINTER.
25 Primat.	50 Hubbardston Nonsuch.
15 Sweet Bough.	50 King Tompkins Co.
12 Yellow Harvest.	25 Talman Sweet.
50 Summer Pippin.	25 Dutch Mignonne.
10 Summer Queen.	200 Baldwin.
10 Red Astrachan.	200 R. I. Greening.
50 Gravenstein.	50 Smith's Cider.
3 Jersey Sweet.	25 Peck's Pleasant.
50 Porter.	25 Melon.
25 Fall Pippin.	100 Po'keepsie Russet.

For special localities, where they are known to do well, he would recommend Newtown Pippin, Esopus Spitzenberg, Northern Spy, Hawley and Swaar. Also as apples promising well: Hicks, Belle et Bonne, Jeffries, Drap d'Or, Mother, Summer Bellfleur, Vermont Strawberry, and Vermont Beauty.

The above lists refer to this vicinity, though most of the apples do well in all parts of the country. The best general information upon varieties adapted to different sections, will be found on page 147 of our last volume (May *Agriculturist*, 1862); and in the reports collected from the whole country as published in several numbers of volume XX (1861).



Grapes—Trellises—Strawberries.

INTERESTING TO GROWERS OF SMALL FRUITS.

Rev. J. Knox, of Pittsburg, Pa., whose extensive culture of strawberries perhaps entitles him to be called the "Strawberry King," is also pretty largely engaged in grape culture. We do not quite share his enthusiasm in regard to the Concord Grape, which he claims to be the grape for this country, but he confidently predicts that we shall have to come to it after the results of a few more years are seen. During his recent visit to the *Agriculturist* office we gathered some particulars concerning a grape trellis, which he devised and has extensively used, and his mode of growing grapes and strawberries together. The foundation for the trellis is made by setting locust, or other durable posts, at a distance of 12 feet apart. These posts, *a*, are $3\frac{1}{2}$ feet long, and are set $2\frac{1}{2}$ feet in the ground. To these are spiked uprights, *b*, made of hemlock scantling 3×4 inches, and 6 feet long. The horizontal strips, *c*, sawed out of pine stuff, are 1 inch thick, and 4 inches wide. Mr. Knox uses them 24 feet long, so as to reach across two sections of the trellis, but where it is more convenient, they may be made 12 feet in length. The slats, *d*, are of pine, $1 \times 1\frac{1}{4}$ inch, 8 feet long, and are fastened, 9 inches from center to center, to the horizontal strips, *c*, by a single 8d nail at each. The trellis may be put up at the time the vines are planted, or the posts may be set then, and the rest added as needed. The slats need not all be put on until the third year. Mr. Knox prefers to plant vines only one year old from the eye; these are cut back to a single bud, the shoot from which is tied up to a stake, and allowed to grow as long as it will; during Summer the laterals or branches are pinched off to one leaf. In the Fall this cane is cut back to two buds, which the next season is treated as before, and kept tied to stakes or to two slats upon the trellis, as is represented in the left-hand vine. At the close of the second season the vine has two strong canes, which are shortened to 3 feet each, and in the Spring of the third year are trained out horizontally to make arms, as in the right-hand vine. The wood formed the third year is trained to the slats, and afterward pruned upon the renewal or spur system, as may be desired. Mr. K. prefers the renewal plan, but deviates from it when necessary, to keep 48 square feet of trellis covered with the bearing wood of one vine. The trellises are placed 8 feet apart, and the intervening spaces are occupied by strawberries, which he finds do not interfere with the grapes, and are benefited by the shelter which the vines afford. At $2\frac{1}{2}$ feet from the grapes a row of strawberries is planted; this one is followed by three other rows, a foot apart, which will leave another space

of $2\frac{1}{2}$ feet to the next row of grapes, giving four rows of strawberries between each two rows of grapes. The two outside rows of strawberries are allowed to make runners, which root in the space left next the grapes, while the runners of the other rows, and all those from the outside rows which run in toward the other strawberry vines are carefully taken off. The runners which are left

to grow, furnish a supply of plants for market the first Fall after planting, and thus a paying crop is taken from the land the first year. The next year a crop of strawberries is obtained, as well as other vines from new runners. By pursuing this method, Mr. Knox makes the land produce returns every year, and thinks that by arranging in this way, the strawberries will pay for the whole expense of the grapes—purchasing the vines, preparing the soil, and cultivating until they come into bearing.

Propagating the Grape.

Mr. J. Borland, of Bucks Co., Penn., having been very successful in propagating the Delaware grape by grafting, the Fruit-Growers' Meeting requested him to communicate his method. Mr. B. very modestly disclaims any originality in the matter, and says that he was induced to try the plan from having seen it noticed in the *Agriculturist* for March, 1862. A set of specimens illustrating the process was sent, from which we have had engravings made that will enable our readers to easily understand the manner of working. The cions, which should be cut when the vine is quite dormant, have two buds to each: the lower end is cut wedge-shaped, with the lower bud at the base, or broad end, of the wedge, as shown in Fig. 1. The cions should be of one-year-old wood, while the wood into which they are grafted may be two or more years old. A branch, which can be readily laid down, is selected and split quite through, at intervals of



Fig. 1.

every 18 inches or 2 feet, to receive the cions. In the specimen sent by Mr. Borland the grafts were inserted about one or two inches from

each joint. The wedge-shaped ends of the cions being inserted in the branch as in Fig. 2, it is then laid down and buried in the earth, leaving the upper bud of the cion just above the surface. Mr. B. prefers to do the grafting about the 20th of March, but it may be done at

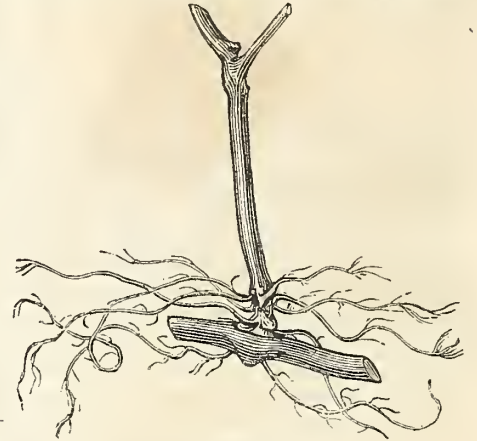


Fig. 3.

any time before the sap starts. In the following Fall or Spring the branch containing the grafts may be taken up and cut off near the new vines, which will now be well rooted, and able to take care of themselves. Fig. 3 represents a vine which was grafted last Spring. This method has been very successful with the Delaware, which is difficult to propagate from cuttings in the ordinary way. It can hardly be called grafting, as the old stock is of no use after the first year. The union between the stocks and graft is very slight, but sufficient to afford sustenance until the cion makes roots of its own, which it does very freely. When the new plant is removed, the stocks may be cut off quite close to it, or even removed altogether. The plan is worthy of the attention of those who have vines of any inferior quality, and wish to replace them with choicer sorts. Mr. Borland is very successful in grafting the Delaware upon old roots. The vines are "cut off 6 or 8 inches under ground, split in four pieces, and the grafts inserted. If the grafts are likely to be pinched, put in wooden wedges, tie up with waxed cloth, and earth up within one inch of the top bud of the graft."

Late Pears Profitable.

We have this day (March 4th) seen two barrels of Vicar of Winkfield, and half a barrel of Glout Morceau pears in a fine state of preservation, with every indication that they will keep a month longer. They were raised by W. S. Carpenter in Westchester Co., N. Y., picked late, and packed in unwinned oats. They were then kept in a cool place, and are now in a common cellar in this city with apples and potatoes. Mr. Carpenter is eminently successful in keeping pears, and finds it pays well. He is now offered \$1.50 per dozen for his Glout Morceaux, and the Vicars would probably sell for \$20 per barrel. Such results indicate that it would be profitable to give more attention to winter pears. They can only be found on sale at a few of the fruit stands, at this season of the year, and bring enormous prices. Doubtless there is much yet to learn regarding the best method of keeping fruit, though there has been much light thrown upon the subject during the past few years. Let us have more light, and—more winter and spring pears. (P. S. March, 11th. The Vicars sold to day at \$35 per bbl.)



What is the Potato?

It has already been hinted on page 53 of the *Agriculturist* that it is not a root, as ordinarily supposed, but a kind of branch. We now propose to give some of the reasons for considering it a branch, without stopping to show how it is unlike a root. At first sight it appears to have little in common with the stem as we ordinarily see it, yet a careful comparison of the two, will perhaps discover resemblances which were not before noticed. Many persons suppose that botanists are chiefly engaged in giving hard names to plants, while the fact is they are mainly occupied in studying the plan upon which plants are made; they find that all the great variety which vegetation presents can be reduced to a few simple forms—the root, stem, and leaf, and wherever a part may be or whatever shape it may assume, the keen eye of the skillful botanist penetrates the disguise and finds out its real nature. The potato, being as unlike a branch as well can be, will serve to illustrate the manner in which these resemblances are traced out. In the first place the potato grows under ground. Every thing that grows beneath the surface is not a root, nor are roots always under ground, as every one who has hoed corn will have noticed. When we lay down a grape vine or a shrub, the layered portion is not a root, nor are the natural layers which rose bushes, and many other plants which spread in this way, make. The potato is the end of an underground branch, modified for a particular purpose, to serve which it becomes filled with starch and hence serves as an important article of food. Let us take for comparison a twig of an apple tree and see if it has anything in common with the potato. At this season the apple twig has no leaves, but the scars, or places, were they were, are plainly to be seen, and directly above these are the buds which will produce the branches of the next season—each scar being separated from the next by a length or joint of stem. Aside from the fact that the potato, as it grows under ground does not need to have strength and is not woody, but fleshy, we find that both have these peculiarities. The

buds on the apple stem are represented by the "eyes" in the potato, and branches proceed from both. The potato growing under ground has no use for leaves, but a little scale or wrinkle just under the eyes stands in place of them. These scales, which are more prominent in some varieties than in others, are best seen at the "seed end" of the potato. On page 53, the spiral arrangement of the eyes of the potato was noticed, and this can also be found on the apple twig. Perhaps the strongest proof that the potato is really a branch, is found in the fact that sometimes the above-ground branches become quite like the potato in size and shape and everything but color. We have seen instances in which every graduation could be traced between ordinary branches, having leaves, and fully developed potatoes without leaves. The engraving is from a drawing made some time ago by Mr. Ed. M. Prutman of St. Joseph Co., Mich., and represents one of these branches which grew about a foot from the ground. It will be seen that it is intermediate between a potato and a branch. It is short and fleshy like a potato but bears leaves, and these leaves come exactly in the place of the scales upon the potato.

Perennials for the Flower Garden.

Every garden should have a good stock of reliable herbaceous perennials, which as a class have been much neglected of late for the more popular and more expensive bedding plants. Once set out, these plants need no other care than lifting and dividing when the roots get too large. They may be planted as soon as the frost is out of the ground and will do all the better if the crowns are covered in winter with coarse stable manure. A friend of large experience has prepared at our request a list of 20 varieties which comprises a variety in color and time of blooming. To save answering inquiries we will say that we have none of these for sale, but they can be had at the principal nurseries.

Arabis alpina.—Flowers small, in clusters, pure white, six inches high; blooms in April. *Achillea Ptarmica, plena*.—Flowers double, pure white, 1 foot high. June. *Baptisia caerulea*.—Fine blue flowers; 2 feet high, May and June.—*Var. alba* with white flowers. *Campanula coronata*.—Flowers clear white, semi-double, abundant bloomer; 1 foot high, June and July. *Campanula grandiflora*.—Large deep blue flowers, 2 feet, May and June. *Clematis serratifolia erecta*.—Flowers white, in long clusters, 3 to 4 feet, May. *Clematis integrifolia*.—Flower large, dark blue, bordered with white; 2 feet, last of May and 1st of June. *Chelone barbata*.—Fiery scarlet, borne on a long stem, 4 feet, June and July. *Carnations* (hardy).—In varieties. *Dicentra spectabilis*, (often improperly called Dielytra).—Rosy crimson, one of the best border plants, 1 to 2 feet, May and June. *Delphinium formosum*.—Deep azure blue, with white center, 2 to 3 feet, June and July. *D. Sinensis*.—Bright blue, foliage quite distinct from the above, 2 feet, June. *D. Sinensis alba*.—Like the preceding but white flowers. *Geranium Alyssum*.—Flowers large, bluish purple, 8 inches, July. *Iris nana*.—Bluish purple, 6 inches, May. *Iberis Tenoriana*.—(Hardy perennial candytuft.)—White, 8 inches, April to July. *Lychnis Chalcedonica plena*.—Double scarlet, 3 feet, June and July. *Phloxes* in variety. *Phlox verna*, a fine trailing species with large pink flowers, should be admitted in to the smallest collection. *Pentstemon Digitalis*.—White, slightly tinged with purple, 3 to 4 feet, July. *Spiraea Filipendula ple-*

no.—Flowers very double, pure white, 1 foot, May and June. *Spiraea Japonica*.—White, distinct and really beautiful, 1 foot, May. *Spiraea lobata pleno*.—Fine red, strong grower, 2 feet, June. *Veronica spicata*.—Deep blue, 1 foot, June and July. *Veronica alba*, similar to preceding, but with pure white flowers.

THE HOUSEHOLD.

Cleaning Clocks—"Cooking Time."

"Necessity" writing to the *Agriculturist* from Sand Beach, Mich., says: "Should any readers be situated as we are, in Huron Co., out of the reach of civilization and 'clock tinkers,' and their brass time pieces refuse to be *time* pieces, for want of cleaning, the following may be of use: Unscrew the metal from the case, and boil the wheel works half an hour or so in soap suds, and then five minutes in clean water, drying off quickly. This will clear out dust and hardened oil, and the clock will be ready for resuming its daily duties." [As a last resort, this may answer well for clocks moved by weights. The boiling might injure the temper of the springs of those having this motive power, though perhaps not, and there can be no loss in experimenting with a clock that has ceased to be good for anything. A very thin coat of limpid oil, or even of fresh lard, if the oil be absent, should be brushed over the entire works with a feather, as soon as soon as dried from the water, to prevent the steel pinions from rusting. A very little oil stirred into the last cleaning hot water might answer.—ED.]



About Cloves and Allspice.

Cloves are produced by a tree which is a native of the Molucca Islands, and were like nutmegs a long time under the exclusive control of the Dutch government, who for many years would not allow the trees to grow upon any except the island of Amboyna, from whence the highest priced cloves still come. The tree is from 15 to 30 feet high, with large aromatic leaves and bunches of very fragrant flowers. The spice is the unopened flower-buds, which are beaten off by means of rods and then dried. The little ball at the top of the clove is the unexpanded petals; by softening the clove in hot water these can be carefully laid open by means of a pin. The main portion of the clove is what would be the fruit were it allowed to go on and ripen. Our word clove, comes from the French *clou*, a nail. That being the name by which the French call them on account of their resemblance to a little nail. They contain a good deal of volatile oil, upon which their value depends. This oil is sometimes extracted in part and the cloves afterwards sold. These can be told by their lighter color and by having the buttons or rounded portion broken off. Cloves readily

absorb a considerable amount of moisture, and it is the custom of large dealers to keep them in a rather damp place in order to make them weigh heavily and look fresh and plump. It is bad economy to buy cloves or any other spice in the ground state as, aside from the risk of adulteration, the oil is absorbed by the paper in which they are put up.

Allspice is from a tree, nearly related to the clove tree; it grows in the West Indies where it is largely cultivated for the spice, which in this instance is the fruit. The berries are gathered when green, for if allowed to remain on the tree until ripe they have an unpleasant flavor. It is also called Pimento, and Jamaica pepper. The name allspice was given because it was thought to have the flavor of cloves, cinnamon, and nutmegs combined.

Letter from a Housekeeper.

[The following letter we print for several reasons. It reveals some of the difficulties experienced, by those especially whose proper training for woman's sphere has been omitted. It is in this respect a fair sample of hundreds of letters we receive, and the writer and others will notice that more questions are propounded in this single letter than we could answer in an entire paper, while there are some queries that we can not answer at all, such for example, as how to "do up" linen like that bought ready made. Perhaps some of our fair readers can aid Mrs. Fry. We care not how many such letters are sent in—the more the better—for we like such plain, natural revelations of the difficulties experienced, and the wants of our readers, that our columns may be adapted to meet the necessities of the greatest number possible. Mrs. Fry will excuse us for making practical use of her "confidential letter," as we suppress her real name.—Ed.]

Washington Co., N. Y., March 3, 1863.

MR. EDITOR:—I have no ambition to see my name in print, so if you make any reference to my queries, call me Mrs. Fry, for this is a strictly confidential letter. I am a young housekeeper, in the capacity of a farmer's wife, and you will readily imagine I have experienced some trials, when I tell you that I never had the least training in the important department of housekeeping, not even in the city where I was reared, mainly—much less was I fitted for the domestic affairs devolving upon a farmer's wife. Oh! I often think I would give all my old shoes, and my new ones too, if I could only "keep house" as Mrs. so and so does, those who always do every thing properly, and at the right time. Then I should take pride in and enjoy my domestic duties. But the familiar adage, that "what man has done, man can do," has helped me through many any undertaking, and it will hereafter help in accomplishing much more than I am now capable of. The *American Agriculturist* has been a great help to me in many instances, with its hints in the household department. Somehow the recipes seem more valuable, and, to my unsophisticated judgment, appear more plainly expressed, and more sensible and practical than those I find in the professed "cook books," for these usually describe expensive fancy dishes and in larger proportions than we actual housekeepers dare venture upon with our small families, and in these latter days when economy should be practised. We like, it is true, to have something nice once in a while, by way of variety, but some how in following the cook books I get the expensive but not the nice. There are some housekeepers who seem to have the knack of always presenting before you the most simple food, invitingly, cooked just enough, and none too much. I am ambitious to acquire that "knack." Others get up a variety of expensive dishes, but each one is accompanied with an apology for its not being quite right.

Since I have been a housekeeper, I have often greatly wondered why it is that so many mothers suffer their daughters to grow up so ignorant of the very department they hope and expect them to assume charge of. I am not alone in this feeling, for I find others around me who acknowledge that they have actually shed tears over their own ignorance. You will smile, perhaps, when I tell you that as I look upon my two infant daughters, I often think how much I will do in their training to relieve them of future embarrassment.

Those soap recipes in the last *Agriculturist* came

in good time: I had previously understood (from the hired girl I believe I learned it,) that only half as much potash was required as of grease, and so in attempting to teach my new girl, I found that something was wrong, but could not tell what. Following the paper we added more potash and have it all right.—Last Summer I canned some stewed tomatoes, but owing to my own failure, or the cans (Bodine's) some of them proved defective. Before the preserving season arrives again, please give your plan.—As I said before, we like to have the good things sometimes, and though you may suggest that it is not very healthy, I would like good practical directions for a Fruit Cake, and for Pound Cake, of family size; also further hints for making and putting on icing; also to know what kind of instrument bakers use in putting on the ornaments; also the process of polishing linen shirts and collars as they are when we buy them new. I have understood that it was done by an iron specially constructed for the purpose, but have inquired in many places for such an iron, in vain.—Had I room I could tell you of many suggestions in the paper that have helped my husband in his business. We would gladly aid in extending the circulation of your paper, but that is not possible, as most of our neighbors take it already. But I have consumed too much of your valuable time already, so with many good wishes for your welfare, terrestrial and celestial, I will sink in to the silent Mrs. Fry.

P. S.—I have attempted some corrections in the above, to fit it for a critical editor's eye, but can not make it all right. I have written with one foot on the cradle, and constantly been repudiating to the many questions of the eldest little daughter, who sits beside me, watching my inkstand the meantime as if tempted to try some mischievous experiments with it. You can not know how to sympathize with me unless you have experienced the same trouble in writing. [Oh, yes we can; we rather enjoy a little flock of such troubles—sometimes at least.]

Shoeing a Family—Western Life.

[The following letter from Cedar Co., Iowa, may furnish a useful hint, while it will be interesting as giving an insight into the economy practised by the pioneers who build up for themselves homes in the far West. We know by early experience something of this. Those boys and girls who wear home-made shoes and patched garments, and are brought up to habits of labor and economy, away from the corrupting influences incident to cities, villages, and densely populated neighborhoods, will turn out the effective men and women.—Ed.]

To the Editor of the *American Agriculturist*:

In the January *American Agriculturist*, pages 21-2, you ask "if any one can tell how to keep children in any kind of shoes that will cost less than about a dollar a month for each youngster?"—I can. In 1860 I bought a pair of shoes for my oldest child, a girl of ten, that cost \$1.25, but did not last a month. This was hard, with so little money as we had; so I cast about to see what could be done. I found a neighbor making over his boot legs into shoes for his children, and acting upon the hint, I got a friend handy with tools to make me 7 lasts, one for each member of my family, paying him 10 cents each, (70 cents). I next procured paper patterns; bought a hammer, awls, pegs, and thread, for 65 cents—in all \$1.35. Bristles I stole from the hog's back; clamps rigged out of a 2x4 inch piece, and two staves. Went to work upon the old boot legs. First pair of shoes pegged so fast to the last as to be nearly ruined in getting them off, but experience taught me better next time. With more practice, I can now get up a shoe that a Massachusetts woman is not ashamed to wear. I reckoned the saving the first winter at \$14; outlay, as above, \$1.35. Most of the work was done evenings. Old boot legs wear better than new leather. Two pairs of shoes thus made have already worn over six months. How many thousands of pairs of boot legs are thrown away or burned each month, that might save as many dollars.

When all the old boots in your neighborhood are

used up, get a side of kip and a side of sole leather; carry them to a workman, tell him to cut you out a good pair of boots, and make them. He will do it for less than \$2, and you have leather enough left for from four to ten pairs of shoes, of all sizes, which, with a little care, you can use all up. Try it friends, first on old boots, and then on what you please. In my family there are four girls and three boys, four of whom go to school $1\frac{1}{2}$ miles. I go $3\frac{1}{2}$ miles to teach, and home every night. We are all wearing what I have made except my boots, and those I repair. A YANKEE IN IOWA.

To Strengthen Woolen Stockings.

Mrs. C. D. Ketchum, of Jackson Co., Wis., sends the following hint to the *American Agriculturist*: "In knitting common woolen socks and stockings, knit cotton thread in with the woolen yarn; the size of the thread to be governed by the size of the yarn. For very coarse socks, skein cotton will answer, but even in such socks, very fine spool cotton will add greatly to their durability. In old stockings, I have found every stitch of the cotton perfect after the wool was entirely worn away. The thread prevents the pulling and breaking of the tender yarn." [Query.—As cotton thread is now so costly, would not linen thread answer an equally good purpose, and even be better at any time? The above plan may be old to others, as Mrs. K. suggests, but it is new to us, and appears to be a good one.—Ed.]

Coffee Substitutes—Another.

To the lover of strong, pure coffee, no substitute can be offered that will exactly fill its place. But there are several preparations which may be used as drink, and that answer very well where the milk or cream and sugar are the most desirable parts of the ingredients. Boiled milk, (which is always better than raw milk, for tea as well as coffee,) if well sweetened and creamed, may be flavored with a variety of essences or compounds to suit the taste of different persons, according to habit. Dandelion root is considerably used now, but it is a medicinal root, and should be reserved to use only as medicine. Chicory root burned approaches most nearly in flavor and effects to the genuine coffee, but it is not a safe drink. Continued free use of chicory will seriously affect the nerves, the digestive organs, and ultimately the whole system. We have accounts of the worst consequences resulting to chicory drinkers in Germany—quite equalling those produced by alcoholic liquors drunk to excess.

Rye, bread, corn, corn meal, barley, peas, etc., have each their advocates, and they answer a good purpose where the taste has not been confirmed for genuine coffee. Just now there are a multitude of manufacturers of "Rye Coffee," "Barley Coffee," "Dandelion Coffee," etc., and each one seems to be doing a good business. They get almost everybody to try one parcel, and this alone makes a large business. We have examined several of these compounds, some of them recommended quite strongly by those who have purchased and tried them. A careful analysis of some of the most popular "rye coffees," and "barley coffees" so called, show that they contain disguised chicory, and that they are flavored with burnt sugar. Any one using a home-made coffee of rye, barley, etc., will find a material improvement in the flavor if they smear the grain before burning with a little syrup made with sugar and water.

The best home-made coffee substitute, among all the numerous specimens recently sent to the *Agriculturist* office by subscribers and others, is a sample forwarded by Mr. Eleazer Lathan, of Suffolk Co., N. Y., which he calls "Long Island Coffee." It yields a quite pleasant-flavored drink, especially when used—as we always use coffee—with a large amount of boiled milk, cream, and sugar *q. s.* The directions furnished by Mr. L. are to take coarse fresh ground WHEAT BRAN, sifted clean from flour and fine particles of bran or middlings (literally

wheat shells,) and moisten two pounds of it with about a half pint of good molasses mixed with the same amount of water. Then roast slowly in a pan until well browned. He adds the suggestion, which we think a good one, that the flavor will be improved by using sugar instead of molasses; that is, moisten the bran with sugar syrup. For use, take about double the quantity that would be required of genuine coffee. Some chicory or real coffee may be added, when a less quantity will be needed. Bran is cheap, about a cent a pound, and there is a good deal of "nourishment" in it, as well as a peculiar oil, that when roasted has an agreeable flavor. Indeed, it is the skin or shell of grain, as rye, barley, etc., that gives the chief flavor to the liquids made from them; the inner portion is mainly starch, which, when burned brown, is similar to charcoal, or the same as burned bread coffee.

Judging from several trials of the box kindly forwarded (express paid) by Mr. Latham, we think he has done good service to those desiring a palatable, cheap, and safe substitute for coffee. His suggestions about using sugar instead of molasses, is worth noting, as we detect a little of the disagreeable flavor of the molasses in the sample. We recommend the "Long Island Coffee," to general use, at least until something better is found. Several trials may be required to get the right proportion of sugar, and the proper degree of pearing or roasting. A little overburning of even a small part of a batch, may render the whole bitter or disagreeable, the same as is the case with the real coffee.

What Shall I do with the Rats?

To the Editor of the American Agriculturist.

I come to you for help. First I will state my case. I am living in the city, and I find even the rats congregate there two. They have taken possession of a house next door to me, and, having dispossessed the occupants and eaten up every thing obtainable, they come upon me in hungry swarms. They have undermined the hearth, gnawed through the floor and wainscoting and even made holes through the plaster ceiling. The question now is, shall I decamp and leave them in possession or, as my house is my castle, shall I defend it, and if so, how? I have had two steel traps set, and manage to get a young inexperienced rat in occasionally, but the old settlers wink at me from their hiding places, and even contrive to get the tempting morsels from the trencher, and escape with a whole skin. I suspect they dig through the bran under the trap, spring it from beneath and coolly walk off with the cheese or meat. They appear to be on the most friendly terms with the cat, as much so as those composing the happy family at Barnums. I do not like to poison them, fearing they will die in the walls and create a stench. Now Mr. Editor, is there not some way of getting rid of the "varmints" without leaving their dead carcasses to breed disease in the walls, or must I make the best terms I can with them and be at peace? TABITHA.

[REPLY.—Tabitha comes to a poor source for aid, though we can abundantly sympathize with her. As we have a good many seeds about our office, house, barn, etc., the rats are of course very neighborly. The terrier keeps them within moderate bounds at the outhouses, and the cats still maintain their supremacy at the house and office rooms, but what can a cat do inside of the narrow retreats of rats and mice? We have tried traps of almost all kinds, but for every rat killed, a dozen more came to the funeral. Just now, however, we are having a respite. Two months since we bought a large box of patent "phosphorous salve" such as most druggists offer for sale as a rat destroyer. It was spread upon a large slice of bread which was cut into twenty pieces and put around where the rats "most did congregate." The pieces were all gone in the morning. The rats were dealt out again, and about half consumed or carried off. A third supply was left untouched, and the rats and mice disappeared one by one, until all were gone. Whether they are absent at a "convention" to return in ten-fold numbers we can not yet tell. A few years ago

we tried a similar phosphorous salve, and was rid of rats for six months, after which time they returned, and all the salve we could buy did not trouble them. Having occasion to move, we left them in possession. This may be the result now, but six months relief is worth the cost of at least as many boxes of salve.—Ed.]

A Humbug "Healing Association."

A good many inquiries have been received, respecting a so-called "People's Healing Association," advertising from this city; and from what we can learn, this swindle is getting considerable patronage, though not from the readers of the *American Agriculturist*, who have been forewarned so frequently that they forward the circulars and letters to us by way of amusement. The fellow at the bottom of this, by means of advertisements and circulars, gets a silly, or nervous class of persons to forward a description of their "case" to him, and then sends back a quasi letter like the following. (The letter is a lithograph. It seems that he has too much patronage to admit of writing to his "patients," and so he prints letters off in close imitation of actual writing. Of course the directions fit each case, just as well as if written out for it—an easy way of earning \$8 for an adult, and \$3 for a child. A printed circular, with this, offers more powders for more Dollars, if the first don't cure.)

[Literal Copy] New-York City, N. Y. Febr. 18th, 1863.

Respected friend.—Your kind letter is received and your case fully examined. We find it a very bad one, indeed much more critical than you have yet believed, and if not speedily arrested you must die from its ravages.

We find the digestive organs blood liver lungs &c are in a bad state chemically and functionally causing a condition of much danger.

You may doubtless feel that death is not so near, and that you will escape. But believe us kind mortal, we know for a certainty that your doom is sealed and a fatal termination will take place before you are aware.—There is yet hope.—We find the combination of symptoms such that we not only believe, but know that you can be cured by a prompt and skillful combination of our new Remedies. As friends we beg you not to delay & thus die a horrid death when you can be saved. Send us by mail eight dollars and the remedies will be immediately sent. May God bless you and the means for your cure and happiness. In the mean time, knowing your condition—the danger of a fatal issue and the risk of a delay, we take the liberty to send in this a Remedy for you to use till you have time to send and obtain of us the full combination. This will prepare the system for the others and prevent any change for the worse for a few days. We do this for your good & at our expense, for we wish to do by you as we would have you do by us, under the same condition. Again we say do not delay.

Respectfully Yours,
A. ACKLEY THURBER.
P. S. We can speedily cure your child. Send \$3 dollars for him. A. A. T.

My Bottled Fruits.

To the Editor of the American Agriculturist.

I was a careful reader of your directions for putting up fruits last Summer, and experimented not a little myself with the following results: I have discarded tin cans entirely of late years, as dangerous, and use only glass and earthenware. The most of my fruits were put up in Potter & Bodine's glass bottles having a rubber ring fastened to the tin cover, and an iron clamp, which, by turning, secures the cover on tightly. These all kept well, and for simplicity, ease of putting up, and cheapness, when compared with other patents, I give them the preference. Several new forms were used, but with indifferent success, though I will not entirely condemn them yet. I tried the regular black wine, or junk bottles, and followed your directions on page 215 July *Agriculturist*, putting strawberries, grapes, etc., (the last a nice thing for raisins in minee pies during the Winter,) in the bottles, filling them with cold water, driving the soft corks in tight and tying them firmly. They were then put in cold water, set on the stove, and boiled for perhaps half an hour. I noticed the steam forced its way through the corks, so I dipped them in melted wax and laid them away. They kept well, and we think the strawberry flavor more perfect than in the others. Of course they were sugared when eaten.

I kept cherries and other fruit very well in stone jars, pouring them in while boiling hot, with a little sugar, then covering with cloth before laying

on the lid, and pouring melted cement around its edges. They opened well. The jars may hold one half to one gallon each. This is the cheapest method I have tried. I also kept tomatoes in glass bottles with nothing but cemented cloth tied securely over the mouths. The cloth was strong muslin, coated on both sides with cement, and when it shrunk in cooling, more cement was poured on. They came out fresh and good. I used in addition, the patty pan arrangement you originated, and with uniform success. The cement used is the same as formerly described in the *Agriculturist*, viz.: about 14 to 16 ounces of common resin and 1 ounce of tallow, melted and stirred together.

Brooklyn, March 10th, 1863.

HOUSEKEEPER.

Hints on Cooking, etc.

Railroad Cake.—Contributed by Mrs. C. A. Williams, Litchfield Co., Conn. Mix 1 cup of white sugar, 1 of sifted flour, 3 beaten eggs, 2 tablespoonfuls milk, a piece of butter the size of a hen's egg, 1 teaspoonful cream tartar, $\frac{1}{2}$ teaspoonful soda, and $\frac{1}{2}$ teaspoonful extract of lemon.

Soda Biscuit.—Contributed to the *American Agriculturist* by a subscriber at Emerald Grove, Wis. Take 1 pt. sweet cream, 1 teaspoonful soda, 2 of cream tartar, a little salt, and flour sufficient to mix the ingredients quite soft. Bake in a quick oven.

Apple Pudding: by the same. Fill a pudding dish with acid apples pared and quartered. Cover them with a thick crust, made as directed for soda biscuit, and bake half an hour; serve with sugar and cream.

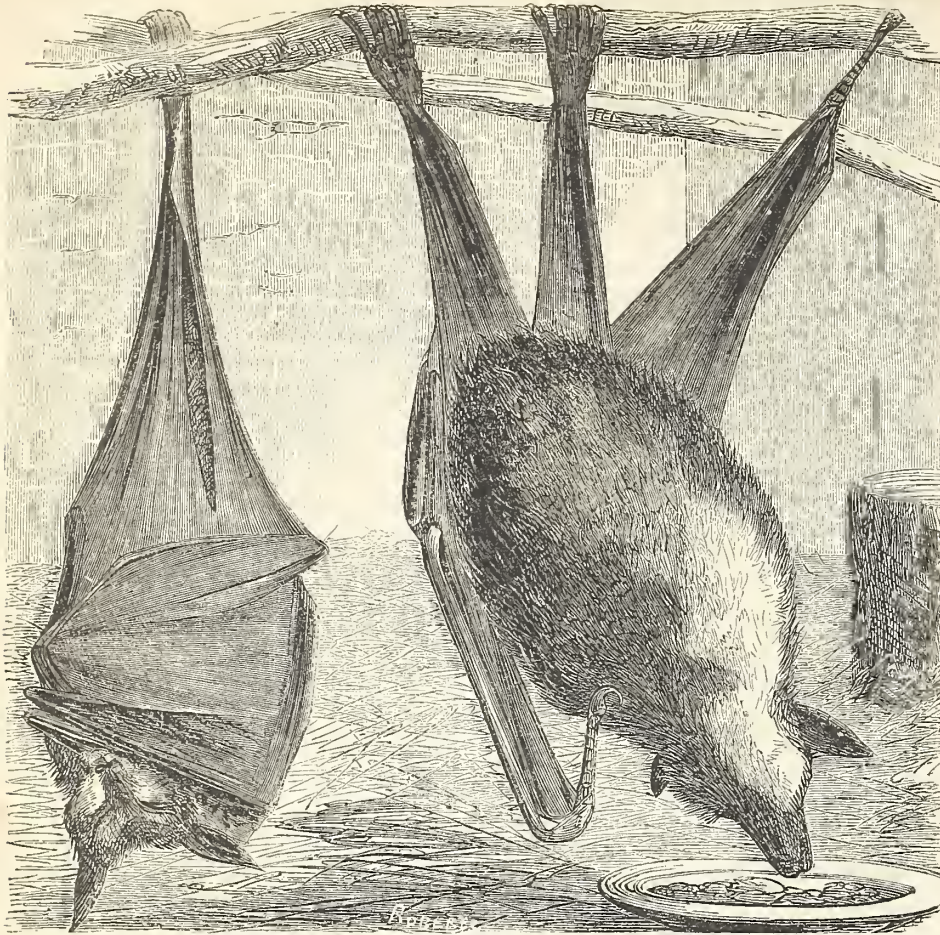
Corn Bread Coffee.—Contributed to the *American Agriculturist* by Anna Woodruff, Westchester Co., N. Y. Make a simple corn bread, of meal, salt and water. Mix the meal, either yellow or white, with just water enough to wet it; the water may be either warm or cold, then bake it to a dark brown, or as dark as real coffee when burned. A piece of the bread as large as one's hand, will make coffee several times. Pour water on the bread unbroken, and boil an hour or so. Add more water for another time. [A rather weak liquid.—Ed.]

Economical Wheat Bread.—A subscriber to the *Agriculturist* at Seltzer's Store, Pa., sends the following directions for making good bread: Take 2 qts. of small potatoes, wash thoroughly, boil soft, and mash. Then pour 5 pints of warm water on the potatoes, stir them up and strain through a colander; this will separate the potato from the skin. Add flour until it becomes very stiff; stir in 1 pt. of yeast, and 1 tablespoonful of salt. Let it rise until light, or three or four hours, then add flour, and knead well. Set it to rise again; when light, knead in loaves, and when sufficiently light, place in the oven and bake 1 hour. This will make 3 good sized loaves.

Potato Yeast.—Contributed by Anna Woodruff, Westchester Co., N. Y. Boil twelve peeled potatoes, and mash them well. Add a quart of the water they were boiled in, while hot, and a cup of sugar. When cool, add a quart of cold water, and a half pint of fresh yeast. Let it stand in a warm place twelve hours, after that shut it up tightly, and keep it in a cool place. It will rise quickly and make delightful bread. [We would say do not add the water the potatoes were boiled in.—Ed.]

Boiled Wheat.—Mrs. D. Tuttle, Mendocina Co., Cal., writes that boiled wheat as described in the *Agriculturist*, page 23, (Jan. No.) forms a frequent dish in that vicinity, which is more than twenty miles from the nearest grist-mill. She says it is improved by first boiling it in weak lye to separate the hulls. After this, wash it with cold water several times, then cook for the table. It is considered nearly or quite equal to rice.

To Boil Eggs.—M. B., Blainsville, Pa., writes that the best way to boil eggs is to place them in cold water and set them over the fire. In this manner the center of the egg will cook as soon as the outer part. If they are preferred soft, the water should not come to a boiling point.



FLYING FOXES OF CEYLON.

The Editor with His Young Readers.

Our young friends are doubtless familiar with the appearance of the common bat. It may be seen on almost any summer evening flitting about in pursuit of insects, sometimes entering dwellings. They are friends to man, and none but uninformed persons would think of killing them. They destroy multitudes of millers and other insects, which would otherwise spoil fruits and vegetables. The curious creatures represented in the engraving are of the bat family. They are so large that they have been named flying foxes. Specimens of them were brought to London a few years since, from which our sketch was made. A writer says of them:

"There are more singular inhabitants of Ceylon trees than monkeys. The flying foxes hang from them like fruit. The flight of these creatures is directed by means of a membrane attached to the inner side of each of the hind legs, and kept distended at the lower extremity by a projecting bone, just as a fore-and-aft sail is distended by a 'gaff.' Over the entire surface of the thin membrane of which they are formed, sentient nerves of the utmost delicacy are distributed, by means of which the animal is enabled during the darkness to direct its motions with security, avoiding objects against contact with which, at such times, its eyes and other senses would be insufficient to protect it. By day they suspend themselves from the highest branches of the silk-cotton trees, hanging by the claws of the hind legs, with the head turned upward, and pressing the chin against the breast. At sunset, taking wing, they hover with a murmuring sound, occasioned by the beating of their broad, membranous wings, around the fruit trees, on which they feed until morning, when they resume their pensile attitude as before. They hang in such prodigious numbers that the branches often give way beneath their accumulated weight. They fly in clouds as thick as bees or midges. When at rest or asleep, the disposition of the limbs of the flying fox is most curious. At such times it suspends itself by one foot only, bringing the other

close to its side, and thus it is enabled to wrap itself in the ample folds of its wings, which envelope it like a mantle, leaving only its upturned head uncovered. Its fur is thus protected from damp and rain, and, to some extent, its body is sheltered from the sun. As it collects its food by means of its mouth, either when on the wing or when suspended within reach of it, the flying-fox is always more or less liable to have the spoil wrested from it by its intrusive companions, before it can make good its way to some secure retreat in which to devour it unmolested. In such conflicts they bite viciously, tear each other with their hooks, and scream incessantly, until, taking to flight, the persecuted one reaches some place of safety, where he hangs by one foot, and grasping the fruit he has secured in the claws and opposable thumb of the other, he hastily reduces it to lumps, with which he stuffs his cheek-pouches until they become distended like those of a monkey; then, suspending in safety, he commences to chew and suck the juices, rejecting the refuse with his tongue."

About Blue Birds.

A correspondent, "A. H. G.," Rondout, N. Y., writes for the boys and girls of the *American Agriculturist* the following interesting facts: "I am not aware whether it is generally known, that our useful and beautiful blue bird is more or less lacking in that instinct that belongs to other members of the feathered tribe. They are domestic little creatures, and disposed to build as near as possible to the habitations of man. Like the wren—with whom they are never on good terms—the bird house, or wood shed, or hollow apple tree, in the door yard, are their favorite haunts. But when these are not available their ignorance in selecting a place, is somewhat remarkable. They appear to have but little idea of the space that they require for their nesting operations, and many hundreds must yearly fall victims to this singular ignorance. The first instance of this that came under my notice was several years ago. A neighbor was standing upon his piazza, in early Spring, when he heard something fluttering, apparently inside the pillar against which he was leaning. It was one of those hollow posts—put up more for ornament than use—about five inches square upon the inside. On examining the post he found a large knot hole just under the eave of the piazza. This

immediately led him to saw off one side of the pillar about eight inches above the floor, and having pried off the piece, imagine his surprise to see a blue bird fly out, and to find within two only recently dead, with the skeletons of more than a dozen others—the accumulation of several years. Another instance of a similar character, occurred in the stove pipe of a small country church. The pipe was raised about eight or ten feet above the roof and covered with a 'smokejack.' In the Fall of the year when the Sexton came to examine the flue, preparatory to putting up the stove, he counted seven blue birds, that were found just where it joined the pipe. So emaciated had they become before dying, that scarcely a feather except those of the wings was ruffled. They had dried with almost as much perfection as though prepared by the taxidermist. One other instance, only not attended with so great fatality, occurred in a wood-shed.—A piece of pipe several feet in length was standing on the stove, in a corner of the building, near an open window. When the stove came into requisition, here again, we found a blue bird in the flue—in a state of almost perfect preservation. The ends of the wings in every instance were the only parts that had suffered. They were worn quite up into the shaft of the feathers—a proof of the efforts that the little creatures had made to rise, and failed from want of sufficient room to spread their wings. Care should be taken to prevent such occurrences, by providing houses of larger dimensions than 'wren's nests,' where the blue bird can find a place of comfort and security to build. They are worth preserving in a garden. The insects that they destroy as well as the beauty of their color and the domestic character of their lives and song, should place them among the farmer's especial favorites."

Confiding Birds—Pleasing Incident.

J. E. Hardisty, Jerusalem Mills, Harford County, Maryland, writes to the *American Agriculturist* as follows: "Last Summer, about the 1st of August, a pair of the wren family, called here the 'woods wren,' were observed near our kitchen door, upon an apple-tree, making an unusual noise, seemingly in great distress. The cause was soon discovered: one of their young ones had just fallen a prey to the cat. Two or three days after, apparently the same birds were frequently seen flying in and out of the second-story windows, and, to our surprise, we found that they had gathered a wad of dried grass as large as a child's head, upon the top of the wardrobe, where was a space about six inches high. The nest was neatly formed, and lined with feathers, but not so carefully as is done by common house wrens. At first the birds were a little shy of us, but soon learned to disregard our presence. Our little folks, four in number, were successively lifted up to see, first, the nest; secondly, the bird on the nest; thirdly, the young birds, two in number. Nothing could exceed the joy of the children as they gazed again and again upon the confiding little creatures, nor was our own pleasure much less. About the 1st of September, my wife on going up stairs found the young birds hopping about the room; one of them flew up and clung to her breast, and remained there for some time, looking about and up into her face with the greatest confidence, while she moved about from room to room attending to her duties. By night they had disappeared, and have not since been seen, though we now and then hear their pleasant notes: 'Te-heugh-heugh, Te-heugh-Teaugh, Te-heuit,'—which in the Winter, for they remain with us all Winter, is changed to 'Tittle-lu, Tittle-lu, Tittle-lu.' They warble other notes which our language cannot express. They are a little larger than the common house wren, with long tail, comparatively large broad head, with a whitish streak curved over the eyes; back, light brown; breast, bluish white. Their movements are very similar to those of the house wren."

A Mysterious Black Cat.

A lady of the writer's acquaintance was one evening sitting alone in a room from which a door opened into a long dark hall. As she chanced to look in that direction, she was somewhat startled to see what appeared to be a large black cat sitting upon the hall stairs. There were two brightly gleaming eyes glaring upon her in a manner that made her feel rather uncomfortable, especially as she owned no cat, and it must be a strange animal. "Scat," she exclaimed, stamping on the floor. It did not move. "Scat," once more, with a louder stamp. But still it remained. She drew off her shoe, and with another "scat" threw it directly at the object, but there it sat as before. Though somewhat startled, the lady was no coward, and taking the lamp she went directly to the mysterious animal and found she had been trying to drive away the ends of two bright brass stair rods, from which the light had been reflected, presenting the appearance of two glittering eyes: the shadow of the stair to an excited imagination might easily represent the body of a black cat.—How many ghost-scapes originate similarly.

The Boys and Girls' Garden—No. 1.

An unusual number of business items has crowded out a share of the space intended for the young people, but perhaps there is room for all that is necessary so early in the season. As hinted last month, we intend to give some plain and familiar talks about plants and the way in which they grow, which will be both interesting and useful to our young readers, and perhaps to older ones also.

New Puzzles to be Answered.



No. 35. Illustrated Rebus. A most excellent rule.

No. 36. Problem.—Suppose a clock to have six hands, which go around respectively in 1, 6, 12, 18, 24, and 30 hours, and that they are together at 12 o'clock, April 1st; when will they next be together.

Answers to Puzzles and Problems in March No. (page 89). No. 31. Illustrated Rebus.—F ear toe doe vil if you wood be bray v. That is: "Fear to do evil if you would be brave."

Crowded Out.—A good many pleasing items, problems, and a host of names of those sending in answers.—We expect to find room for them next month.

To Sunday School Teachers and Others.

The Book of "Lessons for every Sunday in the Year," has met with a success far beyond our anticipation. The edition of five thousand copies published at the office of the Agriculturist, which it was supposed would last a year at least, was soon exhausted, and another large edition printed. This is exclusive of the great numbers printed and sold by others.

From the Sunday School Times (Philadelphia,) March 14. "A NEW QUESTION BOOK.—We have just been examining a little book published by Orange Judd, (of New-York City,) called "Lessons for Every Sunday in the Year," and have risen from the examination with a feeling of thankfulness that such a book has been made.

The Markets.

AMERICAN AGRICULTURIST OFFICE. New-York, Thursday Morning, March 19, 1863.

Table with columns for Receipts, Sales, and Exports for various commodities like Flour, Wheat, Corn, Rye, Barley, Oats. Includes sub-tables for 'Comparison with same time last year' and 'Exports from New-York, Jan. 1, to March 12.'

The above tables show at a glance the volume of business in Breadstuffs, and the figures below show the present prices and their changes. Prices of Breadstuffs, Provisions, etc., have gone up and down with the premium on gold, and their consequent variable value for export.

CURRENT WHOLESALE PRICES.

Table of current wholesale prices for various goods including Flour, Corn Meal, Wheat, Rye, Barley, Beans, and other agricultural products, with prices listed in dollars and cents.

The Live Stock Markets are unusually active in this city, and prices have advanced one cent per lb. on beef within a month. The receipts of beef cattle have averaged 4,383 per week, but the taking out of 300 to 500 each week by buyers for the government, has left a light supply for butchers.

FLOWER SEEDS BY MAIL.—The subscriber raises about one hundred kinds of Flower Seeds, selected from over one thousand varieties, of the most showy and attractive. He will furnish, neatly put up, any 33 kinds on the list for \$1, and send by mail, with postage prepaid.

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New-York State Agricultural Society, Rochester Fair, 1862.

I hereby certify that JAMES PYLE, of New-York, was awarded a special prize at the State Fair at Rochester on his O. K. Soap, Dietetic Salcratus, Cream Tartar, Baking Soda, and various other articles of exceeding great merit—and the Executive Committee of the Society give special commendation for the great excellence of the articles exhibited.

In witness whereof I have hereunto subscribed my name, and affixed the official seal of the Society.

L. S. B. P. JOHNSON, Secretary.

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Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from \$15 to \$20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information, sent free.

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Every facility will be afforded for the cheap transportation of all contributions to the Exhibition, as well as to the delegates from the several State Societies, and others connected with the Exhibition.

All applications for entries must be made to the only authorized Agents undesignated, before the fifteenth day of April next, who will furnish programmes and any information required. AUSTIN BALDWIN & CO., Sole Agents, 72 Broadway, New-York.

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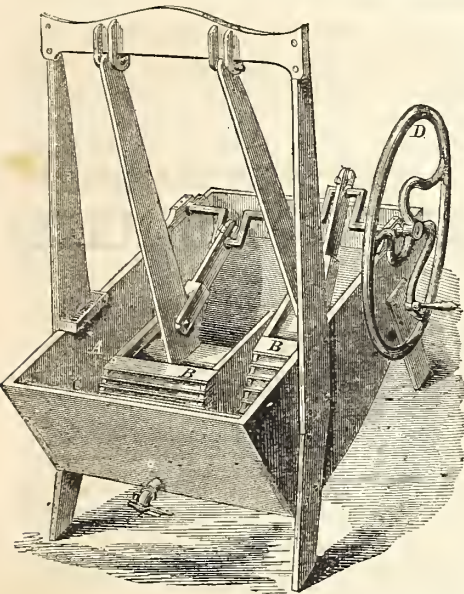
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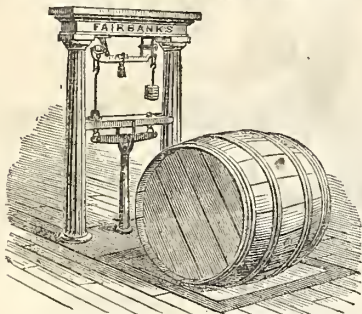
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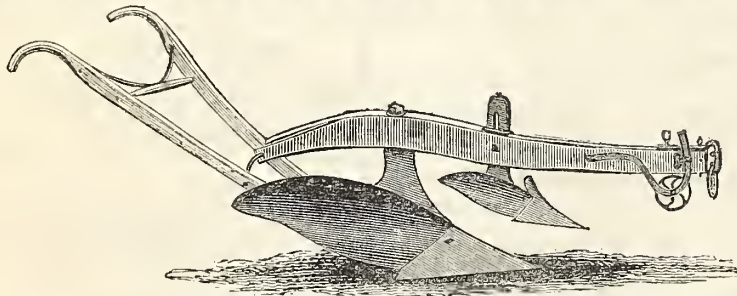
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Several are struck out because no longer issued, and some additions are made. This list is good only for the month in which it appears, as during the scarcity of paper publishers are continually advancing prices, and suspending publication of many books.

The following Premiums will be continued through the month of April. See N. B. below, and page 104.

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Here is a Special Offer that will interest a very large number of our readers.

During the past year we have had grown and selected a choice stock of vines of the best two grapes for general culture now known, viz.: the *Delaware* and *Concord*.—Our successful experience in sending out **40,000** Strawberry plants by mail, all over the country, and without a dozen cases of failure, has demonstrated that with the same care in putting up and mailing, we can send grape vines in the same manner. We therefore offer to send these vines as premiums to all who will forward subscribers to the *American Agriculturist*. (See conditions below.) We believe almost every one can find two or more neighbors or others, who will subscribe for the paper if its merits and cheapness are properly brought to their notice by some one who has read the paper and can speak from experience of its value. It is now the *cheapest* journal in the country—with its many carefully prepared articles for the Farm, Garden, Household, and the Young People. Though constantly making improvements—and though printing paper and other expenses are nearly doubled—we keep it at the old price of \$1 a year. (The purchase of large stock of paper in advance, and the great increase in subscriptions enable us to do this.)—The vines we offer, are not only good ones, but they are of the best two sorts for general culture, viz.: the

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Our advice therefore is, that all who can do so, should get one or more vines of *each* variety, and afterward multiply the kind that proves by experience to be best suited to their individual locations, soils and preferences. We offer to send these Grape Vines on the following

- CONDITIONS:**—On and after **March 1st**, (not before), to those sending **Subscribers** to the *American Agriculturist* for **Volume XXII. (1863) at One Dollar each, we will forward, securely packed and post-paid:**
- For **Two** Subscribers at \$1 each, **1** Vine.
 - For **Five** Subscribers at \$1 each, **3** Vines.
 - For **Eight** Subscribers at \$1 each, **5** Vines.
 - For **Ten** Subscribers at \$1 each, **10** Vines.

And for over ten subscribers, one vine for each name. We specially request that the names of any club for the vines be all sent at the same time.

Those sending for premium vines can make their own choice: if for one vine, which kind; if for two or more, what number of each, and give in full the Post Office address to which they are to be sent.

N. B.—1. The above premiums are only for subscribers sent in on or after **March 1st**, and will only continue open so long as our supply lasts. Probably however the supply will hold out through the month of April, and perhaps as long into May as it will do to mail the vines.

2. These premiums are special; no other premiums of any kind will be paid on names sent for these vines.

3. The mailing of the vines will commence **March 27th**, and continue until **May 1st**, or later, according to the locality to which they are sent. To all who apply early enough, a Circular Letter will be sent out about a week in advance, stating the time the plants will be mailed to them. The Circular will also give directions for the treatment of the vines, with hints on culture, etc. The plants going furthest South, will of course be sent first, and those furthest North the latest; but every application will be entered in order, as soon as it comes to hand, so that no one will be unsupplied, who applies before the entire stock of vines is exhausted.

It will of course be a pleasure, as well as for our interest in the future, to have every vine a *good one*, put up carefully and in the best manner, and to have it receive such care and attention as to make it give entire satisfaction. As stated above, we have within a year past mailed 40,000 strawberry plants, and have not heard of half a dozen cases of failure or dissatisfaction. We hope for equally good success with the Grape Vines.

Special to Subscribers in Canada, and on the Pacific Coast.—There will be considerable risk in sending vines to the Pacific Coast after April 1st. The practice of some of the Postmasters in the Canadas and other British Provinces, of charging 20 cents an ounce, after the United States postage is prepaid, will prohibit sending these vines there, except when they can be sent to a United States Post-Office near the Line, or be sent by express. When eight or more are sent together, they can frequently go by express. We do not advise planting the *Delaware* in New-Brunswick, Nova Scotia, Lower Canada, or in Upper Canada, except south of Lake Ontario. The *Concord* will often thrive further North; and in favorable locations, the *Delaware* also.

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To several inquirers.—When we have mailed the papers carefully and correctly as we always strive to do, our legal responsibility ceases. But our custom is to send a duplicate copy where the first has been lost by mail, or has been injured by using it as a specimen in securing subscribers—not when injured by lending to those who never subscribe. When specially desired, a specimen copy is supplied for canvassing. Paper is too costly to send out specimen copies at random. With the above exceptions, 10 cents is charged for extra copies, of the current or past volumes.—We can not send numbers or volumes prior to volume 16, (1857).

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AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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

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Suggestions and Notes for the Month.

'The meanest herb we trample in the field,
Or in the garden nurture, when its leaf
In Autumn dies, forebodes another Spring,
And from short slumber wakes to life again.
Man wakes no more! Man, peerless, valiant, wise,
Once chilled by death, sleeps hopeless in the dust.'
* * * * *
Says the responding lay, 'Man wakes no more?'
O blind! who read'st not in the teeming soil,
The freshening meadow, and the bursting wood,
A nobler lesson! * * * He whose providence the change
Of day and night, and seasons crowned with food,
And health and peace proclaimed, bade Nature's hand
Point to the scenes of dim futurity.
He on a world, in Gentle darkness lost,
Pitying looked down: He to bewildered man
Bade Spring, with annual admonition, hold
Her emblematic taper.....—*Gisborne's Forest Walks*.

How often does a "doubting Thomas," in these days, desire to strengthen his faith by witnessing a miracle with his own eyes. But he has only to open his eyes to see a world of miracles. The tree, lately so dormant, with its naked trunk and apparently lifeless branches, is now developing its beautiful foliage, made up of myriads of leaves, each one a new creation—a miraculous product of the limpid blood that rises from the dank soil and courses the capillary veins of the trunk. We can tell whence grow the leaves, and describe their various forms in classifying terms, but *how* does the leaf grow? Can anything short of an ever-present guiding hand marshal the elements into their proper rank and file, and allot to each one its place as a constituent of the leaf, so that each tree shall bear leaves after its kind? The tiny seed, by accident or design, is buried in the soil—a mass of sandy clay; *how* is it, that surrounded with materials so forbidding, it feeds and grows, and produces a plant so exactly like the parent one? The manner of the growth is illustrated on another page (152), but of the why and how, who can tell? How and why is it that from

similar seeds, plants so diverse in form are produced? Take the cabbage and turnip seed for example. These are almost exactly alike, yet one yields the great leaves and the central head above the surface, while the other, planted by its side and feeding upon the same materials, develops its most valuable portion below. The seeds are so much alike in form, in structure, in the enclosed germ, and in the development of the radicles and leaves, that even the experienced eye can discern no difference. Why does the after growth, from the same soil elements, differ so widely? Illustrations innumerable are ever to be observed by the dwellers among rural scenes. Is there not enough in the diverse forms and growth of vegetable life, to constantly fill with pleasure the mind of every tiller of the soil, as he labors amid ten thousand operations of nature, that are miracles in themselves. And witnessing so constantly the actual works of an omnipotent superintending skill, should not he live carefully, standing as he does in the very presence of the Creator?—These are wayside thoughts not to be forgotten as we go forth to the labors of the field. Let us turn to the consideration of some of the practical details that must occupy the hands as well as the mind. The present season is an extraordinary one. We write in the middle of April at a time when plowing and sowing are usually in active operation. But an instalment of Winter due in February, is being paid at this late date. Much of the work of April will be crowded into May. The cold weather is likely to restrain the development of the fruit buds so much, that with fair skies and the absence of untimely frosts in May, we shall have another bountiful fruit crop. But for putting in field and garden crops the time will, at best, be so short that every possible effort should be made by good planning, by procuring help and the best implements, and by having the seed all ready, to hasten work. The absence of a great number of cultivators in the army, the wastes of war, and the abundance of currency, bid fair to create an active market, and high prices for all the farm produce that can be secured this year. Let every acre possible be put to service in the production of food or clothing materials for man, and food for beast.

Work for the Farm, Household, etc.

There is little need to indicate how time may be employed on the farm the present month. The fields invite the plow, and signs of hope are written in bud and blossom over all the plains and valleys. Renewed life makes the air vocal with song, stirs the quickened bosom of the earth, and inspires man to cheerful activity. The cultivator, above all others, should exult in his labors. The elements are his willing servants; the earth is his laboratory—the air, the clouds, and the sun, his assistant chemists. He has but to direct their labors to supply his

wants and gratify his desires. But he must accord to natural laws if he would reap benefit from them; ignorance or unskilfulness have no immunity from the penalties of their violation or neglect. Herein in great measure lies the secret of success or want of it. The observant and thoughtful learn to work *with* Nature; the uninformed and heedless often strive *against* her, and always with discomfiture.

It is then wise to seek information from all promising sources, and it is our endeavor to collect it from every possible field, and to impart it for the general benefit. The suggestions which follow are intended to indicate subjects for attention, and also in some degree to give practical details drawn from reliable sources.

Barometer.—A good instrument will give indications enabling the cultivator to lay out work with some regard to the coming weather—often an important consideration, when preparing to sow, plant, or harvest. Its cost has often been saved by this means in a single week.

Beans are in great demand at a high price for army use, and paying returns may be expected from a good crop the present season. They make but slight draft upon the soil, and are therefore well adapted for lands not fertile enough for corn. Heavy manuring increases the yield of vine without materially adding to the crop. Land in good but not very high condition is most favorable. They may be planted in orchards where tillage is needed. The white bush variety is a favorite. Plant in 2½ feet drills, 5 to 10 inches apart, according to variety.

Beef and Pork in the cellar should be examined occasionally as warm weather approaches. If needed, add salt, or make new brine and repack. The old brine is valuable to dress asparagus beds, or in the manure heap.

Bees, if properly managed, pay better on the capital invested than any stock on the farm. See directions for the month under "Apiary."

Birds.—Encourage their visits, and allow no loafing gunners to harm them. They are the most efficient checks to the increase of insects.

Books are most interesting and best remembered when immediately applicable to some work in hand. The library should be consulted day by day with reference to the various operations in progress, to gain new ideas and suggestions to improvement. For a good selection of works see our book list, on page 159.

Boys are usually ambitious to do men's work. Encourage them judiciously. Skill in all hard labor is best attained in youth. Do not, however, allow them to be overtasked. It is poor economy to save paying for hired help at the expense of the health of a child, or inducing in him an aversion to home by too severe tasking. Assign to each boy a plot of ground to be worked, and the profits enjoyed by himself.

Remember the wants of the boys now, and they will not forget yours in after years.

Broom Corn.—Prepare the ground by heavy manuring and thorough pulverization. Plant at the same time as for Indian corn, in drills four feet apart, or three feet for the dwarfish varieties. Thin to about eight inches in the row, at the first hoeing, and weed thoroughly.

Buildings.—Keep in good repair and well painted. A cheap paint for rough work is made of water-lime (hydraulic cement) mixed with skimmed milk, and colored with ochre,umber, or other materials to suit the fancy.

Cabbages are a profitable field crop in the vicinity of ready markets, and also valuable for an occasional change of diet for stock in Winter. New land is best for these plants, which need deep soil and abundant manuring. We have had excellent results on sandy soil with a liberal dressing of muck and ashes. For very early, the plants should be started in a hot-bed: for medium early, sow in the open ground as soon as it is fit to work, and for the late or main crop from the first to the middle of June. As soon as the plants are well up, apply a dressing of ashes and plaster, or air-slaked lime, to prevent the attacks of the fly. The plants may be set out as soon as they are about three inches high. The smaller kinds may be 2 feet, and the larger sorts 3 or 4 feet apart, each way. In taking up the plants for transplanting, separate them all and dip the roots in a thin mud made of soil and water mixed to the consistence of cream; this will prevent the delicate fibers from drying. It is better to set out just before a rain, but if the plants are ready and no prospect of rain, make holes with a trowel, put a pint or more of water in each, and after it has soaked away put out the plant, pressing the earth well around the roots. The varieties are numerous, and new ones are originated every year. Early York, Sugar-Loaf and Ox-Heart are good early sorts. Wittingsstadt is good medium—in fact good at any time. If we were confined to one sort it would be the Wittingsstadt. Marblehead Mammoth, Stone Mason, Late Drumhead, and Bergen, are all good Winter sorts. The Red Dutch is prized for pickles, though it is apt to be small, and slow in heading. The Savoy is, though small, fine for Winter. They are almost as rich as a Cauliflower, perfectly hardy, and good keepers.

Cows.—Read directions in April Calendar. Castrate at four weeks old. Feed with sweet, fine hay when they are turned out to graze. A few oats occasionally will not hurt them.

Carrots.—Sow as early as possible, if not already done. See directions in April Calendar.

Cattle.—Feed with hay and roots until grass is abundant. Rye-bran mash is valuable for milch cows. Give a daily allowance of grain to working oxen, and card and brush them when returned from the labors of the field. Accustom them to obey the voice without constant use of the whip. Prevent young cattle from becoming unruly by keeping the fences good. Never allow cattle to jump over one or two bars in passing to or from the pasture, or they will soon learn to jump the whole fence.

Cellars.—Keep clean and well ventilated, especially if milk be kept there. A cement floor will be a great improvement. Whitewash walls.

Chimneys.—Where wood is burned, chimneys should be occasionally burned out, or otherwise cleansed to prevent danger of taking fire in windy weather. Choose a wet, still day and fire them below with a bundle of straw.

Clothing.—Study appropriateness and economy. A loose-fitting blouse or overshirt is preferable to a coat and vest, for most out-door

work. It is cheaper, allows more freedom of motion, and better preserves the under-clothing from being soiled.

Clover may still be sown; some prefer to delay it until May. Read article on page 142.

Corn.—Nothing is gained by too early planting. The soil should be dry and warm, and the weather settled before putting in the crop. Much after-culture will be saved by thorough tillage at the first. It is well to allow grass and weeds a slight start, and then destroy them by a good harrowing before marking out and planting. Either of the corn-markers described in previous numbers, this year, will save much labor on smooth land. Read article on page 140.

Cotton was profitably raised, last year, as high as latitude 39°, owing to the extraordinary price: usually other crops would pay better. Prepare a warm soil as for corn, and plant early in rows 3½ feet apart, and 16 inches distant in the row.

Cranberries may still be planted. The best location is on swampy land, near the sea-shore, where muck and sand abound. Practical directions for managing this crop were given in the *Agriculturist*, Vol. XIX, pages 115, 142, (April and May, 1860.)

Dairy.—The first essentials are good cows and rich feed. The labors of this department will be greatly lightened by a conveniently-arranged milk-room. It should be cool, well ventilated, free from dust and offensive odors, and if possible, convenient to water. A well-stored ice-house is a valuable accessory, for securing proper temperature for cream and butter. Cleanliness in every department should be the first and constant rule. Have tubs and pails for marketing neatly painted and plainly marked. Cheese-making can be profitably conducted on a large scale by a union factory to be supplied with milk from surrounding farms, the producers to share the returns.

Debts.—Avoid contracting large debts while present high prices are maintained. Improve the present favorable opportunity for reducing the amount owed. Better pay off mortgages than buy new carriages or more showy furniture. To buy for cash and sell to safe buyers on time and on interest, is the surest method of accumulating.

Drainage.—Observe where the soil remains longest unfit for cultivating on account of water, and prepare for draining when circumstances will admit. Examine outlets of underground drains, and keep them in working order. Keep sluiceways from the road open to convey their rich deposits to the fields.

Experiments.—The cultivator's own interest and that of the whole farming community will be promoted by carefully conducted experiments in the various departments of husbandry. If, for example, one thousand parties in different sections should this year endeavor to ascertain the relative merits of planting potatoes in hills or in rows, and report their success, the question might be almost infallibly settled. So of different modes of treatment of other crops, various manures, etc. Such trials need not be upon a large scale in any individual case. Experiment upon some point connected with agriculture, carefully note all the circumstances, and communicate for the benefit of the community. A strip of land through every crop left unmanured, and another doubly manured, for comparison, will often afford much information. So of other experiments in preparing seed by some special process, etc.

Fences.—Are all in order, particularly on boundary-lines? Putting up a rail may save a lawsuit.

Flax should be sown as early this month as the weather will admit. The "Notes on Flax-Culture" in previous numbers, this year, give full practical directions. There is a fair prospect that well-cultivated crops of this staple will be remunerative.

Gates properly made and hung, are cheaper than bars, where entrances are in frequent use. See plan of a cheaply made one on page 141.

Grass-Seed may still be sown on grain-fields and

on bare spots in meadows. Rolling, and top-dressing with fine manure, will help to ensure its growth.

Health is more frequently lost by neglect and overwork than by contagious diseases. Have the meals regular and of various diet. Severe exertion after a full meal is injurious. Take plenty of time for sleep. Be punctual in all natural habits. Avoid cool drafts when heated. Have help enough to avoid overwork. Keeping a good temper and a good conscience, tends to promote health and vigor.

Hired Help.—Remember that they are men, while requiring them to be faithful. A good table, liberal noonings, and judicious commendation for work well done, will be well repaid by their increased cheerfulness and activity.

Home should be the most attractive spot on earth. Surround it with pleasant objects. Cultivate a kindly temper in the household, and allow all reasonable privileges to the younger members of the family. Mingle commendation with discipline.

Horses should be kept stabled during the working season. Feed with grain according to amount of labor performed. If lameness or other ailment occur, give rest, and proper attention. A little neglect may result in permanent unsoundness.

Lime.—A top-dressing of 20 to 50 bushels per acre, after plowing, will usually be advantageous on wet, heavy soils. Read again the chapter last month, page 107. Keep a constant supply on hand for composting with muck for the manure-heap.

Manures are best applied on corn land, or in top-dressing meadows. Their value is greatly increased by finely dividing and thoroughly mixing them with the soil. Leave none in the barn-yard, pig-sty, poultry-house, privy, nor in any place where it cannot be made useful. A handful of ashes or dissolved bones mixed with earth and slightly covered in the hill, before planting, will give the young corn a vigorous start. It should never be in immediate contact with the seed.

Markets.—Part of the advantages enjoyed by those living near cities may be secured by the institution of Market Fairs to be held monthly or oftener as may be desirable. Read article on this subject on page 106, (April *Agriculturist*.)

Meadows.—Allow no stock to graze or trample them. While waiting for plowing grounds to dry, time may be profitably employed in taking out weeds, bushes, etc., from mowing lands. A dressing of lime will aid in cradicating moss and five-finger, and give grass a vigorous start. Harrow and reseed bare spots, top-dressing with fine manure.

Millet.—If a scarcity of pasture be apprehended, sow an acre or two of millet late in the month, to be cut and fed to cattle during the Summer. The variety known as Hungarian Grass is good. The Mammoth Millet gives a larger yield.

Oats are best sown in April. For seeding down to grass they may be put in early this month, and be cut and cured as hay, if not likely to mature.

Onions.—Read article on page 142 of this number.

Pastures.—Where straw is plenty it may be turned to good account in mulching thin spots in pasture-grounds. Sheep properly managed are the best fertilizers of pastures. Attract them to unproductive knolls by scattering salt. They will leave a valuable deposit. Never allow the grass to be gnawed down more than one inch below the surface!

Parsnips are valuable food for milch cows in Winter. Sow on rich, deeply-worked ground, in drills half an inch deep, and 2½ feet apart.

Peas.—A low-growing variety, as the Early Washington, sown with oats early this month, will make valuable feed for hogs and sheep.

Plowing sward for corn should be performed by a skillful hand. The furrow should be laid smoothly. A dressing of lime before plowing will hasten the decay of vegetable matter, and thus give ample nourishment to the early growth.

Potatoes should be put in as early as practicable. The yield will usually be better from rows than from hills. Read notes on selection for seed on page 147.

Poultry will now begin to get their own living if permitted to go at large. Continue to feed them liberally, but allow them to range if practicable. A few hens confined in coops in the garden or fruit-yard, with their chickens suffered to go in and out at pleasure, will aid in destroying insects. Where poultry must be confined, give them plenty of chopped meat, grass, and other green food. Collect eggs daily, and introduce new breeds, if desired, by exchange, or purchase of eggs.

Pumpkins.—A few seeds planted here and there in the corn-field, or elsewhere, will, in a favorable season, yield a large amount of food for stock, without much injury to the corn.

Roads.—Keep free from loose stones and other obstructions, and in general good repair. Open ditches to convey the wash to adjoining fields.

Root Crops.—Parsnips, carrots, mangel-wurzel, and sugar-beets, are of value to afford change of diet for stock in winter. Manure ground thoroughly, till deep, and sow in drills about two feet apart. Read article on growing carrots, p. 142.

Sheep.—See Care of Sheep and Lambs, page 137.

Sorghum can be grown with profit in other localities as well as at the West, where it was a highly remunerative crop last year. It would be a good arrangement for several cultivators to unite and secure the erection of a mill to work up all the cane grown in the vicinity. Good seed is difficult to be procured. Sorghum is preferred to Imphee for Northern latitudes; the latter succeeds best at the South. Plant from May 20th to 25th, thickly in drills $3\frac{1}{2}$ feet apart, to be thinned out to 6 or 8 inches. The seed starts very slowly, and germination may be hastened by soaking. Pour boiling water upon it until it swims, stirring it to heat all equally. Allow it to remain one and a half minutes, then cool to lukewarmness by adding cold water. Plant the same day the seed is prepared. Put in the seed the same as for corn, which it resembles in its general requisites and manner of growth.

Swine.—Keep them in good condition by liberal feeding with bran, shorts, or meal mixed with sour milk, or water, and allowed to ferment. Prevent them from rooting by a ring in the nose, and give them the freedom of a pasture, but do not allow them the privilege of the highway.

Tobacco.—Read Prize Essay page 108 last month. The pamphlet published at this office is the best work on the subject ever issued. See advertisement.

Water.—Provide plenty for all stock, where they can have free access to it.

Weeds.—Take them in hand in time. Close feeding with sheep will finally eradicate daisies.

Orchard and Nursery.

The unusual backwardness of the first half of the Spring will crowd some of the work over into the beginning of May. Planting should have been finished in April, but if the trees have been properly kept back it may still be done. Trees on which the buds have swollen should be handled with great care. It sometimes happens that those sent from a distance, in very warm weather, will start while in the package, and push out shoots several inches long. Such should be cut back very severely, to induce the dormant buds on the lower part of the limbs to start. One of the English horticultural journals publishes detailed directions for killing a tree; beginning with the advice to let it lay out so as to well expose the roots to the sun and air, and then put it out without trimming off broken roots or cutting back the top. Many who plant trees with a view to make them live seem to follow very much the same plan.

Budded Stocks.—Where the buds appear to be alive, the stock worked last year may be cut back. The cut should be made a few inches above the bud, which will leave a support to which the new growth may be tied. It can be cut away afterward.

Evergreens.—This is the great month for planting these favorite trees. Nursery stock is vastly to be

preferred to trees from the woods and swamps. Be careful of the roots; if once dried the tree will not live. Have the holes well prepared beforehand, and if the soil is sandy, add peaty earth or muck. It is difficult sometimes to stake an evergreen; a few large stones laid over the roots will serve to hold it. The term evergreen is so generally confined to the Pine family that many forget that there are several desirable kinds not of this family. Among these are the Holly, Laurel, Rhododendron, etc. These are worthy of a place in every collection. The Pine family is so large that there is a range for selection. The Norway Spruce and Arbor Vitæ, from their easy culture and rapid growth, will always be popular; nothing is better for screens. Our common White Pine is a most desirable tree. The Dwarf Pine is fine for the lawn, as it retains its deep green throughout the year.

Grafting.—There is no mystery about grafting. If farmers only knew how simple an operation it is, they would not continue their orchard of natural fruit until they can afford to employ a professional grafter. Try it on one tree, and your success will probably give you confidence to operate more extensively another year. All that is needed is some cions, a strong knife, a pocket knife, a mallet or hammer, a wedge of hard wood, and some grafting clay. Full directions are given on page 82 of March *Agriculturist*, 1860. If the cions were cut early, and have been well kept, grafting may be done until the trees are in blossom.

Insects.—The eggs which have escaped destruction will soon produce broods of caterpillars. As soon as their nests appear, destroy them with a brush made for the purpose, or wipe them out by means of a cloth wound around the end of a pole, and saturated with kerosene oil. If slugs appear on pear and cherry trees, syringe with solution of whale-oil soap, or dust the trees with lime or ashes. Look out for borers.

Layering.—Last year's shoots of grapes, quinces, and many ornamental shrubs, may be laid down and covered with 3 or 4 inches of earth. They will root more readily if a sloping cut be made about half through the branch, where it is to take root.

Mulch all newly-planted trees with straw, refuse hay, leaves, chips, or other covering.

Orchards.—But little work will be required here if pruning, manuring, and other operations were attended to at the proper season. Do not crop any but a young orchard, and that only with plants the raising of which will leave the soil in better condition than before.

Pears.—These may still be set out, cutting the head well back. Allow no fruit the first season.

Quinces.—Plant out in good soil, and give the trees as much care as any other fruit trees.

Seed-beds.—Peach and other pits, and apple, pear, and other seeds to produce stocks for grafting, if not out already, should be sown at once.

Stocks and Cuttings.—Apple and pear stocks, grape, currant, and other cuttings that have been kept in the cellar, are to be planted at once.

Weeds.—Hoe out the nursery rows as soon as weeds appear, and keep all clean and in neat order.

Kitchen Garden.

At the present writing the season promises to be a late one; frosts and snows still linger—they will depart suddenly, and then the work will come with a rush. It is in late seasons that the advantage of well matured plans will be most appreciated. The work being laid out, everything will follow in proper succession. If late frosts occur, tender plants will need protection. A board turned over rows of early peas and beans as noticed on page 115, April *Agriculturist*, will be found serviceable. It will be found advantageous to prepare frames of boards about a foot square and 8 inches high, and cover the top with cheap muslin. These serve to protect hills of cucumbers, melons, etc., both from early frosts and from insects. In sowing, avoid covering the seeds too deeply. If long cold rains

come on, it will be necessary to re-sow as soon as the weather becomes favorable. In small gardens space should be economized in every possible way. See note on page 146. A succession of crops can be taken from the same soil, but in this case the ground should be kept well manured. Cabbages and Kale may be put between rows of early potatoes. Cucumbers may be grown between Lima beans. Cress, lettuce, and radishes, may be sown in every vacant spot, and carrots and beets occupy the space between rows of beans and peas.

Artichokes.—See directions for culture on p. 145.

Ashes.—A good supply of ashes should be saved for the garden. Mixed with an equal bulk of plaster, it forms the ash compost which is of great use, not only as a fertilizer, but to dust over young plants to repel insects.

Asparagus.—In most places the beds will be producing their tender shoots. Cut as soon as large enough for the table and remove all over-grown and unfit shoots. In cutting be careful not to injure the forming buds. Asparagus knives are used in England for the purpose of cutting. We have used a kind of chisel fixed to a handle like a cane. Always cut from the root and as near to it as possible. If there is a surplus to be sent to market, tie it up in neat bunches about six inches in diameter, putting two ties of bass matting, one near the butts and the other about two inches from the top. Wash in clean water before making into bunches.

Beans.—These are very easily killed by frost, and it may be necessary to repeat the early sowing. The Valentine is the earliest, but the Six-weeks is more prolific. For pole beans, put out the poles before sowing. For Lima beans see page 145.

Beets.—Those sowed last month should now be up. They may still be sown. The Bassano and Early Turnip are best for Summer use. See last month's Calendar. The winter sorts may be put in the last of the month. Deep worked soil, where there was a well manured crop last year, is best.

Borecole or Kale.—Treat precisely as cabbages.

Broccoli.—This is somewhat like cauliflower, but is much inferior to it; as it is considered a surer crop, it is cultivated by many who do not succeed with cauliflower. The same cultivation for both.

Burnet.—Much used in salads by the Europeans. See page 145 for sufficient directions.

Cabbages.—Those in hot-beds should be hardened off ready for transplanting. See full directions in Farm Calendar, which though given for field culture, are equally applicable in the garden. Sow seed in open ground for main crop of winter cabbages.

Capsicum or Peppers.—These are very slow in their early growth and need the heat of a hot-bed to give them a start. When the season is long, they may be sown in the open bed. Plant out when the weather gets settled, and give them the warmest place in the garden. Set 18 inches or 2 feet each way, and hoe frequently. The Squash Pepper is best for plain pickles; the Large Mountain for stuffing; the Cayenne for vinegar, or medicine.

Caroon.—Sufficient directions are given on p. 145.

Carrots.—The early crop should have been put in last month, but if the weather prevented, loose no time in sowing. The seed is slow in coming, and it is a good plan to put a few radish seed with it, which will serve to mark the rows. See page 142.

Cauliflowers.—Do not let a single failure deter you from attempting to grow this choice vegetable. Get seed from reliable sources and follow the hints given on page 146. Those in hot-beds should be planted out, or if the weather is unsuitable put them in small pots, and keep in a cold frame.

Celery.—Follow directions given on page 146.

Chines.—Put out sets early. They make a nice edging to small beds.

Cold Frames.—Get the plants out as rapidly as the weather will allow. Those where plants still remain, should be uncovered every fair day.

Compost Heaps.—Begin the season with the deter-

mination to have no waste of fertilizing material. Make a compost heap in a hidden corner, but easy of access. If necessary, plant some rows of sweet corn to keep it out of sight, but do not let it get out of mind, and place here every animal and vegetable substance that will make manure. The coarse litter raked off of asparagus beds can be put here at once. All the garden refuse, weeds that have not matured their seeds, muck, ashes and an occasional load of manure should be added. By the end of the season there will be a pile of valuable compost, ready for use next Spring.

Corn.—Plant as soon as danger of frost is past. There are many farmers who rely upon field corn to supply the table. No one will do so after trying some of the improved sweet varieties. The Dwarf Sugar and Darling's Early are among the earliest sorts; the Stowell or Evergreen is fine, but longer in maturing. It should be sown as a succession to the early sorts. It is a good plan to put in seed every week or two until July. Where the garden is not sheltered from strong winds, much protection may be given to tender things by planting rows of corn so as to ward off the prevailing winds.

Cress.—Sow for succession. The insects will now be troublesome. Give ashes and plaster when up.

Cucumbers.—Those started on sods as directed last month will be ready to set out. Make the hills rich with manure, well spaded in, and cover the plants with frames made as directed above. Put the frames on towards night, and keep them on until 8 or 9 o'clock in the morning. Sow in the open ground as soon as it is warm. It is a good plan to put in some extra seeds every few days; the insects will attack the youngest plants, and any superfluous ones left uninjured may be pulled up.

Egg Plants.—These need a long season, but should not be put out until warm weather is fully established. Those in the hot-beds may be potted off and placed in a cold frame, until the weather will allow of their being put out. Give them a warm, rich spot, hoe frequently, and supply with liquid manure.

Garlic.—Plant the sets or "cloves" three or four inches distant, in rows one foot apart.

Herbs.—Under this term are included those plants which are cultivated for use as flavoring ingredients in cooking, or for medicinal purposes. Basil, Sweet Marjoram, and Summer Savory, are the most frequently cultivated annual culinary herbs. Sow the seed thinly in rows. Thyme and Sage are perennials, and may be raised from seed, by cuttings, or by the division of old plants. Caraway, Dill and Coriander are raised from seed. Balm, Wormwood and Mint are the principal medicinal herbs grown in the garden, and are readily multiplied by division.

Hot-Beds.—The plants should be set out from them as soon as practicable. Give air every day to those which remain, and on pleasant days remove the glass entirely. As soon as the beds are out of use, put the sash and frames away under cover. If the manure is not needed immediately, make it into a neat heap and put a covering of soil over it.

Insects.—The depredations of these begin as soon as vegetation commences, and they must be combated in various ways. Dusting the young plants with ashes, plaster, or air-slaked lime, helps keep them off. Use every means to promote a vigorous growth so that the plants may get, as soon as possible, large enough to withstand their attacks. Kill every caterpillar or grub that comes in your way and every moth or butterfly that you can entrap.

Kohl Rabi.—Sow and cultivate the same as cabbages. Plant at one foot apart in two foot rows.

Leeks.—Sow in rows as directed for onions, in good soil. It is better to have the rows 18 inches apart to allow room to earth up. This vegetable is not as generally cultivated as it should be. It is used in soups and stews, and its flavor is preferred by many, ourselves included, to that of the onion.

Lettuce.—Transplant and sow every two weeks to keep up the supply. See note on page 145.

Liquid Manure.—Have a tank for liquid fertilizers

if it be nothing more than an old barrel or hog-head sunk in the ground. It should be near a supply of water, and be covered to prevent evaporation and accidents. If placed where the sink water from the kitchen can be turned into it, all the better. Hen, sheep, or even barn-yard manure may be used. The liquid should not be too strong—not darker colored than weak tea. It should be applied at evening, or better just before a rain, when it may be used stronger. Wonders in the way of forwarding vegetables can be done with it.

Martynia.—This is grown for its unripe fruit which is used for pickling, and by many considered the best vegetable for that purpose. Sow in good soil three feet apart. The pods should be gathered before they lose their tenderness.

Melons.—Plant out those started on sods, and sow when the ground is warm, as directed for cucumbers. Do not attempt to grow too many kinds in a small garden, as they will mix. The Green Citron or Nutmeg when pure, will give general satisfaction. We have before spoken in praise of the White Japan, but the seed is scarce and not generally obtainable; will be plenty enough next year.

Mushroom Beds may be made for Summer use.

Mustard.—Sow by itself for salad and greens.*

Nasturtiums or Indian Cress.—These are grown in the vegetable garden for the unripe fruit, which is used as pickles, and in the flower garden as an ornament. There are dwarf and running sorts in great variety. The tall growing kinds are preferred, as they give a greater abundance of fruit. A moist place which is shaded during the heat of the day is best for them. Supply them with brush or strings.

Okra.—This is a plant not generally known, but is becoming quite common in our city markets. It belongs to the same family as the Hollyhock and the Cotton, resembling the one in its leaves, and the other in its flowers, while its fruit is quite unlike in appearance to that of either. The seed pod is the part used, it is 4 to 6 inches long and many angled or ridged. Taken while green and tender it has an abundance of mucilage, and is used in soups and stews which it thickens and enriches. Boiled and dressed with drawn butter, like asparagus, it is, to our taste, a very palatable vegetable.

Onions.—Get the seed in as soon as possible, according to directions on page 142. Top and potato onions should be set in good soil, 3 or 4 inches apart.

Parsley.—Sow at once if not already done. It is the slowest to grow of all the garden seeds and the weeds usually get the start of it. It will be well to burn over the bed to kill the weed seeds.

Parsnips.—Deep culture is needed for their full development. Get new seed, and roll or press the ground firmly after sowing—any time in the month.

Peas.—Sow the Wrinkled Marrow varieties, such as Champion of England, to succeed the early sorts. See article in April *Agriculturist*, page 115. Hoe and provide brush for those already up.

Potatoes.—Complete planting the early varieties. Hoe as soon as large enough. A handful of ashes and plaster applied to each hill, when well up, will often wonderfully improve their vigor.

Radishes.—Continue to sow for succession. If any sowing is found to be badly infested with worms, dig the crop up at once and destroy it, as it is then useless to expect radishes, and by leaving it to grow, insects will be multiplied.

Rhubarb.—Roots may still be set, if not too far advanced, as directed in last month's Calendar. Well established plants will soon afford a supply. The leaves should not be cut, but taken off with a side-wise pull, taking care not to injure the bud.

Salsify.—Full directions were given in the March *Agriculturist*, page 84. Get the seed in very early. Hoe, weed, and thin out as soon as large enough.

Seeds.—Put out roots saved for producing seeds, if not already done. Let none but the earliest and most vigorous branches grow. Do not attempt to save cabbage seed by planting out a stump. This seed is generally obtained from those who make a

business of growing it. It can be done by selecting the best specimens of well wintered cabbages, setting them out entire, and cutting away all but the main flower stalk. In this way the stock will be kept good. Do not plant varieties of the same vegetable near each other, for fear of hybridizing.

Spinach.—The wintered stock should now yield an abundant supply for the table. In cutting, leave enough for seed. This is what botanists call a *dioecious* plant, that is, it produces its barren or male flowers on different plants from those which bear the fertile flowers. They can not be told apart until they come in flower, when the barren plants are known by the greater show they make, and the abundance of pollen they produce; one of these is sufficient to fertilize a dozen of the others. Sow the spring varieties at intervals for succession, in rows a foot apart, and thin to four or five inches.

Squashes.—The early kinds started on sods should be put out as soon as the weather will allow. Treat as directed for cucumbers. Plant Hubbard, Marrow, and other late kinds as soon as the soil is warm. Put the hills 8 to 10 feet apart each way. Besides putting manure in the hills, enrich the whole ground as the vines put out clusters of roots or feeders from each joint. Keep the young plants well dusted with plaster or air slaked lime until they have made 5 or 6 leaves, to keep off the striped bug, and watch for the black squash bug, which may be found on the underside of the leaves in the morning; destroy it by hand picking.

Sweet Potatoes.—Those who cultivate only a small quantity will find it better to purchase the plants of those who make a business of raising them. See advertising column. The 15th of the month is quite early enough in the vicinity of New-York to set the plants. Directions for successful culture are given on page 114, April *Agriculturist*.

Tomatoes.—Sow in open border for late crop. Transplant from hot-bed as soon as the weather is settled. If the season is unfavorable and there is danger of the plants getting too large, pot them and keep where they can be covered at night and during cold days, until they can be turned out. Four feet each way is quite near enough. See page 114.

Turnips.—Loose no time in getting in the early sorts. Advance their growth as rapidly as possible by hoeing. Thin and weed as soon as needed. Give ashes and plaster as soon as up.

Watermelons.—These should not be planted until the ground is thoroughly warm, and June is generally preferable to May. Warm light soil, and plenty of manure are required. Put in an abundance of seed to each hill, as much of it fails to germinate.

Weeds.—Begin the fight as soon as the enemy is in sight. Hoe, pull, and otherwise destroy.

Winter Cherry.—Cultivate and treat as Tomatoes.

Fruit Garden.

After the full directions given in last month's Calendar, there is but little to be added. Plants may still be set out if they are not too far advanced.

Blackberries.—Cut back to near root, before setting.

Currants and Gooseberries.—These start very early, but may be removed even after the buds have burst. Manure established bushes.

Grape-vines may be successfully planted if they were taken up early and kept back in a cool place. In purchasing do not choose large vines. Vines two years old, with good roots, are preferable to older ones. We have seen some vines sold, this year, with large caudex and small roots, and only fit for the brush-heap.

Insects.—Make war upon them from the beginning with soot, ashes, soap-suds, and hand-picking.

Raspberries.—Cut out all weak canes, and fork in a dressing of manure.

Strawberries.—Make new beds as directed on page 146. Those grown on the hilling system should have the runners picked off as fast as they appear,

Care of Sheep and Lambs.

Something more than high prices for wool and mutton is needed to make sheep-raising profitable. They must be well cared for, particularly at the lambing season now at hand. If the ewes have been judiciously fed, neither stinted nor pampered, the labors of the keeper will be greatly lightened. The lambs will come into the world, vigorous and active, requiring little more than the care afforded by the ewe. A few points will always need attention. Experience is the best teacher, but many have their first flock of ewes to manage this Spring, which have been bought under the stimulus of the great rise in value, and to such, the following practical suggestions will be timely. From the first, pains should be taken to render the flock tractable. A few handfuls of oats or corn scattered among them on each visit, will make the master always welcome. In this way a flock may soon learn to be led to any desired place. Pregnant ewes and their progeny are often injured by their efforts to escape when being driven to or from an enclosure. If the weather be clear and mild, it is preferable to have lambs dropped in the pasture. The field for their accommodation should be dry, and free from ditches or sunken spots, where a heavy ewe might be "cast." But during cold nights and in rainy weather, shelter is essential. A few hours exposure at such times may destroy many new born lambs. Make the shed for ewes roomy, and allow plenty of ventilation. Where the flock is large, the shed should be divided into temporary pens to accommodate not more than twenty or thirty head. In the moving about and confusion of a larger number, the young mother may be crowded away from her offspring, and the lamb be unable to suckle. Keep the pens clean, but do not use too much litter, which might entangle the new comers and prevent their rising. See that all filth is removed from about the udders of the ewes: it is also advisable to clip away any thick growth of wool which might impede the lamb in nursing. The first great point to gain is that the young should early get a good supply of food from the dam. It needs this both for nourishment, and for the medicinal effect which the first drawn milk has on the digestive organs. There should be no haste to interfere with the process of parturition. Several hours may sometimes elapse before it is completed, but unless the ewe shows signs of extreme prostration, nature will generally afford relief. If mechanical assistance be found necessary, let it be of the gentlest character, and only in conjunction with the efforts of the animal. If a ewe refuse to own her lamb, confine them together apart from the flock, and frequently give the lamb an opportunity to suckle by holding the ewe. She will usually acknowledge her parentage after a few such trials. A good ewe whose lambs have died should be furnished with one from a twin pair. She will allow its approaches more readily if the skin of her own

offspring be sewed around the body of the stranger. If no lamb be given her, the milk should be drawn from her bag once or twice at least, to prevent danger of inflammation.

Where young lambs are found astray without a natural protector in the flock, if no foster



mother can be provided, they may be given to the children to bring up as cossets. Feed them with warm fresh cow's milk. They will readily learn to drink it by giving them a quill with a strip of cloth tied around it to suck through at first. Sheep reared in this way at the house are likely to have extra care, and they usually bring an extra price in market, besides giving much pleasure to the young members of the family while rearing them. Abundant nourishment should be provided for lambs in the flock, by giving good pastures to the ewes. If grass be short, a daily small allowance of oats or corn will pay both in the lambs and the fleece. *

For the American Agriculturist.

How To Obtain a Good Stock of Sheep.

The best variety of sheep for profit will depend upon the location and circumstances of the breeder. Those contiguous to a good market will doubtless rightly prefer the Cotswold, Leicester, Downs, or some other of the mutton sheep. For those who make the fleece the primary object, my preferences are in favor of the Spanish Merino. But to obtain these of undisputed purity of blood requires an expenditure which very few are able to meet. The writer inspected a pen of bucks and one of ewes at the State Fair of Ohio, last Fall, the property of George Campbell Esq., of Vermont. His buck was held at \$3000, and the ewes at \$100 per head. These were undoubtedly pure bred Spanish sheep. Those having the means and willing to pay such prices, will save much time by commencing a flock exclusively with

high-bred animals. To others whose pockets admonish frugality, I would suggest the following method. Make a judicious selection of ewes from such as can be found in almost every neighborhood at moderate prices. Then procure a stout, well built, oily, and heavy fleeced Spanish buck. If the ewes are light fleeced, and have dry wool, this defect must be counterbalanced by using a buck possessing the opposite extreme. Even the first cross from a buck of this description produces an excellent sheep both for wool and the shambles. It is true, the wool will lack evenness over the body, but it will be essentially thickened, it is made to extend over the belly, the fleece is increased in weight, the sheep is rendered more compact, stocky, and nearer the ground, and the improvement is marked. The flock-master has now found the key which opens the door, and he is invited onward in the highway of future success. When ewes of this cross mature, another buck must be procured, as with intelligent flock-masters close in-and-in breeding is inadmissible. If practicable, let this second buck be the superior of his predecessor in all good points; and at the same time reject all ewes which inherit any serious defect. The flock-master must bear in mind that to grade up a flock by this method to a high standard of excellence, is a work of time; and patience must have its perfect work. But

good bucks must be obtained, and this will necessarily involve some expense. Fancy bucks and fancy prices are for fancy breeders and plethoric pockets; let them exclusively enjoy them. I know that good bucks can be had at from \$50 to \$100, and prices within this range should be satisfactory to both seller and buyer. But will this system of grading up a flock from mongrel ewes produce a flock of pure blooded Merino sheep? There may be incompatibility in varieties arising from physiological differences, which time and amalgamation could hardly neutralize and overcome, but in skillful hands, every succeeding cross encourages the hope that a sheep possessing all the points of a superior animal will be attained. This point I think is fully illustrated and realized by the improvements which have been accomplished in our own country, by discriminating breeders during the last 30 or 40 years. Our present American Merinos are in every respect superior animals to those imported from Spain by Col. Humphreys and Consul Jarvis, and it is equally obvious the excellences of our present improved stock are due to the Spanish blood, and we must look to this as the base or starting point of all future improvement. But in grading up a flock of sheep a few cardinal points must ever be kept in mind. 'Like begets like.' If the parents approximate perfection in any one point, the offspring will generally inherit that good point, but if the parents are both defective in the same point, the offspring is likely to be more so than either of its parents. The confluence of two muddy rivulets will vitiate still more the purity of the stream. The whole secret of grading up a

flock to a high standard of excellence is a system of counterbalancing, that is: breeding out the objectionable points of one parent by the excellences of the other, and thus stamping upon the offspring the type and characteristics we seek to obtain and perpetuate. G.

Moore's Salt Works, O., March 1863.

Kicking Cows.

"Maryland," in a note to the *American Agriculturist*, says he has always cured kicking cows, by buckling a leather strap on both hind legs, below the joint. They soon give up trying. We long since learned, by experience, that this is not so easy a matter. Unless the feet are strapped close together, the cow will slip one of them out; while if they are drawn thus together, the animal will be apt to throw herself down. If a strap is used at all, it should be a short one, and have a double buckle, so that one end can be fastened to each leg, and leave a little space between the legs. Even then a cow will generally worry and fret, and try to run, when she finds her feet entangled or confined. Kindness, and moistening the teats with milk or grease, if sore, is usually the best course. An expert milkman can usually prevent the forward movement of the leg, by grasping the teat tightly, and resting the arm against the leg. Most cows will give up kicking if the milker patiently, but firmly and in good temper, persists in simply warding their legs off with his arm. We have cured a good many kicking cows, most of them by the above treatment. Some confirmed kickers we have broken by the following method: A long narrow pen is made just wide enough at one end for the head, and spreading out at the other end to give room to her hips, and for the milker to sit conveniently by her side. A short stout leather whip (a "black suake," as it is generally called) is provided, and with this one or more heavy blows are inflicted every time a foot is raised. When the animal learns that every effort to kick is sure to bring punishment, she will usually give it up. In nine cases out of ten, cows are spoiled by bad temper and irregularity in their treatment. The cow kicks and the milker says so-o-o! This is perhaps repeated half-a-dozen times. The seventh time she chances to hit the pail or the milker, and then he scolds furiously, and probably he strikes her. The next kicks are passed over until some damage is done, when the angry scolding is repeated. We advise the use of the whip or other punishment only as a last resort; but if resorted to, let there be coolness and uniformity. If every kick brings back a blow, the cow will generally learn that much, and cease to kick.

Civilization and Animals.

Mr. Holley, of Hull Co., Nebraska Territory, writes to the *Agriculturist* that, during the first years of his residence in that Territory, he industriously killed off the wolves and foxes—in one year destroying over 170. Latterly he finds that the hares and rabbits have increased to such an extent as to prove very troublesome to his young trees—having, in the absence of their natural enemies, multiplied without hindrance. The efforts of civilization are constantly tending to destroy the natural condition of things, wherein one tribe of animals holds the other in check, so that neither predominates. By destroying the natural food of animals, they prey upon the crops. We even change the climate by

clearing away forests to make room for crops. One generation bares the earth of forests, and the next engages in planting trees.—We do not mean to recommend the preservation of wolves and foxes to keep the rabbits and hares in check, but allude to this case for the purpose of calling attention to another in which the natural balance is destroyed, to the serious injury of the farmer and gardener—viz.: the promiscuous destruction of the birds. In the older portions of the country especially, the insect-eating birds are disappearing, while the insects, their natural food, are increasing with alarming rapidity. Almost every village contains a number of over-grown boys, who, "old enough, big enough (and ought) to know better," go about with guns, and, under the pretence of hunting, shoot at everything that has feathers. We have no patience with these promiscuous bird killers, and when we see one of the lazy louts banging away at everything from a sparrow up to a robin, we think that the bird is the nobler animal of the two, for that is fulfilling the object of its creation, while the featherless biped is destroying the farmers' friends. We have laws that certain "game birds" shall be shot only at particular seasons. Why not have a law that other birds shall not be shot at all? At all events let there be such a law of public opinion, that these wanton destroyers of useful birds shall be considered in the same light with fruit thieves and other pests.

For the American Agriculturist.

Raising Turkeys—Making Grasshoppers Profitable.

Grasshoppers get their living on the farm, and for one I am not willing to board them without some return. It is my practice to send in bills against them daily (turkeys' bills), and I usually commence making them out this month. For this purpose the best two-year-old cock and two or three hens of the same age are selected. Yearling turkeys will breed, but their chicks are usually feeble, as this bird does not attain maturity until between two and three years old. Turkeys are very shy about their domestic arrangements. Their nests are usually secreted in the most out-of-the-way places, and apart from any other fowls. They should be indulged in this. I prepare nesting places for them by knocking out the heads of old barrels, and placing them in a quiet fence corner among brush or weeds. They will take to the nest quicker, if a few imitation eggs are placed there. As the eggs are laid day by day, they are removed to a cool dry place, and turned every day until the hen begins to set. The female can cover from fifteen to twenty eggs. Any surplus ones are placed under a hen at the same time, and when the brood come out they are all given to the old turkey. Persons having no old turkeys can commence by procuring eggs, and giving them entirely to a hen, but the natural mother is best. The greatest care must be taken to keep young turkeys from the wet. A single run in the grass before the dew is off in the morning may kill off a number. I make a pen about twelve feet square and eighteen inches high, to confine the young. The mother will not wander far from them. Hard boiled eggs chopped fine, and sour milk-curd are the best feed for the first week. Afterward, millet and Indian corn cracked fine are given until they are able to shift for themselves. The pen is also kept supplied with fresh cut grass, young leaves, and other green food. Loppered milk is excellent at all times,

and I think for all kinds of poultry. They love it and thrive on it. The turkeys soon learn to range for food, and no bird is more active in pursuit of grasshoppers and other insects. I think it would pay well to raise them for this purpose. To keep them from running entirely wild, and roosting away from the premises, I have roosting poles for them near the barn where they are fed every night. I have little trouble in fattening them in the Fall, as by good feeding they are kept plump all Summer, and when Thanksgiving comes and accounts are balanced, I find a large credit to their account, particularly when I reckon the large collections they have made among the grasshoppers.

Rensselaer Co., N. Y.

WALTER.

Tim Bunker on the Philosophy of Hen-Roosts.

"What upon airth d'ye 'spose is the matter with my hens?" asked Jake Frink one cold morning in March, with a face longer than usual. "Ye see, Squire, I never had such bad luck with the critters, afore, in all my life. I guess I've lost half on 'em neow sartain, and lots of what's left is limpin around as ef they'd got some kind of disease. Shouldn't wonder if some plaguey boy had pizened the critters?"

"I guess you haven't fed 'em enough," I remarked. "Fed em!" exclaimed Jake. "Them birds have eat their weight in corn every week, I'll bet a shad, to say nothing of potatoes, beef scraps, and swill in general. You never see such eaters. They have hung around the pigs' trough all Winter, and they've pitched into the swill so ravenous, the pigs have had a poor chance; you can count every rib in their bodies. They're enough to breed a famine."

"Well, may be they have not had enough variety of food," I suggested.

"No you don't," responded Jake with emphasis. "Nothin' comes amiss to them critters. Ye see I sent and got beef seraps for 'em because they said it was cheaper than corn, and the tallest kind of fodder to make 'em lay. And I mixt up red pepper with the dough, and have fed clams, and mummy-changs, and they made no bones swallowin of 'em, and stood with their mouths gapin' for more. I du believe they would have eaten raw alligator if I had only had it for 'em. And then they had a little of every thing that was eaten in the family, besides a cow that died winterin'. I allers have bad luck on winterin' cows. That ain't nothin' new. But my hens never died so afore, and they never had so much to eat."

"Well isn't there something wrong in the roosts?" I inquired.

"Not a bit of it. I had a grand fuss, and clearin out last Fall, on purpose to know that every thing was right. Ye see, Polly took a notion to have the *American Agriculturist* last year, and she read about having the roosts white-washed, and clean poles for 'em to sit on, and clean floors for the manure, and I didn't hear the last on't till I had a general overhaulin'. From the day that paper come into the house, that woman was took with the hen fever, and she was dingin' at me from mornin' till night about the critters. It was, Jacob du this, and Jacob du that. I undertook to laff her out on't, but I found it was no go. I hinted to her that I didn't see much use in cleaning up the floor, when the critters were sure to nasty it agin' as soon as they got on to the roost. She said the paper insisted on clean roosts, and you would 've thought she was quotin' scripture.

Says she, 'Jacob, 'spose I should say it was no use to clean up the kitchen, because you come in from the cow yard twice a day, and sometimes more, and dirty it all up! I have followed you with a broom and a mop for thirty years, and that roost is gwine to be cleaned, if I do it myself.' Well, ye see, there want no more to be said arter that. I got a lot of new poles for 'em to sit on, white-washed top and bottom, and made it look like a parlor."

"I guess your poles is the trouble," I said. "That aint possible, said Jake, for I made the poles small on purpose so they could hold on."

"There is where you made your mistake. You see the perch wants to be so large that the hen won't have to hold on. The hen is a philosopher, and knows more about taking care of herself than Jake Frink, any day. She belongs to a warm country, and her feet are the most susceptible to the cold of any part of the body, and most likely to be damaged by the frost. You will see her standing on one foot in cold weather, with the other drawn up among the feathers getting warm. After a little while, she will change position, and warm the other foot. If it were not for this process of warming, both feet would soon be frozen, and she would grow lame and die. If hens have large perches, say four or five inches in diameter, their toes are completely covered with the feathers as they roost at night, and they sleep comfortably and securely. If the perches are small, the toes are left out, and freeze in very cold weather. This makes them lame, and of course affects the general health, as a frozen limb would in larger animals. Sometimes the toe sloughs off, and if the freezing process is not repeated, the bird recovers. But if Jake Frink is the owner of the birds and does not know what the matter is, the toes are repeatedly frozen, and the hens die in a very strange and mysterious manner!"

I left Jake standing with his mouth open, as this bit of philosophy got into his head. It was so plain that he could not help seeing it. But wiser men than he are every day violating the plainest principles of common sense in their management of domestic animals. Their bodies are as much subject to law as our own, and if we do not regard these laws in providing for them, health is impaired, and oftentimes life is destroyed. There is as much philosophy in hen-roosts as there is in human dwellings, and we must know something about the habits of hens before we can suitably provide for their health.

Not long ago I was asked to come over and see Mr. Spooner, our minister. I began to think of my transgressions at once, and tried to recall what scandal I had uttered that I should be sent for. I was put at my ease when I found out that it was *my* profession and not his that was to be called into service. I may as well say that I have considerable of this work to do around Hookertown, and I don't see why it is not just as honorable to doctor hens as it is to doctor men. The only fault I have to find is, that folks don't send for me until it is entirely too late.

Mr. Spooner complained that his hens died strangely. He took the best care of them, gave them a variety of food, grain and meat, and pounded oyster shells for them, and bones; but they would droop, run at the mouth, swell in the head, and die. Some times they dropped dead from the roost. I suspected in a minute what was the matter, and led the way to the hennery, where I found a large quantity of manure sprinkled over with lime. The smell of ammonia was about as pungent as a hartshorn bottle. He had heard it said that lime was good

to cleanse roosts, and had used it without stint. In such an atmosphere, in a close warm room, the hens died of course. I ordered cleansing and a layer of dry muck to be changed once a month. Since then the minister has had plenty of eggs of his own raising. I could afford to throw in the fees, for before my visit, Mrs. Bunker's egg basket was often emptied at the parsonage, and no questions asked; since then, it has been like carrying coals to Newcastle.

Hookertown, } Yours to command,
March 20th, 1863. } TIMOTHY BUNKER ESQ.

For the American Agriculturist.

Care of Fowls.

Nearly two years experience with about 34 hens, gives me, "in as great proportion," the same advantages in eggs and chickens as Mr. Thompson obtained from 75, as stated in the *March Agriculturist* (page 75). There is, however, this in my favor, that during the whole time only three of my hens died. Warmth, ventilation and cleanliness, with frequent greasing of the roosts, are pretty sure safeguards against vermin.

My poultry house is thoroughly cleaned every week, well swept, and fresh loam scattered over the floor. Sometimes, if the smell be offensive, I scatter a few handfuls of lime dust (which is always on hand) under the roosts, and sprinkle with a watering pot; this is a great purifier. [Plaster would be better.—Ed.] The droppings saved during the year with the loam added will average from twelve to fifteen barrels.

A word about feeding. I am of opinion it is great economy to boil the meal. My plan is, to boil, about once a fortnight, a half bushel of cracked corn, stirring for an hour. At the same time, boil in another kettle a half bushel of small potatoes; when soft, pour off the water, mash, and mix thoroughly with the meal, then pour the whole into a tub or barrel. It keeps sweet, and cuts like cold mush. I give them plenty of this, varied now and then with a few handfuls of grain, cabbage leaves, oyster shells, and bones broken small. There has been no lack of eggs during all the Winter. W. WILSON.

Suffolk Co., N. Y.

For the American Agriculturist.

Cost of Keeping Poultry.

The appearance of my report on poultry in the March No. of the *Agriculturist*, page 75, has led to many inquiries as to cost of keeping. The answer is: one peck of corn per day, for a hundred head, in Winter; in Summer less will do. Corn being the staple food for poultry, the calculation is based on its cost. I prefer and use wheat screenings. A variety of grains is desirable; no damaged grains should be fed. The cheapest food is corn and oats ground together in equal parts. Two pounds of this stirred into one gallon of boiling water makes ten lbs. of stiff food. It may be fed warm, *not hot*. Staten Island, N. Y. J. C. THOMPSON.

Desirable Breeds of Fowls.

John E. Abbott, Kennebec Co., Me., writes concerning different breeds of fowls: "Common hens will yield good profit, but more can be obtained from many of the improved varieties. In deciding what breed is best, it must be taken into account whether eggs or chickens are most desired. 'Every-day layers,' as they are called, are commonly considered to be superior to others in laying qualities. A few of the best of these I will briefly describe. *Black Spanish*.

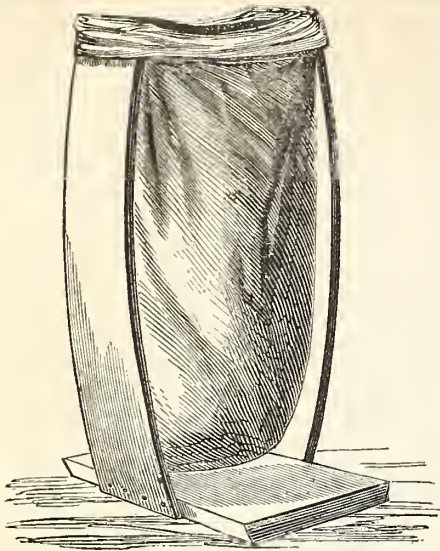
—Rather above the medium size. Their combs are single and very large. The hen's comb falls over on one side. Few fowls surpass them in the number, or size of the eggs. Their chickens are hardy. *Leghorns*.—These fowls bear a strong resemblance to the Spanish, except in color. Those who have kept them, think that they are better layers. In a report which was published in the Transactions of the Middlesex Co. (Mass.) Agricultural Society, for 1861, Mr. I. H. Felch, of Natick, stated that 'for six months, the White Leghorns averaged 95 eggs per hen; the Blue Leghorns, 80; the Brahmans, 77; and the Black Spanish, 74. These two breeds, Leghorn and Spanish, seldom set; so that it will be necessary to keep some other variety for raising chickens. *Dorkings*.—For rich, juicy flesh, the Dorkings are generally placed at the head of the list. They are not hardy, and are only fair layers. These two things will prevent their being in great request. *Brahma Pootras*.—Full grown Brahmans will weigh from 18 to 22 pounds a pair. Though not equal to the Dorkings for the table, their flesh is of excellent quality. As layers, they are highly valued. They commence laying when young—usually at the age of six months. The only fowls that come up to them in size, within my knowledge, are the Chittagongs. There appears to be but a slight difference between these and the Brahmans. Any one of these different breeds, excepting perhaps the Dorking, will almost invariably give better satisfaction than common fowls."

Bee Keeping in Minnesota.

Samuel Bates, Winona Co., Minn., sends to the *Agriculturist* a very favorable account of success in bee keeping in that locality. He selected a site with reference to the business in a valley adjoining the Mississippi River, and where plenty of basswood trees were growing on the adjacent islands in the stream. The bees find abundant pasturage, and the quality of honey is superior. Early swarms frequently make a hundred pounds per hive. Swarms coming as late as the middle of August, which would be deemed worthless at the East, will store from twenty-five to forty lbs. of honey.

Mr. Bates wintered his bees in a house, 25 feet long, 5 feet wide, 6 feet high, covered with matched boards, and well ventilated at top and bottom. It is entered by a door at the end. The hives are set in tiers one above the other on bars extending lengthwise of the house. Each hive is raised a short distance from the bottom board, to allow ventilation. As warm weather approaches and the bees become uneasy, the door of the house is opened at night and shut early in the morning, to keep them as cool as possible until a favorable day comes for setting them out. If there be snow on the ground, straw is scattered about the hives for them to alight on. Mr. B. thinks some winter shelter is indispensable to successful bee-keeping in that region, where the cold is often intense. Many have failed in the attempt to keep them the year round in the open air.

THE AGE OF HORSES can not always be known by their teeth. "Ebersol," writing from Ottawa, Ill., says he saw some neighbors at work upon an old horse, "making him over." Having cast the animal, they filed his teeth and brought them to resemble those of a young horse. He was afterward sold at a good figure in consideration of his youth! The imposition is not new! Sharpers have long practised it.



Cheap Home-Made Bag Holder.

A subscriber to the *Agriculturist* whose communication and address have been mislaid, sent a sketch and description from which the above engraving is made. It represents a cheap and apparently very convenient bag holder. To make it, take a two-inch plank block, 12x18 inches; bevel the sides half an inch, and with strong screws fasten to it two flexible uprights of half inch board, each 6 to 8 inches wide, as shown in the engraving. To use it, the top of the bag is folded over about three inches, and placed over one upright, the two are sprung together so that the fold may be placed over the other one, and it is thus held distended. The uprights are long enough to allow the bottom of the bag to rest upon the block. Where the bags are of uniform length, this will answer every purpose. We would suggest that to accommodate bags of different lengths, two short uprights might both be fastened to the block, and then two flexible strips be fixed to slide up and down in staples fastened to the outside of the stationary uprights.

Progress of Flax Cotton Manufacture.

Some progress has been made towards securing the desirable end of being able to work flax upon cotton spinning machinery, as is seen in the establishment of several factories. As yet, however, the enterprise cannot be deemed wholly successful. In consideration of the importance of this industrial interest, the Legislature of New-York, on the 22d of April, 1862, appropriated \$2000 bounty for "machinery to test the experiment of manufacturing flax cotton, to be expended under the direction of the State Agricultural Society." The Society has recently rendered a report of their proceedings in the matter. The investigation was made by a committee consisting of Hon. Ezra Cornell, Messrs. Samuel Campbell of New York mills, A. Wild and B. P. Johnson of Albany and J. S. Gould of Hudson. Only two competitors for the State bounty appeared, viz.: the Lockport, N. Y., Flax Cotton Company, and Mr. C. Beach, of Penn Yan, N. Y. After examining their processes, the committee submitted the following resolutions, which were adopted:

Resolved, That in the judgment of this Society no such advance in the perfection of machinery to test the experiment of manufacturing flax cotton has been made as to warrant the Society in awarding any portion of the sum appropriated by the Legislature, at the present time.

Resolved, That the Society will keep the execution of the trust reposed in them by the Legislature for the present in abeyance, under the hope that such valuable improvements may be effected in the coming year, as may justify the Society in awarding the whole or some portion of this amount to any such successful inventions.

Resolved, That the committee be requested to continue their investigation during the year, at such time and in such manner as may, on consultation with the President and Secretary of the Society be deemed most advisable.

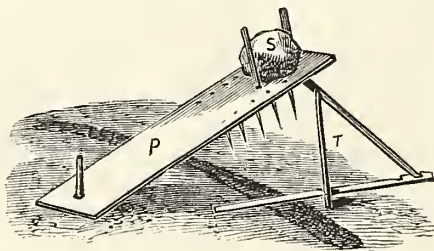
Resolved, That the entire sum of two thousand dollars, appropriated by the State as aforesaid, now in the hands of the Treasurer of the Society, be deposited by him in one of the trust companies of the city of New York, where it may draw interest until it shall be required for the purpose designated by the Legislature.

Resolved, That the proceedings of the Society be presented to the Honorable Legislature."
(Signed) B. P. JOHNSON, Secretary.

The committee say in addition: "We are fully convinced that the reduction of flax fiber to flax cotton is practicable. Already great strides towards the accomplishment of this have been made, as we think, in the right direction. We feel confident that nothing is needed but intelligent and persevering efforts, to achieve a triumphant success. We deem it desirable in the highest degree that the Legislature should continue to offer a reward with a view of stimulating and encouraging the activity and ingenuity of inventors." The continued demand for cotton substitutes is inspiring inventors in every direction, and it is to be hoped that ere long their efforts will furnish us again with some material for clothing, produced at the North, less costly than cotton at 40 cents per yard.

An Effective Mole Trap.

If the moles would confine their sapping and mining operations to the fields, they might be spared in consideration of their usefulness in destroying grubs and other troublesome insects. But we have learned by costly experience that in the garden and ornamental grounds they may become an intolerable nuisance. Last year we published in the *Agriculturist*, page 141 (May No.) the best of over twenty designs for mole traps sent by different parties. A correspondent writes that upon attempting to construct a similar one, not being much of a carpenter, he found it too difficult for him. He finally contrived the simple modification shown below,

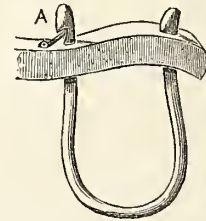


and found it to work well. His trap was sprung fourteen times, and he secured fourteen moles. In the engraving, the plank (P) 8 to 12 feet long, has a hole in the lower end which passes over a pin driven into the ground, to hold it in place. Three or more stout wires, very sharp, are inserted an inch apart on each side of the end of the plank. The pairs of wires should be about 9 inches apart. A stone or other weight, S, is added to bring it down forcibly. A common figure 4 (T) is placed under the plank, with the trigger lying across the mole track. When setting it, the track is flattened with the foot, where the trigger is to rest upon it. The plank

should have a fall of 12 to 15 inches. The mole in passing, in either direction lifts the trodden ground and the trigger resting upon it, and is instantly pierced by the descending points.

Another Improved Bow-Pin.

A subscriber to the *American Agriculturist* sends the accompanying design for a bow pin, which he considers an improvement on the one shown in Vol. XXI, page 300 (Oct. 1862.) It consists of a common wrought iron hinge, with one side fastened to the yoke, so that the other part will rest over about one third of the hole through which the bow passes. A tapering notch is cut in the side of the bow, as shown in the engraving. This arrangement allows the



bow to pass upward, lifting the loose part of the hinge; on its return, the hinge catches in the notch, and holds the bow fast. It is very convenient for yoking shy cattle, which will sometimes start while the pin is being inserted. By having the pin thus fastened to the yoke, there is no danger of its being lost, a decided advantage.

Hints on Raising Indian Corn.

In the cultivation of corn there is no stereotyped method, absolutely better than others, for every time and place. What may be best in the garden, may not be required in the field. What answers well in the small fields of New England, may not be needful in the thousand-acre lots of the West. Northern modes may not be exactly suited to the South. One can not and need not manure as highly at the West as at the East. Owing to the high price of labor at the West, one must use more horse power and less hand-labor than at the East. Yet some things are the same everywhere. Everywhere, corn is a rank feeder, and wants an abundance of food. Where the land is in a state to admit of it, the roots will run from three to five feet in quest of nourishment. Hence the need of good land and good tillage. This tillage should mostly precede the planting of the corn, for the too frequent disturbance of the ground after the roots have got established in it, breaks the surface roots, and seriously injures the plants.

As to the best manures for corn, that from the barn yard stands first. By this we mean not only the simple excrements of all kinds of stock, for these alone are not enough. The quantity may be doubled, and the quality hardly diminished, by using absorbents to soak up and save the liquid parts and the gases of the pure dung. What these absorbents are, we have often mentioned, such as muck, peat, sods, straw, tan-bark, leaves, saw-dust, etc. Yet sometimes, the dung heap and compost give out before the crops are all fed. In such cases, the farmer must use with discretion such fertilizers as gypsum, ashes, poudrette, guano, bone-dust, dissolved bones, etc. Let him be specially careful in the use of guano, hen-dung and night soil, and other concentrated manure, or he will spoil his whole crop. They need to be mixed with several times their own bulk of soil before applying them near the seeds or roots of plants.

In preparing the ground, much pains should be taken to plow well, and to mix the manure thoroughly by careful harrowing. It is surpris-

ing what a difference this makes in the rapid and healthy growth of the stalks, their exemption from the effects of drowth, and the plumpness of the ears. It saves a great deal of after-tillage, and prevents much anxiety as to the success of the crop. If the land be subsoiled, more of the roots will strike downward, and fewer will be broken and injured by the cultivator and hoe.

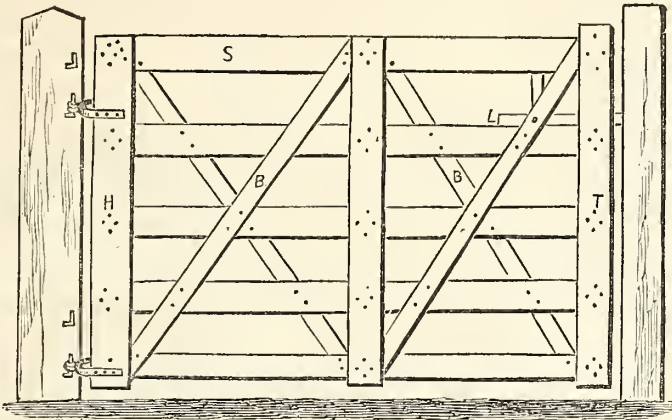
Corn in drills three to four feet apart, and the stalks 8 to 12 inches apart in the row, will give the best yield to the acre; but where land is cheaper than labor, it is usually more profitable to plant in hills, the rows running both ways, so that the plow or cultivator passing in both directions will do most of the work of tillage. The hill system lets warmth in on all sides, which is advantageous, especially on cold, heavy soil, or in a cool season. Corn is a sun plant and prospers best under warmth. The drill system prevents the stalks from crowding and shading each other. If planted in hills, the seed should be dropped four to six inches apart, so that the stalks and leaves will not interfere. The distance apart of hills, or drills, and of the individual stalks, depends both upon the strength and richness of the soil, and the variety in size of the corn. A good soil will support a nearer growth without depriving the roots of adequate nourishment. For the smaller varieties of corn, those growing only 4½ to 6½ feet high, three feet apart for rows or drills is enough. The taller, 10 feet high varieties, require 3½ to 4 feet rows or drills. Usually 3½ to 4 feet is preferable to 3 feet, for medium soils, and for good sized field varieties. Four stalks are as many as can grow in a hill. Three good stalks will yield more grain than five poor crowded ones.

The best varieties of corn for any locality are best learned from the general experience of a neighborhood, though it is well to try small plots of new kinds for experiment. Let it be remembered that corn is easily spoiled for seed by dampness or heating in the shock or crib. It is but little trouble to sprout a handful taken as a sample from the whole lot, by putting it in a damp soil in a warm place. No one can afford to lose the first planting, or to have a lot of deficient hills, simply for want of a few quarts of good seed. Plant corn very shallow; one inch is abundantly deep. If covered deeper than this, some of the kernels will rot before vegetating, if it chance to be cold or wet weather. Half an inch is usually deep enough. A little good, well rotted manure, or ashes, in the hill near but not in contact with the seed, helps to give the plant a vigorous start, even where the whole ground is not manured. See Calendar last month, also article on lime page 107. The latter part of May is early enough for planting at the North. Warm soil starts the plants at once into rapid and vigorous growth.

TO FASTEN A ROPE-END.—J. C. Marsh, La Fayette Co., Wis., recommends to prevent the untwisting of a rope's end, by winding it with small wire. Heat the wire to redness, then let it cool slowly, and it will bend easily. The ends can be fastened by winding them under the coil, or passing a few times through the rope.

A Farm Gate Easily Made.

The plan for a farm gate published in the *Agriculturist* page 45 (Feb. No.), has called out many designs for this desirable farm fixture. The one presented herewith, was forwarded by



a subscriber, J. T. Waters, Jefferson Co., Ill. We have added a few modifications. It is made entirely of ¾ inch boards, or 1 inch if desired to have it heavy. Two boards each 6 inches wide are used for the head-piece, *H*, one on each side of the bars *S*. The tail-piece, *T*, and middle upright, are put on similarly. The braces, *B*, *B*, 3 to 4 inches wide, will not need doubling; one piece on a side, as shown, will be sufficient.

The parts should be well secured with wrought nails, driven through and clinched. Pine or cedar boards are good; hemlock would be liable to warp; oak would be heavier than needed. A finishing eap or strip 1½ inches wide, should be nailed along the top, to keep water from entering at the joints. The hinges are of iron, ¼ inch thick, 3 inches broad, made with an eye to receive the staple on the post, and with arms to clasp each side of the head piece. They should be bolted firmly. The latch, *L*, turns upon a pivot, and is kept in place by a small upright strip. It fastens into a notch in a strong cleat nailed upon the side of the post. Two extra hinge staples are driven into the head post, a foot or eighteen inches above the others. In Summer, the gate hangs upon the lower ones, near enough to the ground to exclude pigs and geese. In Winter it is lifted to the upper ones, to admit of swinging over snow: this sometimes saves considerable shoveling.

A comparatively light gate is preferable to a heavy one, for the reason that it is easier to handle, and it will not so soon drag the post out of perpendicular. The latter difficulty is the great obstacle to overcome. It can be in good part prevented by draining the soil about the post-hole. It is a good arrangement to pin a plank two or three feet long to the bottom of the post, extending in the direction of the gate, and fasten a short brace to this and the post, the whole to be placed under ground.

Flat Culture of Potatoes.

This can not be attained perfectly, but should be aimed at. Four to six inches is the utmost light allowable for a hill, and this should be got as early as possible in the Summer. And for this good reason: as soon as the stem is well formed, tubers are developed at the sides at a proper distance below the surface, and they will go on enlarging to their full size, if they are not disturbed. But now, if we pile up more soil around the stem, a new set of tubers will be

formed higher up than the first, which will draw away a part of the food that should have gone to the first. The consequence will be that at digging time, many of the tubers will be small, and some of them unripe. So thinks X.

Salt on Wheat.

W. H. Yale, New-Haven Co., Conn., sends to the *Agriculturist* the following account of his experiments: "In the Spring of 1851 I tried salt on wheat. The first piece, about an acre, was part of an orchard, marked off into ten pace lands. I sowed salt on alternate lands, using five bushels per acre, and harrowed it in with the wheat. On these lands, the grain ripened sooner, was larger, and free from rust. The next year the salted part yielded twice as much hay as the other portion. The second piece, of two acres, had been planted with corn the year before on the sod, and was badly infested with grubs. They had destroyed much corn, and also greatly injured the wheat. On the alternate lands, treated with salt, the wheat headed out a week earlier, and the yield was doubled, I also sowed another field of poorer soil than either of the above, using salt upon the whole of it, and the wheat was the best of all."

A Weed-Puller.

Many troublesome weeds are best disposed of by drawing them out by the root, a slow but thoroughly effectual process. Mr. Julius Miner sends to the *Agriculturist* the sketch of an unpatented implement long used by him for taking



ing out the Burdock, and other very troublesome and tenacious roots that infest our fields. It will do good service with all weeds that have a long tap-root. It consists of a stout stick, 3½ feet long, to which is fastened an iron trident or three-pronged piece, the teeth of which are 2½ inches long. Or the whole length may be made of iron. A block 3 to 4 inches thick is bolted to the under side of the handle about 6 inches from the points. This serves as a fulcrum when prying out the roots. A cross-bar 8 inches long is attached, for conveniently thrusting the implement with the foot down to the root. When thus placed, a moderate amount of force at the end of the lever will lift a strong root entire.

A Horse-Cleaner.

F. W. Stump, Wayne Co., recommends to the readers of the *Agriculturist* the simple implement shown in the annexed engraving, for cleaning horses in muddy weather. It is made of a strip of ¾ inch board, 9 inches long on one edge, 7 inches on the other, and 3 or 4 inches wide. A convenient opening for the hand is shaved out on each side, and a hole bored through the square end by which to hang it in the stable. He uses this instead of a currycomb or card for removing dried mud from horses which have been used in wet weather. The currycomb is objectionable; its sharp points are too harsh for the tender skin of the horse. This implement followed by the brush, will answer a very good purpose.



Growing Carrots—Mulching.

No intelligent farmer doubts that the carrot is one of the most valuable roots that can be raised for stock. For horses, to alternate with oats or ground-feed, they are excellent, being nourishing and at the same time keeping the system free and in good order. Indeed, for horses which do only the lightest kind of work in Winter, carrots and potatoes and hay make a very good diet. When Spring opens, let one mess of oats per day be substituted for one of carrots or potatoes. They are excellent food for milch cows and oxen.—The cultivation of a crop of carrots is a simple process. A rich, loamy soil is preferable to strong, clayey ground. It should be thoroughly enriched, using old manure if it is applied the same year. A better way is to manure heavily the year before. Break up the ground thoroughly with plow or spade. Let this be no surface work. Thrust down the plowshare to the beam, or the spade its whole depth. This is the only way to avoid "fingers and toes," and to get long, large, well-formed roots. Harrow the ground until smooth and thoroughly pulverized; plant $\frac{1}{2}$ inch deep in drills, two or two-and-a-half feet apart, for field tillage, and eighteen inches for garden culture. This part of the work is greatly expedited by using a seed sowing machine. About two pounds of seed per acre will be needed. From the middle of May to the first of June, is the right time to put in the main crop. For early use, the best variety is the Early Horn. For late Winter, the Long Orange is a great favorite. The Altringham is thought to be hardly inferior to the last.

As soon as the plants are up, go through the rows, and thin out to from four to six inches apart. Keep the cultivator or hoe in motion, to suppress all weeds, and to keep the ground light and loose. This will also greatly help on the vigor and growth of the plants.

A writer at Lexington, Mich., adopted a good plan which he thus describes: "The carrots, thinned and hoed, grew finely, and I now began to think what to do to keep the weeds from springing up again. I remembered having read in the *American Agriculturist* something about mulching apple trees and newly planted shrubs; also I remembered, that last Summer I had some potatoes in my garden—the smallest spindling tops you ever saw—and having some spare stable manure in the Spring, I took it, after hoeing my potatoes, and covered the ground between the drills, and the potatoes improved rapidly and turned out a fair crop; so I now took stable manure and spread between the rows of my carrots. It did not dry up, as the dews and rain kept it moist, and the carrot tops soon covered it; with every shower the strength was carried to the roots of the carrots, and it was farewell to weeds."

In the Fall, as soon as the leaves begin to turn yellow, they may be taken up, cutting off the tops an inch above the crown, and storing away in sand in a cool cellar or a root-house. The tops are of value for feeding. Our correspondent says: "About the middle of October I began to think, what shall I do with this heavy growth of tops? Having had some experience in their worth as food for horses and cows, I took a scythe and mowed, from day to day, and gave them to two colts, feeding three times a day all they would eat up clean: the tops lasted between three and four weeks. Having but 3-16ths of an acre, this may seem fabulous, but it is true, and the colts improved much in flesh. I came to the conclusion, that as to quantity and qual-

ity, carrot tops exceeded any other green feed I was acquainted with." For Spring feeding, the roots may be in pits out of doors, covering the heap with six inches of straw set up endwise, and a foot or eighteen inches of soil laid on smooth so as to shed rain. The same writer gives the following expenses and profit on three-sixteenths of an acre devoted to carrots:

To plowing and raking ground.....	\$1 00
To seed and planting.....	88
To twice hoeing.....	62
To thinning.....	63
To mulching.....	1 00
To cutting tops.....	1 00
To digging and putting in cellar.....	3 50
Total cost (4½ cents per bushel).....	\$8 63

CONTRA.

By 192 bushels carrots at 25 cents.....	\$48 00
By 3 weeks' feed for two horses on carrot tops at 37½ cents each.....	2 25—\$50 25
Profit on 3-16ths of an acre.....	\$41 62

Although this might not be reached in field culture on a large scale, it shows conclusively that it will pay abundantly to add an acre or two of carrots to the Summer crops.

Onion Culture—Hints to Beginners.

The unusually high market price of onions during the past season, will doubtless stimulate many who have had no experience, to go into their culture. No one should undertake to grow them without making up his mind to give the crop all the attention it requires. It is generally a paying crop, but one also which requires a great deal of labor, and unless this can be given, and just at the time needed, the attempt will result in disappointment. To grow onions successfully, requires a certain amount of experience, and we would not advise any one who is without this, to attempt the culture upon a large scale. In the first place the greatest care should be taken in the selection of the seed. This should only be obtained from reliable sources. Unless the seed has been saved from well grown onions, it will produce poor results, for no after-care will produce a good crop. The Large Red, Oval Red and Yellow Danvers are all good keepers. The White Portugal brings a good price but does not keep well for Winter use. Three or four pounds of seed are required for an acre. Onions require a good strong soil. If possible, land should be selected that has been previously used for some hoed and manured crop; if not rich it should be made so by a liberal supply of manure. Well-rotted hog or barn-yard manure at the rate of 20 or 30 loads to the acre is used, and deeply plowed in and then a top-dressing of 150 or 200 bushels of ashes is harrowed in. The soil must be thoroughly pulverized by the harrow, and afterward carefully raked with a large garden rake. It will be found to facilitate working, to lay off the ground in beds of about a rod in width. The sowing should be done as soon as the soil is dry enough to work, the earlier the better. The seed is most readily sown with a drill, in rows 12 to 13 inches apart, covering $\frac{1}{2}$ inch deep. In absence of a drill, mark furrows with a hand marker, and sow as evenly as possible by hand, and let a boy follow to cover with the feet. After the seed is sown, the ground should be rolled with a hand roller. As soon as the onions are up enough to allow the rows to be seen, an onion hoe should be run between the rows, lightly stirring the soil, and a few days after the rows must be weeded. This is the most tiresome part of the work, and is usually done by boys, who crawl along on their knees astride of the row, and remove every weed from among the onions. The weeds have to be constantly fought, and the hoeing and weeding must

be repeated as often as they show themselves, for the success of the crop depends in good part upon thorough weeding. Where the seed is properly sown, but little thinning will be needed, but where they stand too thick, they should be thinned to about three inches in the row. Very full details will be found in the Onion pamphlet, published at the office of the *American Agriculturist*. See Advertisement.

Sugar from the Beet.

The question whether sugar can be produced from the beet root in this country as in France, is in a fair way of being definitely settled. Hitherto, after many costly experiments, it has been supposed that owing to the difference of climate, soil, or other undetermined causes, the attempt would be fruitless. We learn from the *Valley Farmer*, that during the past year Mr. Belcher, a large sugar refiner in the West, has been testing the matter again on land contiguous to the Illinois Central Rail Road, with seeds of various kinds of beets procured from Europe. His success is reported as very encouraging. The Agricultural Societies of Illinois and Iowa, aided by the Ill. Cent. R. R. Co., are lending their aid for further trials. An arrangement has been concluded with a company of Germans to establish a refinery on the farm of W. H. Osborn, President of the R. R. Co., at Chatsworth, Ill., and fifteen hundred acres are to be cultivated with the beet the coming season. In France the production of sugar from the beet has become of national importance, amounting in a single year to nearly 150,000 tons. The present is a most favorable time for the initiation of the enterprise in this country. It is quite likely that the above movement gave rise to the specious advertisement of the "New Oriental Sugar Plant" noticed in the *Agriculturist* last month.

Late Sowing of Clover.

"J. H. A.," Mifflin Co., Pa., sends to the *American Agriculturist* the following suggestions: "In this section our best success with clover has been when it has been sown after the ground had become quite well settled in Spring, and the weather warm enough to germinate seed quickly. We believe that the sooner any seed germinates after being placed in the soil, the more certain will be its growth. It is known that many kinds of seeds can not remain more than a few days in the ground during weather unfavorable to germination, without losing their vitality. The seed of clover is so small, and the germ so minute, that however unfavorable the effect of too early sowing upon either, it is almost sure to escape the notice of the farmer; otherwise I think sowing this seed in March, in this latitude at least, would now be almost abandoned.

We may, in some measure, judge of the injury done to the seed of young clover by a month or six weeks of weather unfavorable to the germination or growth, by considering the natural requirements of the plants. I believe no field crop is more benefited than this, by warm showers and sunshine. Even after the first season's growth, and being quite well rooted, it requires what we call the best growing weather to bring it to perfection—and under such circumstances it is a plant of rapid growth. Clover during a cool Summer always looks yellow and sickly, and is sure to be a short crop. From this, may not the farmer conclude that the alternate freez-

ing and thawing of the ground, and the consequent swelling and shrinking of the seed, and the frequent starts and checks the young plant must receive during four to six weeks, greatly injure the plants just at the start, which can not be remedied by after-treatment, as the "set" will be too thin.

Experience with Millet.

Abraham Herbein, Berks Co., Pa., writes to the *Agriculturist* that thirteen acres of corn replanted twice, last Spring, were finally made worthless by the cutworms, and so about the middle of June seven acres of the plot were sowed with millet (Hungarian Grass). The soil, a black shale, was rather thin in some places, and therefore easily affected by a drouth which occurred from the setting to the ripening of the seed. On these spots the millet grew only about ten inches high, and shriveled before it was cut. Where the soil was deeper, it yielded at least three tons of cured hay per acre. From the whole seven acres, twelve tons were harvested. About one hundred bushels of seed were obtained from this, much less than would probably have ripened, had the weather been favorable. The straw, after being threshed by a machine, was eaten by cows and other stock as readily as the best meadow hay. The seed is considered by him equally valuable with rye or corn for cattle and hogs, but not so suitable for horses.

The remaining six acres of the above field were sowed with buckwheat, which returned only thirty bushels. It was injured by dry weather, and nipped by early frost. Mr. Herbein thinks that millet will generally be found a safer crop than buckwheat to replace a failing crop of corn. It ripens sufficiently early to be followed with winter grain. He also intends to substitute the millet for oats this Spring, last year's oat crop having been a failure from the ravages of the aphides or yellow plant lice.

Seeds by Mail—The New Law.

The reduction of the postage on seeds and cions to one cent an ounce, is one of the best reforms of the age, and is giving a new impulse to horticultural improvement throughout the country. It is especially helpful to those who live in the thinly settled districts, remote from the large towns or cities in which seed stores are kept, and in the suburbs of which most of our nurseries are located. It virtually puts down the best seed stores in the country at the door of every subscriber to the *Agriculturist*. He has only to look over our advertising columns and order what he wants by letter. He gets first-rate seeds for about the same price he could buy them in the city, without the trouble or expense of the journey. Though he live in the new settlements of the west, he can procure the best seeds and cions grown in the East, at a trifling postage expense.

Its tendency is to make these articles both cheap and good, for it favors competition and makes every seed grower directly responsible to the purchaser. Every man who has a choice variety of vegetables or fruits, has an inducement to multiply it, for, if he will advertise, he has a ready market for the seeds or cions at the nearest post office. Small plants and trees, if properly packed, will go safely by mail. Any one who examines our advertising columns will see that this business is largely on the increase.

P. S.—The above was prepared for last month's paper, but crowded out. Since it was

written, a new postage law has been enacted, according to which, as we understand it, the rates after July 1st will be: 2 cents on one, two, or three circulars in the same envelope; and on seeds, cuttings, etc., 2 cents on any weight up to four ounces, and 2 cents for each additional four ounces, or fractional part of four ounces. This will be a reduction, for on four ounces or eight ounces the postage will be only $\frac{1}{2}$ cent an ounce. The new rates will therefore facilitate the sending of large parcels, and heavier seeds. A whole pound will go for 8 cents to any part of the United States and Territories.—The present rate (1 cent per ounce) continues until June 30. Many of our subscribers sending for seeds, have made themselves needless expense, by putting 3-cent stamps upon their envelopes, where only 1-cent stamps were required, according to the directions plainly given. When practicable, we have removed the extra stamps, and put them inside of the envelopes, but this could seldom be done without defacing the stamps.

How Much Seed per Acre?

The following suggestions condensed from an article in the *Mark Lane Express* (England), apply equally well on this side the Atlantic. Land naturally poor, or temporarily reduced in fertility by over-cropping, requires thick seeding. Soil in low condition can not force vegetation to any extent, therefore little or no tillering takes place. Consequently each kernel will produce but one stem, and, when thickly seeded no more are required or can find room to grow. The opposite of this is the ease with rich soil. The increase by tillering will far exceed the difference made in the quantity of seed generally put on. Suppose five bushels of oats per acre are to be sown on poor land, and two bushels on good soil. If each plant of the latter should throw out three tillering stems there would be a heavier yield than on the thickly seeded portion. But where the tillering process is fully developed as on the wheat plant in rich ground, the average will far exceed three collateral stems. Of course, every allowance should be made for liability to loss from other causes, as worms, insects, unfavorable weather, etc. A table showing the proper amount of various seeds per acre, to be sown, including the variations to be made on account of difference of soil, was published in the Nineteenth Volume of the *American Agriculturist*, page 139 (May, 1860).

Feeding the Chinch Bug.

Mr. R. F. Roberts, of Racine Co., Wis., sends to the *Agriculturist*, the experience of a farmer in that County. "Two years ago he seeded down a piece of land sowed to oats. The grass took well and the oats gave a large yield of excellent quality, while all the rest of his oats and his wheat suffered greatly from the ravages of the chinch bug. Last Spring he seeded down another piece sowed to oats, which yielded a large crop of heavy grain, while a plot of wheat sowed beside it was scarcely worth cutting. His conclusion is: that the chinch bug feeds on the tender grass, and while they are doing that, the grain matures so that it is beyond their power to injure it. He noticed that when he cut the grain on the plots seeded down, the bugs appeared as thick as they were on the other fields. This coming Spring he is going to sow grass seed with all his grain crops, using two thirds

the quantity of grass seed commonly sown, when seeding down meadows, and of wheat and oats the same quantity as if no grass seed was sown with them. He prepares his seed wheat by soaking in strong brine and drying with slaked lime." [The lime, and the brine, are always good for seed wheat and seed corn.—Ed.]

To Sweeten Butter-Firkins.

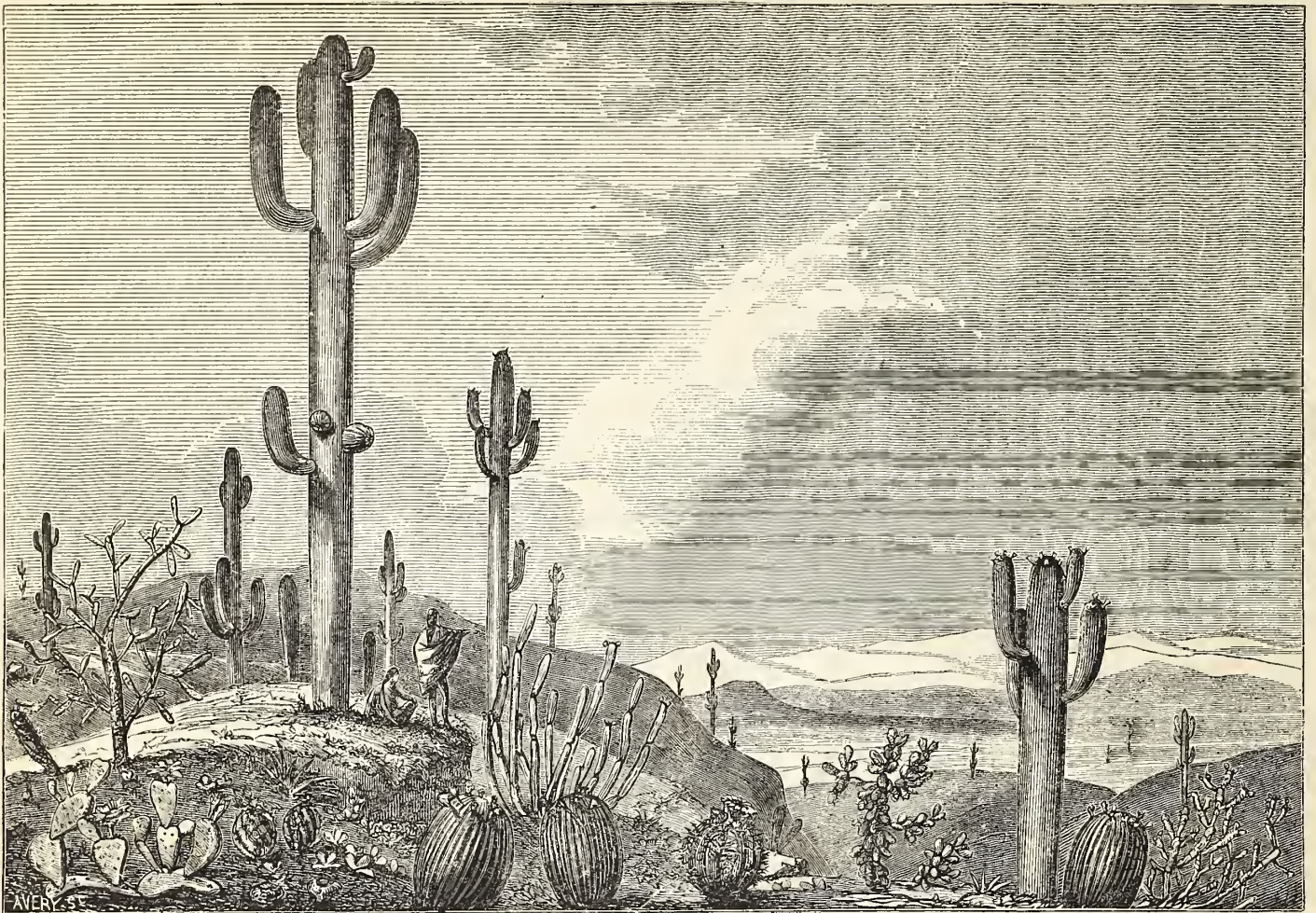
Mrs. Arch. Cooper, Racine Co., Wis., sends the following directions to the *American Agriculturist*: "Before packing butter into new firkins, put them out of doors in the vicinity of the well, fill them with water, and throw in a few handfuls of salt. Let them stand three or four days, and change the water once during that time. Butter-firkins should be made of white oak, and this process effectually takes out the acid contained in that wood, and makes the firkins sweet. If the butter is well made and rightly packed, it will keep good all Summer, even if the firkin be kept in store above ground. To cleanse old firkins in which butter has been packed and left exposed some time to the air, fill with sour milk, and leave standing twenty-four hours; then wash clean, and scald with brine. This makes them as good as new.

Questions About Plants and Flowers.

We have several letters giving descriptions of plants and asking us the name. Though we may be able to give a tolerable guess, it is not possible to name a plant in this way with any degree of accuracy. Those who wish for information of this kind, which we are always ready to give, should send us a specimen for examination. We can sometimes recognize a plant from a mere fragment, but it is better in all cases to send a complete specimen, which should include some of the flowers; the seed, ripe or partly so; the upper leaves; and if the lower leaves are different in shape, one of those also. The specimens should be dried by laying them in an old book or by putting them between several thicknesses of newspaper with a heavy book laid on to press them. Use only pressure enough to keep the leaves flat while drying.

Preparation of Furs.

Several of our Western readers have asked how they can prepare the skins of animals for use. We have not been able to get much information from the fur dealers, who wish to keep the secrets of the trade to themselves. We understand, however, that the dried pelts are put into tubs with a quantity of rancid butter, (probably rancid is used because cheaper than fresh,) and they are then trampled by the feet until they become soft and pliable; after this they are trampled with saw-dust—mahogany being preferred—to remove the grease. The furs are then ready to be made up. We find the following in the *California Farmer*. It will be observed that the directions do not give the amount of water to be used; probably enough to well cover the skin will answer. We suppose that this process is intended for fresh skins: Take one pound of alum to five pounds of hide, a double handful of salt—all of which dissolve in warm water. Put the skin in and let it stand for from twenty-four to forty-eight hours; then take out and dry, and it is done. To tan with the hair off, the skin must be first soaked in strong lime-water till the hair comes off; then treated as directed for tanning with the hair on.



VEGETATION IN THE SOUTH-WESTERN TERRITORIES.

Sketched and Engraved for the American Agriculturist.

One accustomed only to the vegetation of the Northern States is struck, as he travels southward, with the new forms which meet his eye, giving new features to the landscape. If he continue his journey until he reach the Territory of Arizona, upon the borders of Mexico, he will find a vegetation entirely unlike that which he left at the North. Instead of green fields, the parched soil bears only a few scattered tufts of grayish grass, and in place of leafy forests, in whose shade one might find shelter from the burning sun, there are the strange leafless trunks of the Cactuses, whose singular appearance and spiny branches repel rather than attract the traveler. Above we have sketched and engraved a scene in this barren territory, which well illustrates the appearance of the region where the plants of the Cactus family seem to attain their greatest luxuriance. These plants are peculiar to the American Continent, and are represented with us by the Prickly Pear, which is found as far North as Massachusetts and Wisconsin; but no one, from seeing this, or even those which are cultivated as greenhouse and parlor plants, can form an idea of the peculiar effect produced where the mass of the vegetation is made up of larger plants of this family. One of the most striking characteristics of these plants is, that they bear no leaves, but the green rind of the stems does their work and answers in place of them. Instead of leaves they bear tufts of spines or thorns, the number, size and shape of which vary with the different species. Some of these spines are several inches in length, either straight or hooked at the end; others are small and hair like, but all

sharp and capable of inflicting annoying or dangerous wounds. These Cactus plants are wonderfully adapted to the region in which they live. But very little rain falls there, and this only during a few weeks, all of the rest of the year being a continued drouth. While in our moist climate, plants expose a great surface of leaves in order to facilitate evaporation, there they are constructed on a plan which exposes the least possible surface—they are all cylinders or spheres. When the short rainy season comes on, these plants start into life, make their annual growth, and flower, and produce fruit. The dry season soon follows; the whole country, under the influence of the sun and parching atmosphere, becomes burned and barren like a desert. All the tender plants which the rain had called into existence, perish; then the Cactuses go into a dormant state; they have no leaves to wither and fall away; they close up the pores of their thick skin, and resisting the drying influences around them, they retain their juices until the next rainy period awakens them to activity again. Notwithstanding the unlovely aspect of the plants themselves, they produce flowers which are often of great beauty. Some of the Cactus family are among the chief ornaments of our green-houses. We have seen them in the wild state when the desert literally "blossomed as the rose." Their fruits, too, are generally pleasant and often delicious, some being very much like figs, and others having a fine fruity flavor. The largest plant represented in the engraving is the Giant Cereus (*Cereus giganteus*), which grows to the height of 40 to 60 feet, sometimes rising in a single column, but more fre-

quently branching and throwing out great up-turned arms. Though this is, from its size, the most conspicuous, there are others, a few of which are represented in the foreground, which are not less noticeable. Some of these are mere spiny balls, others branching and tree like, others in shape like the Prickly Pear, only as tall or taller than a man, and all of them so provided with thorns that the careless traveler soon learns to respect if he can not admire them. We know of nothing more strange and wild than to see, as we have often done, a landscape in which these outlandish plants form the chief vegetation.

Trenching Grass Plots or Lawns.

There are good reasons for this. A lawn is to be planted more or less with trees, and they will grow vastly better in a deep soil than in a shallow one. They will strike their roots down deep, and spread them out wide in search of food, and their rapid growth will show their keeping. Even small trees set in such ground will soon outstrip large ones set in shallow soil, and will always be handsomer. A lawn is also to be a carpet of grass. If it be well trenched, the grass will be vigorous and green in Spring, Summer, and Fall. It will not turn brown and burn out in the first "dry spell." The moisture from below will continually rise to keep the roots fresh. The grass will bear frequent mowing and rolling, and will constantly improve. If any one doubts the good effects of trenching, let him compare a lawn so treated with one only surface worked, and he will be convinced.

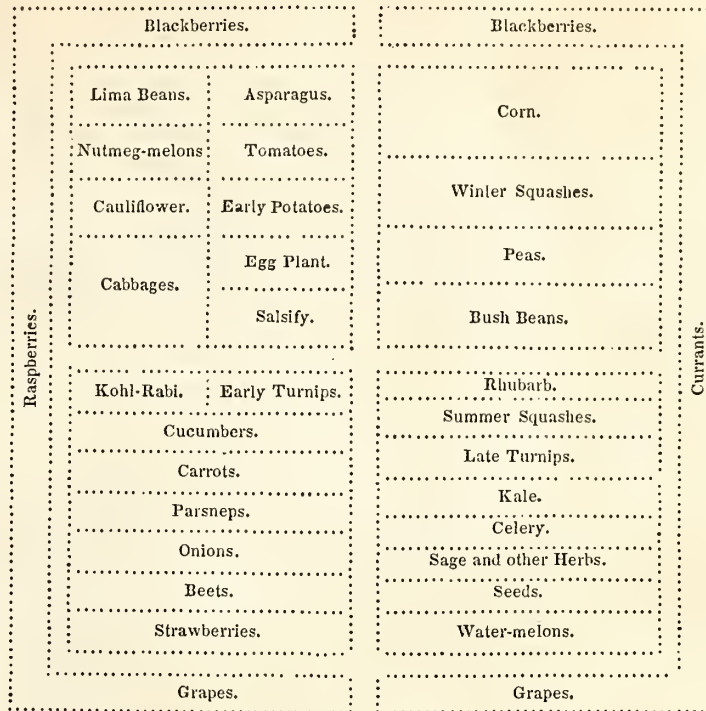
Spring Salads.

Salads are relished by most persons the year round; but in Spring particularly, when new vegetation is putting forth, they are regarded as especially seasonable. They look refreshing upon the table and are acceptable to the palate. Water-cress is among the earliest of the salad herbs, but as this requires a constant stream of running water for its successful culture, it is not within the reach of most persons. Corn Salad, or Feticus, is a very popular salad with Europeans and is generally cultivated for our city markets. It may be had very early, and is very readily raised by sowing in autumn and covering with a slight winter protection. It is a mild, tender herb, without much taste of itself. Mustard makes a good salad. It may be sown broadcast as soon as the ground is thawed, and should be cut or pulled when 2 to 4 inches high. Cress or Peppergrass is a very common salad, either used by itself, or mixed with Lettuce. It should be sown very early upon a light quick soil, and cut for the table as soon as large enough. Lettuce is however the universal and popular salad plant. Some of the hardy kinds may be sown in Autumn and covered during Winter with straw or coarse litter. Sow very early in the Spring. It is a common custom to plant rather thickly in rows and allow the plants to crowd one another—in this way a partial blanching is effected. Lettuce can only be had in perfection by growing the plants singly. To have it early, sow in the hot bed or in boxes in the house, and as soon as the weather will allow, transplant in rows, a foot apart each way. The soil should be highly manured with well rotted compost and every means used to ensure a rapid growth; hoe frequently and give liquid manure. Slow growing plants will be without the tenderness and crispness so desirable in lettuce. Sowing in the open air may be done as soon as the ground can be worked. For varieties, we prefer the Butter, Ice Drumhead, and Neapolitan Cabbage, (the latter is on our seed distribution) though almost any sort is good, if well grown as above directed.

Lima Beans, and How to Plant Them.

Few products of the garden are more acceptable than Lima beans, cooked green, and also when ripe. For some reason many persons fail in growing them well, however. They either do not come up at all, or they make a weak or sickly growth. If planted like the smaller varieties, with one to three inches of earth over them, and this perhaps packed down with the hoe and by rains, the cotyledons or seed-leaves can not force their way to the surface, and they rot. The soil should be dry, loose and warm, and the covering very light—hardly more than just to hide them. It is best to raise hills of moderate height, and set poles before planting; then stick the beans in with the eye down, and leave them at or just below the surface. A very good plan is, to prepare a small bed of light, warm soil, on the south side of a tight fence, and stick in the beans all over its surface, two inches or so apart, and sprinkle on a very light covering of sand, or fine soil. If needed, a sprinkling of water may be given often enough to keep the soil damp. If a chance cold night occurs, throw an old blanket or mat over the bed. When sprouted, before rooting, transfer to hills. A still better way, perhaps, is to start the separate beans in bits of sod, and transfer

these to the hills. See particulars under "Hot-bed Substitutes," on page 99, April *Agriculturist*.



were V-shaped, and so arranged as to be moved; by means of this I could mark out rows at distances of 6 inches, 12 inches, or 18 inches, which are the spaces most generally required. The marks being made, the seeds are sown by hand and then covered by drawing the earth over with the back of a rake or with the foot. On April 15th, I sowed spinach, onions, early turnips, cabbages, early beets, peas, salsify, and a few carrots, and planted early potatoes. Spinach, radishes, etc., are not down on the plan; these I sowed in the spaces between hills of potatoes and cucumbers, and wherever there was a spare spot. The 1st of May I made a sowing of most of the other seeds; on the 15th I set out the plants from my hot-beds, and put in melons of

How I Laid out My Vegetable Garden.

[The above plan, together with the notes below which accompanied it, are to be taken as suggestive merely. The size, form, and location of a garden will in every case determine the plan. The appearance of a garden may often be improved by a proper arrangement of the tall and low growing plants.—Ed.]

EDITOR of the *Agriculturist*: Having long looked forward to retiring from business in the city, to a farm in the country, I a few years ago so far secured my wish as to obtain a plot of ground, about 100 feet square, upon which to realize my long cherished desire to be a cultivator of the soil. I commenced without experience, and of course made many failures before I attained even tolerable success. I will not trouble you with an account of my failures, further than to state that they were mainly due to sowing too early or too late, and to using either too much or not enough seed. My object is to give a plan of the disposition of my beds—not because I think it the best that can be adopted, but it is easier to alter a bad plan than to originate one altogether, and I think an inexperienced person, as I was, will go to work more readily if he have a map of the route some one has traveled before him. The plan hardly needs explanation. There is a walk all around, 2½ feet wide, leaving a border of five feet next the fence. Two principal walks, five feet wide, cross each other at right angles. These are all the paths that are really needed—more would waste too much space and give extra trouble in keeping them in order. No raised beds are made, as these, where the ground is naturally or artificially drained, are needless. By avoiding small beds, the soil can be well and cheaply put in order by the plow and harrow; I used a subsoil plow and found a decided advantage in it. My hot-beds were on the space occupied afterwards by watermelons, the manure used in them being forked in for the crop. Not having a seed-sowing machine, I constructed a marker like a large wooden rake, the teeth of which

all kinds and late squashes. June 20th, the late beets, turnips, peas, and sweet corn for succession, were sown. As the results of my labors I had better and fresher vegetables than could be purchased in market, the great pleasure of working the garden, and the great satisfaction of enjoying the fruits of my own toil. C. H.

Some less Known Garden Vegetables.

Correspondents ask us for brief descriptions of several of the garden vegetables, the seeds of which are found in the catalogues, but which are not generally known and cultivated. Many of them are mere flavoring herbs, and others are articles of food which are only obtained with considerable trouble, and their cultivation is mainly confined to the professional gardeners.

Artichoke.—The plant usually known by this name in this country, is the *Jerusalem Artichoke*, a kind of sunflower, which bears tubers somewhat like a potato. The *true Artichoke* is nearly related to the thistle. It bears an enormous thistle-like head of flowers, which are surrounded by a cup of thick fleshy scales. This is the portion which is eaten. The seed is sown in drills, the plants thinned to a foot apart, and cultivated during the first season. During the Winter the plants are earthed up or covered with litter, and in the following Spring they are set out in clumps or hills of two or three plants, the hills 4 feet apart each way. They need a very rich soil. The heads which are produced the second year, are cut as soon as they are fully formed, and before the scales begin to open. They are boiled and served with drawn butter. The crowns need protection in Winter. Old plants throw up several suckers which may be taken off and planted to increase the stock.

Burnet.—A hardy perennial plant, the young and tender leaves of which have a taste and smell like cucumbers. Sow in Spring and thin to 6 inches in the row.

Cardoon.—Is a plant much like the Artichoke, the leaf stalks of which, after being blanched

like celery, are much used in France in stews. The seeds are started in a seed-bed. The young plants are afterward set out in trenches and treated like celery. It is not our favorite.

Collards or *Coleworts* are merely young cabbages not headed. They are used as greens.

Roquette.—A hardy kind of Cress or Peppercress; if planted in early Fall and covered during Winter it yields very early Spring salads.

Scorzonera.—A plant closely related to Salsify and grown in the same manner. See page 85, March *Agriculturist*. The root before it is cooked should be scraped and soaked for some hours in water to remove the bitterness.

Skirret belongs to the parsley family. The roots are used in the same way as Salsify. They have a peculiar taste, not generally relished.

For the American Agriculturist.

Beans and Peas—Use for Old Hoop-Skirts.

I planted my pole beans, Limas included, in hills 20 inches apart, the rows 3 feet apart. On the outside ends, and in the center of each row, I inserted a sharp pointed stake about 8 feet long, driving it firmly into the ground, say 15 inches. The rows were 50 feet long. Next I fastened a small wire to the three sticks—about six feet from the ground, hauled it taut, and secured it to each stake by a single nail, like a telegraph wire. Two small sticks were driven very slanting, one on each side of every hill. A ball or two of common wrapping twine completed my arrangements. I tied the twine to the outside stick, passed it twice over the telegraph wire, down to the next stick, over the wire again, and so on to the end; thus each hill of beans had two or three strings to climb up. They took to the strings freely, soon clasped the wire, and were safe from all ordinary storms. Shall I tell you Mr. Editor, what wire I used? Don't smile; it was discarded hoop skirts, heated in the stove to destroy the temper of the steel wire and take off the cotton wrapping; and I assure you, that all who saw my beautiful rows of beans swaying gracefully in the wind, were ready to agree cordially with the "Old Bach" who writes this, that the aforesaid wire was never before put to so useful or ornamental a purpose. I used my old discarded bean poles and strings to support my peas, sticking the poles four feet apart on each side of the rows of peas. Four horizontal strings tied to the poles at proper distances, one above the other, completed the supports. It answered beautifully, and was quickly imitated by my neighbors. For the peas a much stronger string is required than for the beans. Fine wire would be better and would last for several years. J. H. Dodgeville, Wis.

Economizing Room in the Garden.

Where space is abundant, a few extra feet are of little account, and the various plants may be cultivated without particular regard to economizing room. But thousands of our readers have only a limited area to improve, and need to make the most of it. Much room will be saved by dispensing with beds for vegetables. Let them be simply planted in long rows, extending across the space devoted to the purpose. No dividing walks are needed between the various sorts. One walk, the length of the garden, with rows extending on each side, is a good arrangement. Several plants, as radishes, lettuce, etc., may be scattered among

hills of young vines, and by a succession, as late corn after early peas, turkeys after early potatoes, etc., much more produce can be realized.

Make a Strawberry Bed.

It is but little trouble to make a bed. Plants are cheap and the postal arrangements are such, that those living far from nurseries can readily get by mail plants of enough choice kinds for a beginning. Any good garden soil, enriched with old manure, will raise good strawberries. If there are but a few plants to start with, the object should be to multiply them as rapidly as possible; set them out 18 inches or two feet apart each way, pick off the blossom buds if any appear and keep free from weeds. Runners will be thrown out and form new plants, and a dozen plants will in a year multiply enough to set out a very large plot. A stock of plants having been procured, make beds 4 feet wide, with suitable alleys between. Three rows of plants can be put on the bed, eighteen inches each way, which will bring the outer rows 6 inches from the edge of the bed. In setting out the plants, the old and partly decayed leaves and all runners should be removed. It is the custom of some good cultivators to cut off the roots for one third or one half their length. In planting, spread the roots well and press the earth well around without covering the plants. It will pay to plant in the manner recommended on page 309 of the *Agriculturist* for 1861. A mound of earth is made in the hole, the plant is set upon the ground with its roots carefully spread out over it, and the hole then filled with earth. This will be readily understood from the



engraving. We planted in this way a bed of over a thousand plants without losing one.—There are two ways of growing strawberries. One is to keep all the runners pinched back as fast as they appear. In this way the plants form large stools and continue in bearing 5 or 6 years. Most varieties do well in this way, but Wilson's Albany, from its manner of growth, is not so well suited for this kind of culture. Another, and the most common way is to let the runners grow, and a bed of this kind will give one full crop and a partial one, when it is spaded up. There of course should be another bed ready to succeed it. For varieties see p. 101, last month.

Celery.

The great difficulty in raising this delicious product of the garden, is in starting the plants. The seeds are slow in germinating and the young plants are very delicate. There are several kinds, but perhaps none better than the early and late White Solid varieties. For the earliest, the seed should be started in a hot-bed. A very gentle heat is all that is required. The manure for this hot-bed should be mixed with plenty of old leaves, and the soil in the bed should be 10 or 12 inches deep. The seed should be merely covered with soil and the bed should be shaded by mats until the plants are well up, and then they should be protected from the sun during the hottest part of the day, and have plenty of air. Water and weed the bed carefully. Thin out the plants to an inch apart, when an inch high transplant to another bed. For out of door sowing, select a place where the bed will be shaded by 10 or 11 o'clock, burn

the surface over by a fire of brush or straw, and then sow the seeds and lightly rake them in. If a shaded place is not at command, cover the bed with leafy brush, or set up a screen of some kind, and keep the bed well watered. In weeding or stirring the soil about the young plants, be careful to do it only when both soil and plants are dry. When three or four inches high the plants should be placed in trenches; these should run north and south and be one foot wide, and two feet deep and about 4 feet apart. Six or 8 inches of well rotted hog or barn yard manure should be put at the bottom of the trenches; add 6 inches of soil, and spade the whole up thoroughly. The trenches may be prepared for sometime before the plants are large enough to put out. When the plants are large enough they may be transplanted to the trenches; fork over the soil at the bottom of the trench and put out the plants, a foot apart. If the young plants are disposed to form a large tap root it should be shortened. It is well, if the weather is hot, to shade the plants a few days after transplanting, by laying boards over the trenches, while the sun shines hotly. As the plants grow, soil is to be carefully filled in below the green leaves from time to time. A light, sandy soil, with plenty of manure, is better for celery than a heavy, clayey, or wet soil.

Cauliflower.

This is one of the most delicious vegetables the garden affords, though many fail in raising it. The requisites are good seed and good soil. If the seed is not of a good stock no after culture will produce satisfactory results. We have grown Early Paris, Thorburn's Nonpareil, and Large Asiatic and had satisfactory results from each. When very early cauliflowers are desired, the seed is sown in Autumn, and the partly grown plants are wintered over in the cold frame. Seed for a later crop may be sown now, either in a frame, or in an open bed. The seedlings are raised in the same way as cabbage plants. The bed to which they are transplanted can hardly be too well prepared. Deep working, and a plenty of well decomposed manure, are essential to the growth of the plants. Set out at two feet apart each way. It often happens that the growing point or bud of the cauliflower is enclosed by the base of the leaf stalks and is prevented from developing. Such plants will never make a head and should be rejected. The Cauliflower is subject to the same enemies as the cabbage, and needs the same frequent hoeing. Should a drought occur give water and stimulate with liquid manure in moist seasons. The heads should be cut when fully formed, and before they become loose.

Planting and Pruning the Grape.

Several letters have been recently sent to the *Agriculturist* inquiring about pruning the vine. It is now altogether too late to prune old vines. We shall endeavor to make the whole matter plain at the proper season. A few hints concerning the treatment of newly planted vines will be timely. The vine should be one or two years old, when planted. Some of the best cultivators prefer to begin with those only a year old. A vine of this age should be cut back to two or three buds, and after the buds start, all the shoots but the most vigorous one, should be pinched off. Place a stake by the side of the vine to which it is to be tied. As side branches spring from the main shoot, pinch them

back to a single leaf. The object of the first year's cultivation should be to make as strong a main shoot as possible. In Autumn the season's growth is to be cut down to two buds. If a vine two years old is planted, it should be cut back, and only two shoots be allowed to grow. These are to be trained to stakes, and to have the side shoots pinched off, as directed for the one-year-old vine. In the Autumn there will be two strong canes, which are to be cut off to three feet in length. The vine treated in this way becomes vigorous, and is in proper condition for the favorite renewal system of pruning.

The Currant Worm.

It does not seem possible to exterminate this pest, but it may be kept in check. Deluge the bushes with diluted whale oil soap, applied through a garden syringe having an upturned nose. Mind to give them a good soaking underneath, as well as overhead. If any one has not the soap at command, let him burn tobacco or sulphur, in an old pan, setting the dish under each bush for several minutes. Let it consume slowly, to make as much smoke as possible. Or this: Make a smudge of old scraps of leather, and let it lie under each bush until the entire foliage is filled with a cloud of smoke. This will be more efficacious if a little powdered sulphur is thrown in. Be careful not to scorch the leaves.

For the American Agriculturist.

Use Large Potatoes for Seed.

The question of the best kind of seed potatoes is not settled for all parts of the country. It is settled among market gardeners of large experience who have to dispose of their crop in the cities. It is important for them to raise the largest number of merchantable potatoes from a given quantity of seed, upon a given area. They have no home market for small potatoes, and do not believe in keeping them for seed. With the farmer at a distance from market, the case is different. He raises his crop mainly for home consumption, and what are not consumed in the family are fed raw or cooked, to stock. Small potatoes weigh more to the measured bushel; they are as nutritious, weight for weight, as large ones, and if they yield as well, he is satisfied. He does not stop to consider the increased labor of harvesting, or the small value of this root for feeding stock in comparison with its value for human food. For the former use, they are not worth over twenty-five cents, and for the latter, are worth the market price, which is fifty cents and upward in this vicinity. [Good merchants are now, (April 10,) wholesaling in New-York at \$2.25 per bbl., and peach-blows and other common sorts at \$1.50 to \$2.—ED.]

In the suburbs of the city, especially on Long Island, potato growing is pretty nearly reduced to a science. Many of the farmers make this their main crop, and not a few raise two thousand dollars' worth and more, in a season. They plow in horse manure and plow deep. They select their largest potatoes for seed, quarter and plant the pieces in drills about fifteen inches apart, and prefer to have only four stalks in a place. The product is potatoes of very uniform marketable size, with few or no small ones. They require very little sorting, and the whole crop is turned into money at the market price. These farmers doubtless know what is for their interest, and ridicule the notion of planting small potatoes to realize from.

Farmers who do not make potatoes a special-

ty, may learn something from the large experience of these men. It is more profitable to raise potatoes for market than for stock, and with all the drawbacks for rot, potatoes generally pay better than corn in the old States, especially where farmers are within convenient wagon drive of a market. It looks reasonable that the body of the tuber should contain the strongest germs, and be most secure from rot. Possibly the continued planting of small tubers has a tendency to weaken the stock and to induce rot. This year a multitude of men that were upon the farm last Spring are in the tented field, and we shall want all the potatoes we can raise, to make breadstuffs cheap. Plant one more acre, and let the seed be large. CONNECTICUT.

For the American Agriculturist.

Notes on Bedding Plants.

BY THOMAS CAVANAGH.

At this season of the year, the markets are well stocked with beautiful flowers, principally house plants. These are grown in hot-houses, and forced into bloom, and many are tempted to purchase them by their showy appearance. But although beautiful for a short period, they soon cease flowering, and in most cases lose their leaves, much to the disappointment of the purchaser. The reason of this is, the sudden check they receive upon being removed from a very high temperature, to one much lower. As a general rule, a rapid growth makes a weak plant, and a slow growth makes a strong one. In purchasing plants the proper way is to make a list, go or send to some responsible florist, and let him select young and thrifty plants *not yet in bloom*. These when planted out, will go on growing, and when fairly established in the soil, will commence blooming and continue to do so during the Summer. Many experience difficulty in purchasing plants not yet in bloom, from not knowing the names and colors. The following is a list of some of the many favorites now in cultivation, and which from their cheapness may well be added to every private flower-garden.

ROSES.—*Hybrid Perpetuals*: Baron Provost, bright rose color; Giant de Batailles, crimson; Duchess De Cambaceres, bright rose, very fragrant; Jules Margottin, bright crimson; Madame Plantier, pure white; Caroline De Sansel, blush. The above flower at intervals only, during the summer.—*Monthly roses*, flowering all through the season: Hermosa, bright pink; Agrippina, dark crimson; Souvenir De la Malmaison, white changing to blush; Safrano, straw color; Devoniensis, white tinged with cream color; Archduke Charles, dark crimson.

VERBENAS.—Lady Palmerston, blue with a white eye; Ocean Pearl, maroon with a white eye; Mrs. Woodruff, bright scarlet; Philadelphia, striped white and crimson; Indigo, deep blue; Snow Wreath, white; Manetii Coccinea, striped white and scarlet, good for edgings; Adrienne, purple; Princess Clotilde, white, purple eye; Giant des batailles, crimson; Mrs. Field, deep crimson; Black Knight, dark maroon.

GERANIUMS.—Tom Thumb, scarlet; Hendersonii, white; Tom Thumb's bride, pink; Princess Royal, blush white; Variegated leaved Pennyroyal; Flower of the day, silver edged leaves, color scarlet.

LANTANAS.—Grand Sultan, red; Aurea, orange; Album, white; Mrs. Shale, pink.

HELIOTROPES.—Corymposum, lavender; Reine Des Heliotropes, dark violet.

FUCHSIAS.—Speciosa, pink; Princess of Prussia, crimson, and white; Madame Cornellison, crimson, double white centre; England's Glory, waxen sepals, crimson centre; Black Prince, dark purple; Folia variegata, variegated leaved.

SALVIAS.—Splendens, bright, scarlet; Amabilis, lavender blue; Patens, deep blue.

PETUNIAS.—General McClellan, finest double one yet raised, spotted crimson and white; Zouave, beautifully marked, pink and white.

DAHLIAS.—Sir Colin Campbell, crimson; King of Yellows; Negro, dark maroon; Amazon, yellow, scarlet edge; Celestials, violet; Mrs. W. Puget, pure white.—*Dwarf Dahlias.*—Little Negro, dark maroon; Snow Flake, white; Victor Hugo, crimson; Bouquet, blush; Golden Pheasant, yellow, edges tipped with red; Mr. Schwab, scarlet. There are other fine ones.

MISCELLANEOUS PLANTS.—*Ageratum*, flowers light blue. *Cuphea platycentra*, or fire cracker plant, curious shaped scarlet flowers. *Calceolarias*, or ladies' pockets, showy plants, but soon out of bloom. *Nierembergia Gracilis*, flowers light blue. *Gazania Splendens*, showy flowers, of a bright orange, white and brown. *Bouvardias*, bright scarlet. *Lobelia Speciosa*, color blue, fine for rustic basket. *Tropeolum*: Tom Thumb, scarlet. *Aloysia citriodora*, lemon scented verbena, delicate white flowers. *Feverfew (Pyrethrum)*, double white, daisy like flowers. *Coleus Verschaffeltii*, one of the new bedding plants which is not yet sufficiently well known to have a common name. The foliage is of a rich velvety crimson, the edges of a bright green.

Arranging the Spring Flower Garden.

Much enjoyment of the garden in Spring is lost, by having flowering plants scattered about over so wide a surface that they cannot be seen together. They thus fail of the fine effect produced when grouped near each other, and with some regard to color. The flowers of early Spring are few in number, small in size, and modest in coloring. They need bringing together, to have the benefit of each other's company.

For example: the Snow-drop is almost nothing if alone, and so the *Bulbocodium vernum*; but group them in clumps of a half dozen plants each, and they will command the attention of even Mr. Gadgrind. It is a good plan to set the crocuses in clusters of distinct colors, or in circles, making rings of the different colors—orange, white, blue, and the intermediate shades. The Hyacinths are larger and more showy, and can better take care of themselves, but even these do best in a bed by themselves, instead of being scattered about in places wide asunder. So of Pansies, and of the Primrose family, including the Polyanthus and Anemula. We were much pleased last Spring, in seeing an oval bed of the Polyanthus, arranged with the different colors in distinct circles. And here, let us add, that the common practice of setting these in the open, sunny border, is not a good one; they succeed best in a partially shaded aspect. The modest Liverleaf of the woods may be brought in to play an important part in the spring garden; also Blood-Root and other native plants. As to the sweet-scented violets, white, blue and double blue, we would set them in masses, but would also scatter single plants about here and there and everywhere, so that their delicious fragrance may regale the senses in all parts of the garden. A little forethought and planning will make many spring gardens much more attractive than they usually are.



Fig. 1.—ZINNIA ELEGANS.

Annuals for the Flower Garden.

Any plant which perfects itself within a year from the time it is sown, is an "annual," though the term is especially applied to those ornamental plants which have this peculiarity. These, though lasting but a season, comprise many of our most desirable flowers. Some of them grow with the greatest ease, while others require much care and attention. The hardy annuals, once sown, will perpetuate themselves without further care. The ripened seed drops, and remains in the ground over Winter, giving earlier and stronger plants than are produced from seed sown in the Spring. Among these hardy annuals which will grow from self sown seeds are: Larkspurs, Mignonette, Sweet Alyssum, Candytuft, Portulaccas, Gilias, Whitlavia, etc. The half hardy annuals, such as Balsams, Phlox Drummondii, China Asters, Clarkias, etc., may be sown in the open ground in April or early in May, while the tender annuals should not be sown in the open ground until the last of May or the first week in June. To have them early they may be started in the house in pots or boxes, or in a hot-bed. Many persons fail in raising annuals, from sowing the tender kinds too early, and from covering the seed too deeply. The seed is to be sown—not buried. Having prepared the ground by spading in well rotted manure, and thoroughly pulverizing and raking, mark out with the finger, or a pointed stick, the form to be sown, scatter the seed thinly in the scratch thus made, and cover lightly by drawing a little earth over it with the hand. Poppies, Bartonias and some others should be sown were they are to flower, but most plants will bear transplanting and do all the better for it. Single flowers should not be tolerated where double varieties of the same kind are grown, as they will mix, and the seeds from them will be inferior. The old favorites, like Balsams, Asters, and many others will always be popular. They have been very much

improved within a few years; and only the finer kinds should be cultivated. The number of annuals is so large, and individual tastes differ so much in making a selection, that we only call attention to a few of those of decided merit, but which, though well known by amateurs, are not generally distributed throughout the country. We give engravings of a few of the newer sorts which have been tested. Each year a number of varieties are introduced with glowing descriptions of their beauty, and are often found, on trial, to be inferior to our old sorts. Having expended much money in trying novelties, we would advise our friends of moderate means to sow only those annuals which have been tested and found worthy of culture.

Whitlavia grandiflora.—This is a native of California; grows from 12 to 18 inches high, and bears a profusion of blue, bell-shaped flowers. It does best in a poor soil and is perfectly hardy.

Clintonia pulchella.—A beautiful little tender annual, suitable for vases or hanging baskets; flowers blue, yellow, and white. The seeds are very small and should be very lightly covered. We give the name *Clintonia*, because that is the one by which it is known among seedsmen and florists. The proper name is *Downingia*, in memory of the late A. J. Downing. The name *Clintonia* belongs to one of our native plants.

Clarkias.—These are half hardy California annuals. Several species and varieties are in



Fig. 2.—CLARKIA PULCHELLA—DOUBLE.

cultivation as *C. marginalis*, *pulchella*, *elegans*, etc. The double *C. pulchella* (fig. 2) is a rich rose color and very pretty. They all do well in a poor soil.

Rhodanthe Manglesii.—This has been for some time in cultivation. It is tender; from 12 to 18

inches high, with beautiful star shaped flowers, of a pure rose color. The flowers, being upon a delicate stem, droop so as only to show the under side, which is of a silvery gray. It belongs to a group, called "everlasting flowers." If taken off when they first open, they will re-



Fig. 3.—CALLIRRHÖE PEDATA.

tain their beauty for several years. They are desirable for winter bouquets. A new variety, *R. maculata* was introduced last year; it is larger than *R. Manglesii* and has a dark spot at the base of the ray florets. Both require a rich soil.

Acroclinium roseum.—Another "everlasting flower," and every way desirable. There are three varieties; white, rose, and deep rose. The plant is tender, and should have rich soil.

Callirrhoe pedata (fig. 3).—One of the mallow family, from Texas, one of the best of the new annuals. Flowers, rich purple with a white centre. In good soil, and with proper cultivation, it will grow three feet high and flower for a long time.

Centranthus macrosiphon.—This is one of the annuals which look well in masses; grows about a foot high and is covered with clusters of pink flowers. A white flowered variety is very pretty. The two may be massed together.

Salpiglossis.—The different varieties of this should be in every collection. They should be started early and then planted in a rich spot.

Schizanthus pinnatus, *Priestii*, and others are half hardy and of great beauty. They grow about 18 inches high, and are covered with delicate white, rose, violet, and other colored flowers.

Zinnia elegans—double flowered (fig. 1).—If limited to but one annual, we should grow the double Zinnia. Next to the Dahlia it is the showiest plant in the garden. We have seen them quite as double and almost as large as the Dahlia. To keep them in perfection none but plants having double flowers should be allowed to grow. Select the best of such for seed. We have often purchased seed from the most reliable dealers, warranted double, and not one plant out of a dozen would grow double. Our experience is, that seeds from double flowers will produce single plants, unless the soil be very good, and the weather favorable. Seed sown one year, grew mostly single, coarse flowers; the next year some of the same lot of seed, on

better soil, and with more favorable weather, turned out nearly all double flowers.

Ipomœa limbata.—This is a great improvement on the old Morning Glory, with flowers twice as large, of a deep blue color with a white border. *I. coccinea* has bright scarlet, and *I. grandiflora* white flowers. The seeds germinate freely if soaked in luke-warm water. The seeds of the above may be obtained at the principal seed stores. A number of them have been given out in our seed distribution. We have no seed store, and only keep on sale a few appropriate books,



Fig. 4.—RHODANTHE MACULATA. (See preceding page.)

it being our aim to keep clear of all pecuniary interest in any article, that we may always speak and write with the utmost independence.

THE HOUSEHOLD.

Variety in Food Necessary.

We have from a subscriber, a very long communication, which he insists upon having published in the *Agriculturist*. He argues with more words than wisdom, that a plain, simple vegetable diet confined to one or two varieties of food, is the best, and the only natural one; and among other things, he says in illustration, that disease is far less prevalent in those parts of Ireland where potatoes are the chief food, and in India, where rice is the staple diet. First, let us say, that we can not accede to his demand, that his peculiar and personal views shall occupy half a dozen columns; the editors alone are responsible for the matter used, and their judgment must direct what articles will best meet the wants of the readers taken as a whole. The threat in this and other cases, that a subscription or two will be stopped, if their individual wants can not be attended to, is a small matter, and not involving the loss of four-pence ha'penny of profits any way.

On the subject of variety of food, a few thoughts may be useful. The human body is made up of different elements; its parts are continually wearing out, and food is required to replace the worn out portions. For example, we have the muscles or lean flesh, and upon the size and vigor of these muscles depends our ability to exert force. It is the contraction of the muscles which draws up the arm in lifting, or moves the legs in walking. The muscles are largely composed of what are called nitrogenous elements. There is a close resemblance in the composition of the muscles, and that

of cheese, the whites of eggs, or the gluten of wheat, etc. The lean flesh of animals, like beef steak for example, is of the same composition. It is certain therefore, that these and similar substances furnish the best nutriment or food material for supplying a man with muscles—making him strong. Without such food, he would soon become weaker than the rice eating natives of India, for they get some muscle making nutriment in the rice.

The human body is kept warm by a process very similar to heating a stove. In the stove we place wood, or other fuel containing a good deal of carbon (coal), and the condensation of the oxygen of the air in uniting with it, gives out heat that was before latent. We eat food, containing carbon; after being dissolved in the stomach a part of it goes into the blood; the blood goes to the lungs and there receives oxygen from the air which acts upon the food or carbon in the blood and produces the heat that keeps our bodies warm. If we did not eat carbonaceous food, the body would soon become cold and dead. But as a safeguard against a cessation of the internal fire, through lack of fuel, as when food chances to be lacking for a time, or when sickness prevents the digestion of food, some extra fuel is always kept on hand in the form of fat which is stored up in cells, in larger or smaller masses throughout the body. When long deprived of food, this fat is all consumed, literally burned away to keep the body warm. Fat meats, butter, oils, starchy substances, like potatoes, fine flour, etc., are mainly composed of carbon or coal, and these constitute the best materials for supplying this kind of food, that is for keeping the body warm. The bones, or frame work, of the body are composed largely of mineral substances, mainly phosphate of lime, and as the bones are constantly diminished by absorption, bone-making food must be consumed, or the structure will tumble down for want of a frame. The phosphate of lime abounds in wheat, in milk, and is found more or less abundant in nearly all of the substances used as food.

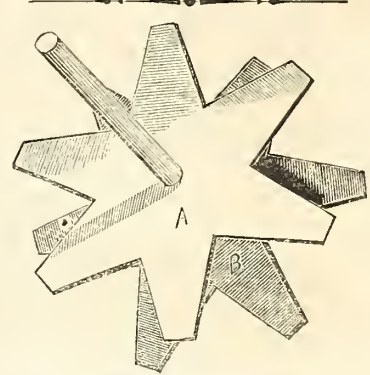
It is estimated that, on the average, the human system requires about seven times as much carbonaceous food to keep up its heat as of nitrogenous food to restore the wear of the muscles and tissues. The best food is that admixture which supplies the different elements in about the proportion required by the body. In colder weather, or when little physical exertion is made, the proportion of carbonaceous food required is relatively greater.

The combination required can be supplied wholly from vegetable substances. Wheat contains the different elements required by the muscles (in its gluten,) by the heating apparatus (in its starch and oil), and by the bones (in its phosphates). Rice and potatoes are mainly carbonaceous, heat producing, and require cabbage, milk, or other nitrogenous material for the muscles. The rice eaters of India are deficient in strength and activity. Children fed on rice, sago, tapioca, etc., require milk or meat. Eggs are mainly nitrogenous, and go well with fried pork (ham and eggs for example), which supplies the carbonaceous or heat producing elements. Beans and peas in like manner are appropriately eaten with fat pork, if not in such quantities as to overtax the digestion. Milk from fresh or nearly fresh cows, contains the different elements in about the required proportions; its casein (cheese) supplies nitrogen; its oil or butter supplies carbon; and its phosphates supply the bone elements.

A mixed diet, one containing all the elements needed for the different purposes required in the system, is the most natural, and most healthful. The best food is that containing the different elements in the needed proportions. The intelligent provider for the household, or rather for the table, will study the requirements of those who are to eat there, and adapt the food to their necessities by a proper variety, if she have a choice of materials.

As to whether it is desirable to confine ourselves wholly to a vegetable diet, there is this to be said: Vegetables are, as a rule, coarse compounds, requiring a considerable tax upon the digestive organs to reduce them to nutritious chyle in the stomach. A man living upon rice or potatoes with

plenty of cabbage would get the needed elements, but he must digest a large bulk of them. Another may get an equal amount of real nourishment by eating a small quantity of beef, eggs, or cheese, and a little oil, butter, or fat meat. The vegetable diet may do well for those having little to do but eat, digest, and sleep; active, energetic people, require concentrated animal food which supplies a great amount of nourishment at a little tax upon the digestive organs. Herbivorous animals have larger stomachs, and longer intestines, which extract a greater amount of nutriment from the coarser vegetable substances in passing through the body than can be done by the human organism.



A Good Churn Dash.

A subscriber, Dennis J. Bardwell, Winnebago Co., Wis., sends to the *Agriculturist*, the sketch of a churn dash, shown above, which he pronounces a cure for cream that will not give up its butter. It is simply two plates of wood, cut to the form shown, and fastened upon the upright handle, one at the bottom, the other three inches above it. The projections of one are opposite the indentations of the other. The dash is worked up and down in the old-fashioned way. This form is well calculated to cause a great commotion in the cream, which is continually forced against the edges of the projecting parts, and thus the butter globules are quickly broken. Mr. B. says from 6 to 10 minutes will now usually suffice to churn, where 20 to 60 minutes were formerly required with the dash in common use. The apparatus looks effective, and is easily tried.

The Employments of Women.

This subject is becoming increasingly important, as the continuance of the war on so vast a scale is tending to the further inequality of the sexes. Tens of thousands of females will be deprived of the aid of those to whom in ordinary times they would look for support, and they will necessarily be thrown upon their own resources. There are many kinds of labor and business now performed by men which might be equally well if not better done by women. In the *American Agriculturist* for March, we referred to a new Work by Miss Virginia Penny, in which is given the results of extensive recent research and inquiry upon the subject of female employment. The information is not quite so definite as would be desirable, yet there are thousands of items regarding the different kinds of labor, the prices paid, the success of females in some kinds of labor, etc., which are interesting, and we think the circulation of the work will tend to awaken further inquiry. It will doubtless indicate to many females some new employment to which they may turn their attention. (Those desiring the book may obtain it through our book list, when not otherwise more conveniently accessible. See the advertised list on a subsequent page.)

From this book we learn that, according to the last census report (1860), there were only 285,000 females employed in the various branches of manufacture throughout the United States. This is a much smaller number than we should have expected to find. Miss Penny enumerates and gives some details concerning over 500 different employments

in which females are or might be engaged, and a large proportion of these come under the head of manufactures.

In 1848, when Paris contained less than one million inhabitants, there were employed in only thirteen branches of industrial labor, 112,891 women, 7,851 girls between the ages of 12 and 16, and 869 under 12. Over twelve hundred other occupations of females were officially reported. The following selections are interesting.

Occupation.	Men employed.	Women employed.
Boot and Shoe Makers.....	13,553	6,713
Makers of Shoes to Order.....	7,511	1,555
Chasers and Engravers.....	330	21
Gilders and Silverers of Ware.....	442	163
Gilders of Wood and Paper.....	878	329
Makers of Military Equipments.....	1,649	2,254
Dealers in Furs.....	232	399
Makers of Kid and Cloth Gloves.....	1,064	1,076
Copper-Plate Engravers.....	266	62
Dealers in Linen Drapery.....	80	8,974
Manufacturers of Linen Drapery.....	80	2,331
Embroiderers of Furniture.....	473	941
Makers of Painters' Pencils and Brushes.....	114	129
Feather Dressers.....	78	533
Polishers and Burnishers of Gold.....	23	284
Makers.....	17,726	13,716
Tailors of Hat Morocco.....	293	356

The number of shop-keepers is not stated, the very thing we would like most to know, for during our visit last season we were specially interested in observing that both in London and Paris, but especially in Paris, the clerks or sellers in the retail establishments of almost all kinds were chiefly females. A majority of the ticket sellers at the railway stations were also females; while in those saloons or eating and drinking houses where the lower classes of men were most apt to be found, men were employed as waiters, etc. An exception to this was seen in some of the beer shops of London, where well dressed and apparently modest females behind the counters were compelled to listen to the profanity and low language of drunkards and vile men. Throughout France the police regulations are so strict that females very appropriately occupy the railway ticket stations, and other public offices. We think that in this country there are tens of thousands of situations in our retail stores, and in ticket offices, etc., which might be occupied by women. The habitual respect and courtesy here shown to women, would protect them from insult, and perhaps a well dressed, well behaved woman in many of our public offices would tend to make them less the resort of boisterous men. In this city there are certainly many thousands of men becoming effeminated by standing behind the counters dabbling in tapes, silks, and ribbons, who should give place to women, and themselves go forth to the sterner employments of man.

Another thought in this connection. There is an increasing demand for fruits and flowers, and may not these be more cultivated by females than they now are? Near our cities and large villages especially, many a widow with her dependent family, might, from an acre or two of grapes and other small fruits, derive a livelihood. The training of the trees and vines, their protection from insects, etc., are appropriate work for women and children, far more healthful and invigorating, than the now "everlasting stitch, stitch, stitch," which is thought to be about the only work a dependent woman may do for others, with credit to herself.

For the American Agriculturist.

Hints on House Cleaning.

The first place to attack is the cellar. It should not be neglected, because "nobody will see it." Neatness is desirable for its own sake. A well kept cellar is essential for health as well as comfort. No person of common sense would think of building a dwelling over a swamp hole: yet many are living over cellars which are little better. The dampness from want of ventilation in that department, and the effluvia arising from decaying vegetables, are undoubtedly frequent causes of fever and ague. It is preferable to have the main portion of potatoes, roots, cabbages, etc., stored in a cellar apart from the house, and to bring in a supply occasionally as needed. But let everything be thoroughly over-

hauled now, and all decomposing substances removed. Clear out every unoccupied box and barrel. Rout the spiders that have curtained the windows and festooned the beams overhead. Stop all rat holes, and repair places which they have gnawed. Caustic potash, or chloride of lime, scattered near their haunts, are said to be efficacious in driving them away. A good floor of cement is an excellent preventive of their sapping and mining. After a complete clearing out, give the walls and ceiling a good coat or two of whitewash, and when all things are "set to rights," it will be a pleasure to enter what is usually the most repulsive part of the domicile. The garret will next claim attention. Not a little dust will be found quietly resting there, having taken refuge from continued assaults with the broom in the lower rooms. Before disturbing it, pack away all extra bed clothing, woolen garments, and other apparel not needed for present wear. Tight trunks or boxes will keep them safe from moths, if they be occasionally taken out and thoroughly beaten. Do not suffer an accumulation of rubbish in the garret. If an article is useless, it will not pay to store it; sell it, give it away, or burn it.

Before commencing with the other rooms, go through the pantries and closets. Clothes closets should not be neglected. Moths seek dusty, linty corners for breeding. Sweep and whitewash the walls, scrub the wood-work, and stop all cracks with mortar or putty. Rooms should be gone through with in order, commencing at the upper stories. There is no need to let even the good man of the house know that this operation is going on. Undertake no more at a time than can be well finished in one day, and the grand domestic revolution witnessed every Spring in some households may be avoided.

AN OLD HOUSEKEEPER.

Washing Cotton Comforters.

"Economist" writes to the *Agriculturist*, that comforters can be made so that the cotton may be easily removed before washing. Her method is to place a layer of cotton between the calico, and tie it at points about six inches apart with coarse knitting cotton doubled. The needle is run through the whole thickness of calico and cotton, then returned, and the thread fastened with a knot. After the cotton is all properly secured, the edges of the calico are sewed together with a running stitch. When soiled, the threads are easily drawn from the edges, the ties are cut, and the cloth is removed and washed, leaving the cotton in a continuous sheet, ready to be replaced when the calico is cleansed. She says this can be done in less time than by washing the whole together, and the cotton will remain lighter and more comfortable, than it could be made by whipping after washing.

Mixed Cotton and Woolen Stockings.

A HINT TO MANUFACTURERS.

It is rather surprising that the improvement upon woolen stockings mentioned in the April *Agriculturist*, (page 118), should not have been adopted by manufacturers in this country. A valued correspondent "A" writes on this subject: "I found such stockings very common in Denmark and Russia thirty-seven years ago, and presume they are common all over the north of Europe; and probably from time immemorial have been thus knit, or with linen and woolen thread as you recommend, now cotton is so dear.

"Pure woolen stockings, I have given up wearing for many years, for I cut holes through the heels and toes of the strongest in three or four days—they doing me very little service. As I cannot find in our country the mixed woolen and cotton, I wear in the winter thick, coarse cotton, and find these answer well, though I would prefer woolen if they did me any kind of service. I used to have a piece of stout cotton cloth sewed over the heel of my woolen stockings; but there were two objections to this; it made the stocking too thick and bungling at the heel, and the cotton cloth would not shrink

evenly with the woolen stocking, which thus caused wrinkles very uncomfortable to the heel."

To Prevent Stammering.

J. T. Hassett, Summit Co., O., writes to the *Agriculturist*. "When children see any thing remarkable (in their view), they are always in a great hurry to tell of it, and often the words crowd to the tongue faster than they fall from it, which induces stammering. On such occasions, the parent should instantly hush the child, until its excitement is over, and then give it the privilege to make the relation calmly." This is a good suggestion. It is known that an inveterate stammerer can be cured by practising some method which requires him to speak deliberately and in measured time. Some "Professors" who cure stammerers, require their pupils to heat time with the finger at each word, the same as in singing, and in this way the habit of control over the organs of speech is acquired. But prevention is always better than cure, and a little care at the first will entirely break up the tendency to stammer, which children often have.

"Hulling" Beans before Cooking.

MR. EDITOR: In response to your suggestion in the *American Agriculturist* last month, in reference to the very nutritious quality of beans, and their indigestibility unless the skins are broken so as to allow the gastric juice to act upon the inner portion, I send you my wife's mode of cooking them. I will premise by saying that for many years we have raised for our own cooking a small, bright, white pole-bean, planted with corn. The corn stalks support the vines, and do not appear to be in the least injured by them.—Before cooking the beans, they are hulled with lye from wood ashes, just as we prepare corn for what is called "lye hominy." There need not be the least taste of the lye left upon either beans or corn. Beans thus prepared speedily cook very tender, and make a wholesome and delicious dish, either as soup or mashed.

Hancock County, Ind., March, 1863.

G. M.

Hints on Cooking.

How to Cook Asparagus.—Cut the stalks when 6 to 12 inches high, and wash if needed. Some break the stems into short pieces, and others tie them whole in little bundles, a few stalks in each. They are then boiled in water slightly salted, for 25 to 30 minutes, and dipped out and drained. Lay toast in the bottom of a dish, and spread the asparagus over it. Pour over the whole a full supply of drawn butter, or what is better, gravy made of milk and flour—cream instead of milk makes it still richer. Add salt enough to season it. The good quality of the dish will much depend upon the skill exercised in making the gravy. If eaten in large quantities, asparagus is diuretic, though producing no serious injury. In moderate quantity it is not only palatable and moderately nutritious, but believed to be healthful.

Cheap Vegetable Soup.—Contributed to the *Agriculturist* by M. H. B. France, Susquehanna Co., Pa. Peel and slice a quart bowl of potatoes with two or three onions, and hoil tender. Stir three tablespoonfuls of flour into cold water and add to the potatoes, with butter the size of an egg. Pour in water sufficient for four quarts of soup and season with pepper and salt to taste. Add a pint of dry bread or biscuit, boil a few moments and serve.

Mrs. Bunker's Soup.—A young house-keeper requests that Mrs. Tim Bunker will please communicate, for the benefit of the inexperienced, how to make that soup which her husband writes about with so much gusto, on page 87 (March No.).

A Dish for Hard Times.—M. A. Johnson, Grasshopper Falls, Kansas, sends to the *Agriculturist* the following directions for cooking a

Boys' and Girls' Garden—No. 2.

The articles under this head have an important end in view. We expect, by gradual, easy steps, to teach those who read them, some important and useful lessons, to lead them to become closer observers of the wonderful things in the natural world, and thus add greatly to the interest of their future lives. Some of you may become skillful botanists before you know it. We hope every one will follow our suggestion, and sow the seed as we recommended, and apply the description to the plants themselves. Study these articles enough to become familiar with the few apparently hard names we introduce. Please learn the A B C's, and you will soon become interested readers. Read the review ending this chapter.



Fig. 1.

—In the last number, we told our young friends what seeds to plant, and probably many have them already in the ground. There is no need to be in a hurry, for any time in May will be early enough to sow them. The Sweet Peas and Morning Glories should be put where they can have strings or brush to run upon, and the Melon should have room enough to spread itself on the ground. The seeds being in the ground, we must now wait patiently for the plants to show themselves. After a while—which will be longer or shorter, according to the weather, and the depth to which the seeds were covered—the ground will break and the little plants will push through, and all but the Peas and Oats will spread out two little leaves to the light and air. If there are plenty of plants of the Melon, you can afford to take up one or more carefully, and you will find it will look as in fig. 1. It has root, stem, and leaves, and though very small, it has all that a plant needs to enable it to grow. Wonderful indeed have been the changes which have been going on in the dark ground; a little dry lifeless looking seed was put in the earth, and now we have a living plant. Before we watch the growth any further, let us see what has been going on out of our sight, and where this plant came from. Take a piece of cloth and wet it and fold it a few times so that it will lay on a plate or saucer; put a few of the Melon seeds between the folds of the cloth, cover with another plate or saucer, and keep it in a warm room. We have now the seeds in very much the same condition as they are in the soil, they have warmth, moisture and air, and all these are necessary in order that the seed may grow.



Fig. 2.

The seed soon begins to swell and in a day or two, the skin or seed coat will break open, and a little point of stem will be seen pushing itself out of the crack. This stem will go on increasing until it gets to be several times longer than the seed, (fig. 2.) The seed-coat will be pushed off and the two seed-leaves will show themselves. If the cloth has been kept moist, we shall get in this way a little plant just like the one which grew in the ground, except that it will have no roots, (fig. 3.) It will be noticed that this plant all came out of the seed, for we have given it nothing but water. Now, what was in that seed at the beginning? We must pick it open and find out. Let us take a melon seed and soak it until it becomes a little softened, and then pick its coat off carefully. We shall find inside of it two little leaves, rather thick and plump,



Fig. 3.

joined together by a very short little stem, (fig. 4.) A little plant then is really packed away in the seed, only differing from the plant in fig. 3, in the length of the stem. This is the embryo.



Fig. 4.

Now as quite a growth takes place when it is not in the ground it is plain that all the material for this growth must have been provided beforehand in the seed. This is really the case. The two seed leaves are thick from being filled with food which is to enable the plant to make



Fig. 5.

its first growth - which is to push out the little stem. If the seed is in the ground this stem lengthens; the lower end pushes downwards, and the other end works its way to the surface. The plant can make its growth, thus far, from its store of food, but roots soon start from the lower end of the stem, by means of which it can draw nourishment from the soil. Now we have described the plant thus far without the help of any unusual words, but as there are terms which are used to express the parts, we may as well know what they are. The little stem is called the *radicle*, and the seed-leaves are called *cotyledons*. The cotyledons or seed-leaves are unlike in shape to those which will follow them, but they are nevertheless leaves. In many plants they fall away after other leaves appear, but in the melon they will grow large and remain for a long time. We find that the leaf in this case is made to do two things; while it is in the seed it serves to hold food for the first growth of the plant, and afterward it comes to the light and air, and acts like other leaves in helping the plant to grow. Our little Melon plant has at first only a pair of leaves, but soon a little bud will appear between them which contains the leaves that are to follow. This bud is called the *plumule*, (fig. 7); it is to be found ready formed in some seeds, and can be easily seen in the bean.—Let us now see how some of the other seeds are getting on. The Tomatoes will be likely to be rather slow in coming up, but after a while their long seed-leaves will make their appearance. The Peas will seem quite unlike the rest in their way of growing, and you will watch in vain for the seed-leaves. They are there hidden underground, and if one is dug up, the two cotyledons will be found, but so filled up with food for the young plants, that they will never be able to serve as leaves above ground, so they remain below and give up their nourishment to the plumule which grows rapidly, (fig. 5.) The right hand figure is the pea, with its skin off, showing the radicle; and the left hand figure shows the radicle and the plumule growing. The Four O'clock and Morning Glory will show two seed-leaves when they come up, which will look more like leaves than those of the Flax and Melon; they are very thin—too thin to have held much food for the young plant; still the food is stored up in the seed, but not in the embryo itself. Place some of the Four O'clock seeds in a wet cloth until they begin to sprout. Then break them open and carefully remove the embryo plant—it will be found carefully rolled up and coiled around a little ball of what appears like flour. A seed cut in two will look like fig. 6—where the dotted part represents the floury portion with the embryo coiled around it. Now this little mass of flour is put here for just the same purpose that the matter which thickens up the seed-leaves of the melon is put in them—for food to enable the little plant to grow until it makes roots, and can get along without this help.—Here the same thing is done in two different ways. In the melon the food is placed in the embryo, and in the Four O'clock it is outside of it. When the food is not in

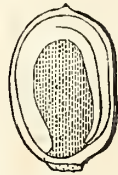


Fig. 6.



Fig. 7.

the embryo, it is called *albumen*—and we have already seen that some seeds have albumen and some do not. The Flax, Melon and Pea, have no albumen, while the Four O'clock, Morning Glory, Tomato and Oat have. The albumen of the Morning Glory is not floury like that of the Four O'clock, but when wet appears like jelly. We have not space to show how the embryo is arranged in different seeds, but that can be learned by and by. When the oats come up they will not show seed-leaves, nor will you be able to find them by digging down as in the case of the pea. The seed of the oat is small, and its embryo much smaller, and it requires a good magnifier and some skill to be able to see it. So you will have to rely upon our engraving to see how the embryo Oat (fig. 8) looks.—Fig. 8 shows the embryo at the lower part of the albumen, and fig. 9 shows the embryo separate; instead of two seed-leaves, there is but one, and this is coiled around, showing the plumule above, and the radicle below. This one seed-leaf never comes to the surface. All the other plants we have mentioned have two seed-leaves while the oat has but one. This difference does not appear very important to you, perhaps, but it is a distinguishing character of two very distinct classes of plants—differences which are seen in the embryo, and as the plant grows are found in all its other parts. Now, as the distinction between those which have two seed-leaves is an important one, perhaps you will go to the trouble of learning the names by which they are called in the books. Those with one seed-leaf, or cotyledon are called *mono-cotyledonous* plants. *Mono* meaning one. Those with two cotyledons are *di-cotyledonous*. *Di* means two. You must not be discouraged at these names, for we shall not have occasion to use many such hard ones.—The plants being fairly up, the plumule or little bud soon appears; it is soon lifted above the seed-leaves, a leaf or two leaves open—another bud appears above these and so the plant goes on to increase in length. Down in the soil the roots are increasing in size and number to keep pace with the growth above ground.—But we have given you quite enough to observe in the little garden for the present. When you have seen how the seeds start there, it will be interesting to watch other seeds which the older people have planted, and see that they, though differing in appearance from yours, are all growing upon the same general plan.

Review.—1. Don't neglect to start some of the seeds. The above pictures are exact copies of growing seeds, started in a folded towel, and kept moist and warm between two plates, a few days in the *Agriculturist* office.

2.—What is the *embryo*?
3.—What is the *radicle*?
4.—What are *cotyledons*?
5.—What is a *plumule*?
6.—Where do cotyledons of peas grow?
7.—What is the *albumen*?
8.—Which of our seven chosen plants feed on albumen?
9.—How do the others feed?
10.—How does the albumen of the Morning Glory differ from that of the Four O'clock?
11.—Have oats any seed leaves or cotyledons?
12.—What are *mono-cotyledonous* plants?
13.—What are *di-cotyledonous* plants?

A Farmer Without Arms.
W. M. Beauchamp, Onondaga Co., N. Y., sends to the *American Agriculturist* an interesting account of a farmer he formerly knew, who was born without arms. "Instead of appealing to the charitable for support, he commenced early to help himself. His first property was a hen and chickens, next a pet lamb, and afterward a shaggy colt. He took good care of these, and increased his stock, a little at a time, until he became a prosperous farmer. Having no hands he learned to use his toes, which were longer than common. His legs were also very flexible, and by practice he was enabled to readily perform most operations with ease. He put on and took off his own clothing, shaved, and fed himself, milked his own cows, and took part in most labors of the farm. He was a terror to evil doers, whom he could punish with severity. He was powerfully built, and possessed of great strength in the head and shoulders. He would butt like a ram; or seize an offending urchin with his teeth, and shake him with bull-dog tenacity. He died at the age of seventy, leaving a large family—having been married three times."

A BEAUTIFUL REPLY.—A lady in Switzerland, addressing a peasant who was working in his garden very early in the season, said, "I fear the plants which have come forward so rapidly, will yet all be destroyed by frosts." "God has been our Father a great while," was the reply.



Fig. 9.

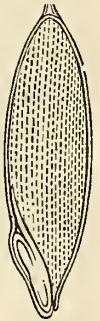


Fig. 8.

Question About Robins.

We had always supposed that robins returned regularly every Spring to build their nests in the neighborhood they had frequented the previous year. A recent English writer thinks differently, and even believes the parent birds may be killed off by the young ones when they have grown to mature robin-hood. He says: "This is a subject which has occupied my attention for several years; and, although I have not arrived at any satisfactory conclusion, my experience may not be uninteresting. I have for the last four years had one, if not two, tame robins, each year, but never more than one on the same part of the premises, and never the same bird for two years. One has located itself in the shrubbery, and the other in the garden or orchard. My proceedings have been as simple as possible. When I first observe a young robin, I throw it a bit of bread, calling at the same time, 'Tom! Tom! Tom!' I gradually diminish the distance to which I throw the bread, until in a very few days the robin will come at the call of 'Tom,' and, eventually, will feed from my hand as I sit on a garden seat. I am generally away for about five weeks at Christmas, but Tom is sure to be ready to greet me on my return. When pairing time comes, my *protege* introduces his or her mate, as the case may be, and then I have two visitors for a time. I know when they have hatched their brood, because then the birds fly away with their bread, instead of eating it on the spot. None of my pet birds have ever built within my own premises, but still they continue to come for their daily portions, until the young have left their nest. Then a change seems to come over them. The mate disappears altogether, but my own pet still comes to be fed, but is not so domesticated with me as before; and whenever a young robin makes its appearance, it seems furious at the sight of the old one; and, as the former acquires strength, it appears to quite terrify the parent bird, and before the Autumn sets in I lose my old companion, to go through the same phases with its successors. Two years ago, after the old robin had been absent for some weeks, I noticed it in the orchard—its own walk had been the shrubbery—and called as usual, 'Tom!' The bird came and took a bit of bread from the garden seat; but as it was making off to a distance to enjoy his repast, a young robin flew at it with violence, chased the bird out of bounds, and I saw it no more. This robin was conspicuous for a white feather in one wing, so that I could have detected it amongst many. From the above, I can only come to the conclusion that the old robins either die a natural or a violent death, or migrate to some other locality. If one robin has a peculiar haunt, a robin, but not, I am convinced, the same bird, will ever be found in the same place; but seldom, if ever, more than one."—It would be very interesting for our young friends to try and decide this question by observation. We think that our favorite bird must have been slandered by supposing him capable of parricide.

a strong light and the wall, or some other white, plain surface, and the shadow will give a fair representation of a highly wrought dandy. This design, with several others, was contributed to the *Agriculturist* by Letty Ermin.

The Agriculturist Grind-stone.



I say, mister Editor, will you please grind my axe?
 Editor—Yes sir, with pleasure, if it be a good one.



Hi! hi! Look Here! You have ground the edge all off.
 Editor—That's because it was not made of true stuff. It's fixed now so it won't hurt anybody. Whose turn next?

Notes on "Vineland Lands."

On our way home from Washington, March 5th, we stopped over a day at Philadelphia, and made a flying visit to "Vineland," not so called from any abundant native growth of the vine, we suppose, but rather because it is hoped the vine may be made to grow well there, or because the name itself is a euphonious one. The trains for the day only admitted of a stay of 2½ hours—too short a time to canvass the merits of a large tract of land, though we made the best possible use of the time, and walked or run several miles, and with the assistance of a man with a spade, and by the examination of cellars and wells being dug, and a few tilled plots, we gained some idea of the character of the soil. We purposely avoided interested parties, preferring to see the plot rather at random, than to be guided to any particularly favorable location. The tract lies about 35 miles directly south of Philadelphia, and appears to have lain idle for many years at least, and little of it has ever been tilled. The location seems to be a healthy one. The surface is rolling, rather more uneven than most of our Western prairies. It is covered with a shrubby oak underbrush, with here and there small pines, and the stumps show that from time to time a scattering growth of smallish oaks has been cut off. A railroad from Philadelphia, to be extended to Cape May, and already nearly opened there, brings Vineland within easy distance of Philadelphia. The tract is well laid out, and the title appears to be good, which cannot be said of all the new lands offered, in the vicinity of this city at least. The soil is sandy, too much so for profitable culture without free manuring. The surface is not so pure a sand, as some of the wild lands on Long Island, and so far as we examined it, the underlying gravel and pure sand strata do not come so near the surface. On this account, it will be less severely affected by drouth than those portions of Long Island where the gravel beds come so near the surface as to prevent moisture ascending from below by capillary attraction. (See *Agriculturist* for May, 1860.) Some who have been over more of the ground at Vineland, tell us that the pure sand does occasionally approach the surfaces, and even crop out at some points. We did not chance upon any such plots. Visitors prospecting at Vineland will be differently affected, according to the character of the country they

came from. Thus, some persons from the sandy regions of Southeastern Massachusetts, tell us the Vineland soil is very good; while those accustomed to the clay and loam lands of Upper Canada, Western New-York, Northern Ohio, and elsewhere, pronounce it quite too sandy for profitable culture. We found some at Vineland, especially mechanics, earning a livelihood from their trades as builders, etc., who talked very hopefully; we saw a few others, who are anxious to sell out. It requires considerable outlay to clear off the underbrush, plow out or grub out the roots and stumps, fence, and build upon the land; we judge \$20 to \$30 per acre to get the soil into fair condition for cultivation, aside from buildings. Some estimates put it at \$3.50 per acre to cut and burn the brush; \$3 50 to \$4 per acre to run a heavy plow through it, leaving the large old stumps, or \$15 to \$17 per acre for "grubbing," without taking out the stumps, and then the harrowing, seeding is to be done; and the fencing as needed.

The soil must have manure to produce at all well. It is proposed to get it into clover and turn it under for manure. Time is required for this, and any one preparing to locate there must take into account the first cost of the land (\$15 to \$30 per acre, according to the location); the preparation of the surface; fencing, buildings, etc. It is evident that a poor man, or one with only about enough to buy the land, would starve while fitting up a productive farm, unless he depended upon laboring for others to support himself. We would not advise any one to think of going there unless he has some ready money to expend upon the land, and to live upon for a year or two at least. The mere fact that the first cost of the land is small, compared with other sections, is not the only thing to be taken into account. What it costs to get it into profitable use, is quite as important. Mechanics and tradesmen, earning their livelihood in Philadelphia, or elsewhere near at hand, might perhaps find it worth while to expend their surplus earnings in fitting up a homestead at "Vineland," though they must consider, whether fewer acres at a higher price may or may not be a more profitable investment. Those seeking farms may also consider whether the land at Vineland is cheaper in its present condition, than older farms in the vicinity, already fitted up, though held at a higher price per acre.

We have said thus much to give the best information we could with our limited observation, to a large number of inquiring readers. Mr. Landis, who has charge of the Vineland settlement, appears to be somewhat enterprising, and the laying out and beginning of the prospective village and town, indicate taste and public spirit on his part, though he, like all others, doubtless has an eye to the ultimate profit. If he can bring in a class of persons who can afford to work the land up to profitable tillage, it will be so much gain to that part of New-Jersey. We learn that several hundred purchases have been made, and the new buildings going up, and the "clearings" begun here and there, indicate a purpose to see what can be done. Hundreds of persons from all parts of the country have been at the expense of a journey thither to see for themselves, and the reports brought back by many who have made our office a stopping point in their journey, are very various. The main object of the present article is to give our distant readers some items for judging whether it is worth their while to be at the expense of a personal visit. A more extended examination, at a more favorable season for seeing the vegetation, may give us a better or poorer opinion of the Vineland enterprise. The wide notoriety given to it by advertising and otherwise, and the multitude of inquiries addressed to us, justify the attention and space we have given to the subject. We are only sorry that we are not able to speak more definitely and positively. If the Vineland enterprise proves successful, and good farms are there developed, the example will be very beneficial to other large tracts of similar soil, now lying mainly unused, all through Southern New-Jersey.

Our Exhibition Tables.

These have necessarily received less attention during our busy season, and during the Winter months there have of course, been greatly diminished contributions from the field, orchard, and gardens. Now, that the growing season has come on, we invite all who have objects of interest relating to the farm, garden and household, to place them upon our Tables where they may be freely seen by the multitudes who call at the office. During the year 1862 the number of callers on business and otherwise averaged over 300 a day, or nearly 100,000. The table will be re-arranged this month, and objects placed thereon will be seen and enjoyed by a great number of interested persons. The Fruit Growers' Meetings continue with unabated interest, and will doubtless continue throughout the year, on Thursdays of each week—at 1 o'clock P. M. for the present. It was proposed at first to have weekly prize exhibitions of fruits, etc., and a fund was raised for



A Shadow Picture.

This picture is not a very handsome one, to be sure, but if properly managed, it may produce some amusement. Copy it upon a piece of stiff paste-board, and then with a sharp knife cut out the unshaded parts. It can be done easily by laying a piece of thin paper over this engraving, and marking the outlines of the white parts. Then paste this smoothly upon the paste-board, and follow the lines with the knife. Leave the edges of the cut square and smooth. When finished, hold it between

that purpose; but after full discussion, it was decided that there was abundant public spirit to keep up the exhibition without the stimulus of prizes, while the awards of prizes would be constant sources of dissatisfaction and heart burning.

FRUITS.—Apples: The Freeman, Harrison, Baldwin, Canfield (sweet), Poughkeepsie Russet, and R. I. Greening, from E. Williams, of West Bloomfield, N. J.

FLOWERS.—Camellias (fine collection), specimen of Hexacentris Mysorensis, from Wm. Chorlton, of Staten Island.

VEGETABLES, SEEDS, ETC.—Garnet Chili Potatoes, from P. H. Foster, Babylon, L. I.

IMPLEMENTS.—Model of N. J. Corn Marker, from D. C. Voorhees, of Blawenburg, N. J.

MISCELLANEOUS.—Sorghum (excellent—improved method), from E. A. Van Meter, of Burlington, Iowa.

Sewing Machines.—No article of household use is so much desired as a sewing machine. So rapidly has this invention grown into public favor, that it is now considered almost indispensable to every family.

The Markets.

AMERICAN AGRICULTURIST OFFICE. New-York, Saturday Morning, April 18, 1863.

TRANSACTIONS AT THE NEW-YORK MARKETS. RECEIPTS. Flour, Wheat, Corn, Rye, Barley, Oats. SALES. Flour, Wheat, Corn, Rye, Barley, Oats. Comparison with same time last year.

CURRENT WHOLESALE PRICES.

March 19, April 18. FLOUR—Super to Extra State \$6 70 @ 7 60. SUPERFINE Western 6 70 @ 7 00. EXTRA Western 7 00 @ 10 25.

The Breadstuff Markets have been materially affected by the decline and fluctuations in gold, though as shown in the tables above, the volume of business, both in receipts and sales has been fair, as compared with the same period last year.

ican hog products. The latter, however, have been very freely offered in this market at reduced prices. The annual statement of the Western pork packing business for the past season shows a marvellous result.

Hogs packed in the West during each of the last two seasons: 1861-2, 1862-3. Ohio 791,099 981,663. Iowa 205,188 403,899.

Average weight per Hog, Yield of Lard per Hog. 1861-2, 1862-3, 1861-2, 1862-3. Ohio, lbs. 230 223 34 27.

LIVE STOCK MARKET.—BEEF CATTLE HAVE averaged 4,610 head per week, which is a large supply for the Lenten season.

VEAL CALVES come in freely, as usual at this season. The weekly receipts have averaged 785 for a month past.

SHEEP.—The receipts have averaged 5,673 per week. The decline in wool consequent upon the decline in gold, has lessened the value of full-wooled pelts about \$1 each, and sheep are about that much lower.

LIVE HOGS—Receipts have averaged 14,633 per week. The little demand for packing, and the approach of warm weather, depress the market.

THE WEATHER.—Since our last notes, Feb. 20, has been changeable, with a good deal of cold and wet, making the season quite backward.

Thermometer at 6 A. M., New-York. [Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

FEBRUARY. 1.....27r 7.....32 13.....26 19.....37r 25.....25. 2.....38 8.....29 14.....17 20.....41r 26.....34r.

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- Apples at \$14. Plums at \$30.
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- Small Fruits of the newest sorts.
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Christiana (*true*), (very early, an excellent muskmelon); Pine Apple (exceedingly rich, early, one of the best). Each of the above, 22 cts. per ounce. Ward's Nectar, a new green fleshed melon, pronounced by an amateur who has cultivated every variety known, to be the richest and most delicious of all; per package, 25 cts. Mountain Sweet Watermelon (large, early and excellent).

Black Spanish (large, flesh deep red, of excellent flavor)—each of these at 12 cts. per oz.
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Lonicera brachypoda aurea reticulatis.

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 You can grow your own Sweet Potatoes at the North. Price of plants 400 \$1; 1000 \$2.25; 5000 \$10; 10,000 \$18. Send for my circular, giving directions for cultivation and experience of growers. Address **M. M. MURRAY, Loveland, O.**

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The largest cabbage in the world! sometimes weighing 60 lbs., and averaging 30 lbs. each, by the acre. It is exceedingly tender, sweet and rich. Scores of farmers in the United States and Canada have raised them, weighing from 25 to 55 lbs. 25 cents per package; 5 for \$1.00. Also, Stone Mason Cabbage, a large, sweet and tender cabbage, remarkably reliable for heading. 25 cents per oz.; 4 oz. 75 cents; 1 lb. \$2.67.

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This was originated or rather "ennobled" by Prof. Buckman, of the Royal Agricultural College, Cirencester, England, from the wild Parsnip a native of Great Britain. It is highly recommended by English writers, as a great acquisition. Price 25 cents per packet, post-paid.
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TREE COTTON SEED.

A lot of the genuine South American Tree Cotton Seed, is offered for sale in small quantities, to farmers and others, who may wish to experiment in raising Cotton in the Central or Northern States. This seed was gained on the "DOUBLE CYLINDER SAW GIN" and "EXCELSIOR" from a small lot of cotton brought to this country from Ecuador, South America, and was raised in a climate differing but little from our own. The fibre of this cotton is very strong and nearly as long as Sea Island; it yields over forty per cent. of clean cotton. A sample of this cotton may be seen at this office, and at P. & L. Many's, 48 Warren-street, New-York. Price, one pint, containing about 1,500 seeds, \$1; one quart, \$1.75; one peck, \$10. One hundred seeds put up in an envelope, will be sent to any address, postage paid, for 25 cents. Orders may be addressed to

EDWARD F. BROWN,
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- Butter, Cheese,
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- Eggs, Poultry,
- Game, Vegetables,
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- Seeds, &c., &c.

Can have them well sold at the highest prices in New-York, with full cash returns promptly after their reaching the City, by forwarding them to the Commission House for Country Produce, of

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N. B.—The advertiser has had abundant experience in this business, and trusts that he will continue to merit patronage by the most careful attention to the interest of his patrons. The articles are taken charge of on their arrival, and carefully disposed of promptly to good cash customers, and cash returns made immediately to the owner. (The highest charge made for receiving and selling is five per cent.)

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 Send for a Price List.

Contents for May, 1863.

Table listing various agricultural topics such as Agricultural College of Michigan, Animals—Effect of Civilization, Beans—Hulling before Cooking, etc., with corresponding page numbers.

INDEX TO "BASKET," OR SHORTER ARTICLES.

Table listing shorter articles such as Agriculture of Mass., Almanac, American Bee Journal, etc., with corresponding page numbers.

Table listing weather and agricultural notes such as Weather in N. H., Wheat—Winter in Iowa, etc., with corresponding page numbers.

Good Grape Vines,

FOR A FEW DAYS LONGER.

The offer of Delaware and Concord Grape Vines made last month, will continue open in May just as long as it will do to send the vines by mail or otherwise.

Another Offer.

Any premium vines secured during May, but too late to be sent this Spring, will be kept growing in our own grounds during the Summer, and will be forwarded as early in Autumn as it will do to send them.

Strawberry Premiums,

EXTRA.

We are growing several varieties of improved strawberries, and are on the look-out elsewhere, for any new kinds that prove valuable.

An Exhibition of Pumpkins, Squashes, Gourds, etc., will be held at the American Agriculturist Rooms, next Autumn, of a similar character to the one last year.

The list of prizes, and other particulars, will be given hereafter. We merely mention the matter now, that cultivators may be preparing for it in season.

Books Not Advanced.—By reference to the list on page 159, it will be seen that the prices remain the same for May as for April.

Several are struck out because no longer issued, and some additions are made. This list is good only for the month in which it appears.

The Special Premiums.

EXPLANATION.

Our readers will notice that we are offering Special Premiums at this season. The fact is, we are making every possible effort to increase the subscription list to the highest possible point.

Read the Advertisements.—We are sometimes asked where to procure articles, which are already advertised in our columns.

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We have complete sets of Vols. 16, 17, 18, 19, 20, and 21, both unbound, and bound in neat covers with gilt lettered backs.

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For the Farm, Garden, and Household.

A THOUGH-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; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS.

The Editors are all PRACTICAL WORKING MEN.

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ORANGE JUDD, 41 Park-Row, New York City.

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FOR THE

Farm, Garden, and Household.

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EDITOR AND PROPRIETOR.
Office, 41 Park Row, (Times Buildings.)

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For Contents, Terms, etc., see page 192.

VOLUME XXII—No. 6.

NEW-YORK, JUNE, 1863

NEW SERIES—No. 197.

Entered according to act of Congress in the year 1863, by ORANGE JUDD, in the Clerk's Office of the District Court of the United States for the Southern District of New-York. Other Journals are invited to copy desirable articles freely, if each article be credited to *American Agriculturist*.



Suggestions and Notes for the Month.

In no month of the year, are the poetry and prose of farm life more mingled, than in the present. Earth, air, and sky, are full of inspiration. Each element seems striving to express the joyous fullness of life which Spring only awakened. The fervid glances of the sun are answered by blushing fields of beauty upon the earth. The morning and evening clouds seem to vie with the plains beneath in producing exquisite scenes for the eye of the artist. Light-footed zephyrs dance along the plains, their tresses laden with perfumes showered from orchard and forest. Joyous notes echo from the flocks and herds upon the hillside, and a perpetual chorus of song from the blissful birds reminds the hearer of heavenly symphonies. It is a striking fact that in nature the period of the greatest activity is accompanied with the highest display of beauty. When her most important works are to be executed, her servants don their holiday attire. Those gorgeous clouds are her industrious water-carriers; the refreshing breezes that sweep across the fields, convey nutriment to the myriads of leaves that the genial sun has called forth; and these, so radiant in their livery of green, are each rapidly elaborating the nourishment that shall add to the parent growth. The bees that so gaily hum from flower to flower, are not only gathering provision for their own sustenance, but distributing the pollen by which the flowers are to be fertilized, and without which, in large measure, their beauty would be fruitless. The birds, in addition to filling the air with sweet sounds, are, with watchful eyes, guarding the fields from depredations which no human scrutiny or skill could avert. On every tree, shrub, and flower, voracious insects are preying, that the superabundance of vegetation may not itself become noxious; but, unchecked by the

birds, these otherwise useful little creatures become a most intolerable pest. Thus, in every field, labor and the signs of rejoicing go hand in hand. Surely this is the visible testimony of the Creator to His estimate of labor; it is His proclamation of the design that happiness shall be found, not in passive reception of outward appliances, but in the active use of the faculties He has bestowed. Surely as we rise in the scale of being, the enjoyments of toil should be lightened. If the birds sing while laboriously gathering food for their young, shall not man be joyful while pursuing his nobler avocations? But the picture has its prosaic background. It is delightful to sing of pleasant fields, but not so enlivening to hoe corn. The flowers are charming to look upon, but the cultivator finds little delight in them when, on the thistle and the daisy, they require vigorous work for their extirpation. Much of pleasure will be found in the poetry of the month, and the more its perception is cultivated, the more may the husbandman be cheered in his toil; but he finds that stern purpose is needed to hold him to the heavy task of field labor. He may be encouraged by the thought that his work now is only preparatory. His time of joy will come when the fields shall have been despoiled of beauty, the birds ceased their song, and the winds only sigh over the ended harvest. He should also be nerved to patient endurance by the knowledge that his end is higher than merely to change the form of outward things. By industry and its accompanying virtues he is working out a character whose development but commences here. He is sowing seeds that are to spring up, and blossom, and bear perennial fruit in a land that knows no Winter, where activity and enjoyment are co-eternal.

Work for the Farm, Household, etc.

The labors of this month will in large measure decide as to the excellence of the great staples, corn, potatoes, and other hoed crops. If the weeds be kept in check, and the soil mellow, a favorable season will do the remainder. Without good tillage, it is vain to expect more than a light crop, however propitious the weather may be. Thorough cultivation will go far to make up for what may be lacking in weather, and also in the richness of soil. A good hoeing is equivalent in its effects to no small amount of manure. As far as practicable substitute horse power for hand labor. A good cultivating instrument will save one or more hired hands, and thus more than pay for itself in these times of scarcity of men.

Barns and Sheds will soon be needed for hay and grain crops. Clear out all rubbish, have floors and scaffold-poles in order, and everything in readiness before the pressing work of haying and harvesting commences. Much labor may be saved by properly grading the grounds in front of the entrances where loads

are to be drawn in. We have seen a large hay crop taken in where each load must be jerked over a rise of several inches at the door-sill. Where large quantities of hay are to be stored, it is well to provide board tubes with holes pierced in the sides, to be set upright in the mows, to secure good ventilation.

Barn-yards.—Cattle-droppings deposited during the Summer should not be allowed to dry out and partially waste. Cover the ground with muck, and plow it over once a month, or oftener, to incorporate it with the manure. Now while the yards are nearly empty, arrange for draining. Convey wash from the manure to adjoining fields, where it should be spread by small channels, to prevent too rank growth.

Beans.—Plant where corn has failed, and in orchards needing tillage. Read article on p. 177.

Bees.—This is an important month with them. For full directions, see "Apiary" on page 164.

Beets.—Sow mangel-wurzel and sugar varieties for feeding next Winter, if not already done. Read "Try a Few Roots," on page 177.

Butter made this month is usually considered the best produced during the year. Pasture is fresh and abundant, cows have regained their strength, and with right management everything is favorable to an abundant flow of rich milk. A little painstaking in the dairy will make a large difference in the cash returns. For large dairying a building devoted to the purpose is indispensable. It will greatly facilitate operations to have spring water in or near the premises. The temperature of the milk and cream should be kept uniform at about 55°. Observe the utmost cleanliness in every department. Vessels for milk or cream should be scalded immediately after use, thoroughly dried, and well aired. Keep tin utensils bright; they are preferable to wood, for receiving milk. See "Which are the Best Milk-Pans?" on page 181. New tubs should be scalded with buttermilk before using, to remove the taste of the wood. Have all vessels for packing and marketing neatly painted, or scoured bright, and plainly marked with the owner's name. Butter made this month may, with proper care, be kept until Winter, when much better prices can be realized. See p. 181.

Cabbages for late crops may be planted out through the entire month. See Calendar for last month, and also page 172, this number.

Calves may be gradually induced to drink sour milk, and also oatmeal and milk or water, by adding a little at a time to their feed. This, with good sweet pasture, will keep them thriving. A calf well cared for during the first year or two, will be every way superior to an animal neglected at this important season of growth.

Carrots.—Although late, a fair crop may be realized during a favorable season, by sowing early this month. Thin to six inches apart, and keep

well hoed. The work may be much facilitated by a carrot-weeder worked by horse power, or if hand labor be employed, by a broad-bladed hoe constructed especially for the purpose.

Cattle.—Keep working cattle in good condition through the season, by feeding grain as needed, and allowing plentiful pasture. Do not allow them to run in the road, away from your own premises.

Corn.—Owing to the late season, much will probably remain to be planted early this month. The R. I. Preminn and Improved King Philip are quick-maturing sorts, suitable for late planting. An early growth may be hastened by dropping ashes, superphosphate, or guano, in the hill. These should be mixed and covered with soil; the seed would be injured by contact with them. Soaking and tarring the seed, and drying with lime or plaster, will also hasten germination, and aid in repelling birds and insects. From its first appearance above ground, corn should be kept free from weeds, and the soil loose. Leave not more than four stalks to the hill, and replant all missing hills. A top-dressing of ashes and plaster upon the hills, and guano scattered between the rows and plowed in, will be of service in feeding the crop, especially upon light soils. Corn is a gross feeder, and worn-out soil can scarcely be too highly manured.

Cotton.—Cultivate as directed above for corn.

Grain-Fields.—Mark the earliest and best portions to be harvested separately for seed, and take out weeds by hand before the grain is headed out. In Southern localities cutting may commence before the close of the month. Wheat and rye are ripe enough for harvest, when the berry is just out of the milk, and firm enough to bear moderate pressure of the thumb-nail without breaking.

Haying is too often delayed until the grass is over-ripe. Cut grass and clover when just passing out of bloom. If left later, much of its nourishing substance is converted into woody fibre of little value for feeding. Mowing machines, horse-rakes, and horse pitchforks, will be of great service during the present year of scarce help. They will pay on all farms where there is much grass to cut. Hay caps will in most instances pay for themselves in a single season. They not only save much damage from rains, but by their use grass can be cured without deterioration from dew, and kept uninjured until hauling can be conveniently attended to. A good barometer will also be of great service in determining when it is safe to cut largely.

Horses.—Give feed according to amount of work required. It is poor economy to keep a hard-working horse on grass. Mares with young foals do best upon green feed, with an allowance of oats.

Manure-making is in order at all seasons. Keep the pigs at work composting. Pile up cattle-droppings in the yard and cover them with muck, or spread plenty of muck in enclosures, to be occasionally turned over with the plow. Add all weeds and refuse from the garden and the vicinity of the dwelling to the compost heap. Arrange the privy so that its deposits can be made available. When there is opportunity, dig out muck from swamps, to be dried during the season and carted to the barn-yard in Autumn.

Millet sown any time before the middle of this month will yield a supply of forage for feeding green in August, or it may be cured for winter use.

Pastures.—Follow instructions in May Calendar.

Peas sown the first of June will yield excellent food for swine, to be fed green with the straw, or ripened, and fed alone or ground with oats.

Potatoes.—Keep well hoed until blossoming. Hill moderately if at all. High hilling induces the setting of additional tubers along the stem, which yield only "small potatoes." Top-dress liberally with ashes and plaster, or with lime alone.

Poultry.—Keep them in the poultry-yard until after noon, that they may deposit their eggs in the appropriate place. Scattered hens' nests are a premium to skunks and other prowlers. Allow none to sit after the middle of this month. Allow

young chickens access to the garden and fruit-yard, to destroy insects. Cleanse and whitewash their apartments frequently. Liquid manure made from their droppings is an excellent application for vines and other plants in the garden.

Rutabagas and Swedish Turnips should be got in during the latter part of the month. Read the article "Try a few Roots," given on page 177.

Sheep and Lambs.—Wash, if it must be done, as soon as the weather admits. Read article on this subject on page 170. Trim off all tag-locks and filth before shearing. Mark each ewe plainly, immediately after removing the fleece, and designate superior ewes to be retained as breeders. Dock and castrate lambs if not already done, and guard against the fly by smearing the wounds with tar. See "Cure of Foot-Rot," page 171, this number.

Sorghum for forage may be drilled in or sown broadcast any time this month. Cultivate like corn.

Sugar Beets and Mangels.—See article on p. 177.

Swine.—Keep them growing with plenty of sour milk, and a little grain or bran. Allow them the range of the orchard, which they will cultivate sufficiently, and greatly benefit by destroying grubs and insects in unsound fruit as it falls.

Tobacco.—Transplant about the middle of the month, according to season and locality. For full directions see Prize Article on page 108, (April number); also, the work on Tobacco Culture published at this office, as noticed in the advertisements.

Tools.—Save hired help by using the best implements—those worked by horse power, as far as practicable. Provide all the necessary utensils before commencing the haying and harvesting.

Weeds need only neglect to thrive vigorously.

Orchard and Nursery.

The backwardness of the Spring has prolonged the season of filling orders much beyond the usual time, but with the exception of sending out evergreens, the business is well over, and the nurseryman can give his attention to the remaining stock. Nursery rows will need the plow or cultivator to be run through them and the hand hoe should be used between trees. Good nurseries show no weeds.

Birds should be looked upon as the friends of the fruit culturist and no mischievous boys should be allowed to molest them on their nests.

Budded Stocks should be looked after, and the vigorous growth from the bud securely tied before it is broken by the winds or by its own weight. Remove all suckers that start from the stocks.

Evergreens.—As noted on page 179, may still be removed if the roots are kept from drying.

Grafts should be examined and grafting wax replaced where needed. Remove all suckers which spring from the stock; they will rob the graft.

Insects.—Especial vigilance is needed this month. We have given elsewhere articles on the curello and scale insect. The tent and other caterpillars should be watched for, and their nests destroyed. A brush made for the purpose is very useful in removing them, or a swab wet with kerosine oil may be used. Look after them early in the morning when they will be found "at home."

Layers may be made of evergreen and deciduous shrubs and trees—a good way to get strong plants.

Manure.—Give to bearing trees a generous quantity of that well decomposed. Our best cultivators are yearly more in favor of surface manuring.

Mulch all newly planted trees, evergreens especially, by covering the ground as far as the roots extend, with straw, sawdust, chips, or other litter. This will keep the soil moist and save watering.

Pruning.—For deciduous trees, next month is preferable, though it may be done at the last of this month. Attend to young orchards, cutting out all limbs that cross and chafe others, and thin out the center. Do not cut for the sake of cutting, but with an object. Aim to leave the tree compact and

well balanced with the center, not too much crowded. Do not trim off the lower limbs so as to leave a long naked trunk. Many evergreens naturally take a pleasing shape, while others need the knife. Straggling shoots should be shortened in, and all shoots which have a tendency to interfere with the main leader should be removed. Do not trim off the lower branches unless injured or diseased. The most beautiful evergreens are those which have their lower limbs spreading out near the ground.

Seedlings of nursery stock, especially evergreens, need shading. This can be done by branches laid across a rude frame, 3 or 4 feet above the bed, or by sticking leafy twigs rather thickly over the surface of the bed, to give partial shade to young plants.

Pinching should be done upon such shoots of pear and peach trees as tend to grow too long; this will induce the formation of more fruit buds.

Thinning.—Where more fruit has set than can be well grown and well ripened, thin them out freely.

Weeds.—The nursery should be kept entirely free of weeds, not only between the rows, but among the plants in the rows. *Small* weeds die easiest.

Black Knot.—Cut off infested limbs as soon as the knot appears. Free use of the knife, and burning the cuttings will eradicate this if done in time.

Kitchen Garden.

[The hints offered in these pages are adapted to the latitude of New-York and westward to and through central Iowa. The slight variation needed will be made by those residing northward or southward.]

This month brings abundant labor, but it is cheered by the rapidly increasing returns which the garden is making. The table should every day present a pleasing variety afforded by the garden. Asparagus, greens of various kinds, lettuce, cress, and radishes, and an abundance of rhubarb for sauce and pies, contribute to our present enjoyment, while the later crops are full of promise for the future. Whoever would know what good vegetables are, should have them seasoned with his own labor.

Asparagus.—The cutting should not be continued beyond the middle of the month or the roots will be injured. Hoe off weeds and let the shoots grow.

Beans.—Continue to plant. See article on page 177. Limas, if planted early this month and stimulated by liquid manure, will ripen the crop.

Beets.—The main crop should be put in by the middle of the month. Hoe, weed, and thin those planted earlier. The young beets, roots and tops, are by many persons preferred to all other greens.

Cabbage and Cauliflowers.—These, together with the rest of the tribe, such as kale, broccoli, and brussels-sprouts, need similar treatment. Transplant as soon as large enough. Seed put in as late as the first of the month will in most seasons make a crop. All these plants are subject to the attacks of various insects, as mentioned in an article on page 172. Give all frequent hoeings. When there is a spare moment, hoe cabbages, etc.; it will pay, and so will a frequent persuasion of liquid manure.

Carrots.—If the backward season has prevented an earlier sowing, seed put in now will make a good crop. Hoe and thin early. Thin from four to six inches in the rows. Work this and all other root crops before the weeds get the start.

Celery.—Prepare trenches and set out early plants as directed last month, on page 146. Some cultivators raise the plant upon the surface and blanch it by earthing up after it is grown. It is found that the flavor is much less delicate when treated in this way. To get stocky plants for the late crop prick out the seedlings into another bed.

Corn.—If long cold rains, such as have prevailed around New-York, have injured the early planting, loose no time in rescuing the ground. Continue to plant for succession every ten days or two weeks until the 1st of July. There is nothing better than the Stowell for the late and main crop. Manage to have a full supply to dry for winter.

Cucumbers.—These, like children, require great care until they can run alone. The striped bug is the great enemy. The protecting frames directed in last month's Calendar, the free use of ashes, plaster, or lime, and hand picking early in the morning, must be relied upon as preventives. Their rapid growth must be forwarded by frequent hoeings and the application of liquid manure during moist spells. The cucumbers will soon get out of reach of the bugs which prefer young and tender plants to old ones. It is advantageous to put in seeds at intervals of a few days, to furnish a supply of tender leaves to attract insects from the older plants. Cucumbers for pickles should be planted this month.

Egg Plants.—Plant out as soon as cool nights are over. Have the bed well enriched, hoe frequently, and give liquid manure. The crop is late at best. Take every pains to promote rapid early growth.

Endive.—Sow for Summer use, and thin out or transplant in the same manner as for lettuce.

Insects.—This is emphatically the war month in the garden, and as the insects go through the different stages of egg, larva, pupa, and perfect insect, a "change of base" will be required in our campaign. The destruction of a moth or other perfect insect prevents deposition of eggs, and the crushing of a cluster of eggs saves future trouble with the larvæ. The careful observer will see frequent opportunities for nipping trouble in the bud, and be able to keep down his insect enemies. Crushing the eggs, trapping or catching the moths and beetles in open bottles of sweetened water, dusting the larvæ with lime or ashes, or drenching with soap-suds are the principal tactics to be practised.

Lettuce.—Plant in unoccupied places for succession. If possible put the later transplantings where they will be shaded during the heat of the day. As the season becomes hotter, lettuce runs to seed early and must then give place to endive.

Melons.—These require essentially the same care as cucumbers. Both are benefited by pinching off the leading shoot to induce the formation of side branches on which the fruit is chiefly borne.

Onions.—Forward their early growth by hoeing, weeding, and thinning to 3 or 4 inches in the rows. In some localities the maggot of the onion fly causes great injury to the crop. This Spring a small pamphlet was published by S. Truesdale & E. R. Coburn, Manchester, N. H., which for a dollar gave their specific for destroying the maggot. Being published in this way we did not feel at liberty to copy it, but we find that other agricultural papers have made free use of it, and we see no impropriety in copying the following account from one of our exchanges: "Take a good, strong barrel, and go or send to some gas-works and get the gas-water, which is generally thrown away. The expense per barrel, even to those who send one hundred miles for it, will not be more than three dollars, and to those who live near a city or considerable village, the expense will be very trifling. To every barrel of this gas-water, add fifteen pounds of newly slaked quick-lime, and the same proportion for less quantities. Be sure and keep it air-tight, so that it may not lose its strength. When the time has come to use it, draw out into a tub a few gallons, and add to every gallon of the liquid two gallons of pure water, and use up immediately. Do not let it remain open to the air longer than is needful. A little variation in preparing this Specific will make it either too weak, when it will not destroy the larvæ or maggots, or too strong, when it will kill the onions. In applying the above specific, first cover the rows of onions with pine sawdust—hard pine is best—no matter if the young plants are entirely covered up. Now keep a sharp look-out for the ravages of the maggot as the third leaf or blade starts up. As soon as appearances of it are seen, go through the rows, and apply the specific with a watering can. If the maggots do not disappear, apply it the second, and if necessary the third time. The liquid must go directly on to the bulb to be effectual in destroying the maggot, and the application should be

made in the morning, or after a rain."—So runs the prescription; we can not vouch for its utility.

Parsnips.—Sow early this month, if the weather has prevented doing it earlier. Hoe, thin, and weed as soon as large enough. Thin freely and give plenty of room. Some of the finest of last year's crop should have been left for seed, if home grown.

Peas.—The main crop may be put in the first of the month. Put brush to all before they fall over. Try Bishop's Long Podded, or Harrison's Dwarfish, or some other good dwarf sort. Keep well hoed.

Potatoes.—Cultivate thoroughly, and give a handful of plaster to each hill, if not done before. It does not pay to cultivate late varieties in gardens.

Radishes.—Continue to sow seed in vacant spots.

Rhubarb.—The bed will now yield an abundance. If there is more than can be used, bottle or dry a supply for Winter. Cut off the flower stalks as fast as they appear, and cultivate well around the plants.

Squashes.—If the first planting has failed on account of excessive rains, put in fresh seed. Dust with ashes, etc., to keep off the striped bug; hand-pick the squash bug, and crush its eggs. See article on squash vine borer, page 173, this paper.

Sweet Potatoes.—In many localities the first of this month will be early enough to set out the plants. Ample directions are given in April and May numbers. A correspondent in Connecticut takes us to task for recommending growing them north of New-Jersey. He tried *once* and failed. We saw last year a good crop raised in Michigan, where the season is much shorter than it is in Connecticut.

Tomatoes.—Transplant for the main crop. Pinch back the rampant growers. The plants may be trained to trellises, or allowed to trail upon brush, or lie upon the ground. The fruit ripens earlier if the vines are allowed to fall over. In this case cover the ground with straw to keep the fruit clear.

Weeds.—No weed is allowed to grow in a well kept garden. Use the hoe or cultivator as often as necessary, and work close to the plants with the bayonet hoe. Let no weed perfect its seed. See the articles in another part of the present number.

Fruit Garden.

Blackberries and Raspberries.—Keep well tied up to stakes or trellises. Vines planted this season should not fruit. Allow only those shoots to grow which are needed for fruiting next year, unless it is desired to multiply them. Keep free from weeds.

Currants.—By pinching out superfluous shoots much pruning can be avoided. Water with soap-suds and keep the ground loose around them. Where there is a market for green fruit it often pays better to sell currants before they are fully ripe.

Gooseberries should receive the same care as currants. Use sulphur if mildew appears. Mulching is beneficial: the size of fruit may be increased by thinning the berries, and shading from hot sun.

Grapes.—We gave hints upon the care of young vines, in the last number. Fruiting vines need frequent care. By pinching out superfluous shoots much pruning can be anticipated. The ends of bearing shoots should be shortened to within two or three buds of the last cluster. If there is a tendency to overbearing, thin out freely. One bunch to a spur will produce finer fruit than if three are allowed to grow. Look out for caterpillars and destroy them by syringing and by hand picking.

Peas.—If the dwarfs planted this Spring had fruit buds, they should not be allowed to bear. Pinch out superfluous shoots and shorten those tending to make too much wood. Use whale oil soap or air-slaked lime to destroy slugs.

Strawberries.—Clean the beds of weeds and give a mulching to keep the fruit from being soiled by contact with the ground. Saw-dust or tan-bark will answer, but perhaps the most available mulch and one which answers as well as any, is straw cut as for feeding. In picking the fruit, only careful hands

should be employed, and if it is to be marketed it should be picked directly into the box or basket in which it is to be sold. Very convenient and cheap wooden fruit boxes were advertised last month.

Flower Garden and Lawn.

The heavy labor in this department is over, and the cultivator is already receiving dividends on his investment. The fresh foliage of the trees, the welcome green of the lawn, the early flowers of the garden—always more delicate and fragrant than their successors—have already gladdened the heart of the true lover of the beautiful in nature. Work however, is by no means over with, but it is now rather a pleasure than a task, for the eye is daily met by new developments of beauty.

Annuals may still be sown for late blooming. If the weather is very dry, the spot may be shaded until the seeds start. It is a good plan to lay a board over the surface, which should be removed as soon as the plants show themselves above ground.

Bulbs.—The early flowering kinds should not be lifted too early, as the bulbs should have time to ripen. When the foliage is quite dead, take them up, place in the shade where they will dry, then remove the tops and wrap in paper, taking care that each variety is properly labeled.

Carnations.—As they come into flower, the stalks should be tied up to neat stakes. The bloom of choice sorts may be prolonged by shading in mid-day. Propagate by layering or by putting out cuttings, which should be shaded, until well started.

Climbers.—Keep Wistarias, Bignonias, and other woody climbers within bounds. Layer if it is desirable to multiply. It is not too late to cover unsightly objects with herbaceous climbers. Maurandia, Lophospermum, and Cobæa, are suitable; but they start very slowly from the seed, and it is best to procure plants at the green-house. The finer varieties of the Morning Glory grow rapidly, and nothing can be more beautiful. Plant the different sorts separately and, if it is desired to keep seed distinct, keep the varieties from running together.

Dahlias.—Plant from the first to the middle of the month, and allow but one shoot to a root. Furnish stakes as soon as the plants require it.

Evergreens.—As noted in an article on another page, these may be set the first of this month.

Geraniums.—Plant out and cut back to prevent running up out of shape. To show well, they should be kept in a rounded and compact form.

Gladioluses.—As soon as the flower stems appear they should be tied to neat stakes.

Grass Edgings.—Use the edging knife, or a spade ground sharp, to keep the grass from spreading into the beds or walks. Keep grass closely trimmed.

Gravel-Walks.—Add gravel where needed. Keep down weeds as fast as they appear. The frequent use of the scuffle hoe, rake, and roller, will keep the walks in good order.

Hedges.—Young hedges should be cut back severely in order to get a good base. Clip the established ones as often as the new growth requires it.

Insects.—See general remarks under Kitchen Garden, and Orchard and Nursery. Syringe, or use the garden engine to throw water or soap-suds. A portable engine called the Aquarins is very convenient and effective. All applications should be made to the under as well as the upper side of the leaves.

Keeping.—By this term we mean the general attention to details, without which no grounds can be well kept. Remove all flower stalks not needed for seed, as soon as they are out of bloom. Take up all diseased plants. Rake off those flowers which drop readily. Tie up shrubs and all other plants which need it. Remove stakes no longer required. In short, do every necessary thing just at the right time, and in the best manner, and let the whole grounds bear constant testimony to the care and neatness of those having them in charge.

Lawns.—To have a perfect lawn, the grass must

be frequently cut. This is generally done with the scythe; there are machines which do the work well, but as the makers of them do not advertise, we do not know where they are to be had. The English makers advertise a number of patterns. The turf should not be allowed to grow close to the trees, but should be cut in a true and a well defined circle from 3 to 6 feet in diameter, according to the size of the tree. Keep this free of weeds.

Roses.—If restricted to one flower, probably the choice of the majority would be the rose. The Remontants and Hybrid Perpetuals are replacing the older sorts, and the running kinds are among the most popular climbers. Their beauty is not to be enjoyed without labor as they are much preyed upon by insects. The rose bugs should be shaken off early in the morning and destroyed or picked by hand, and the stings, which soon destroy the leaves, should be treated to a solution of 1 lb. of whale oil soap, to 8 gallons of water. As soon as the Remontants have flowered, they should be headed back to induce Fall blooming. A much finer show of late flowers, if these are desired, may be secured by sacrificing the Spring bloom altogether.

Transplanting.—Many of the annuals will need to be transplanted. Give Asters, Balsams, Zinnias, and other strong growers ample room to develop themselves; single specimens of these are much finer than when grown in masses. Some of the tender plants will need shading for a few days.

Verbenas may still be put out. Peg down the branches so as to make a showy dense mass.

Water.—Except newly transplanted things, it is not often necessary to water. When it is applied, the surface soil should be removed and replaced after the watering. This will prevent the earth from caking, as it often does after surface watering.

Box Edging.—Last month was the proper time for making new and trimming old edgings, but it may be done successfully, early the present month.

Petunias.—Put out rooted plants and transplant any seedlings ready. Give plenty of room.

Heliotropes.—These are usually put out too early. They need settled weather. If the plant has drawn up, it should be cut back, to form a compact growth.

Viola.—This old fashioned plant, known as Periwinkle, and sometimes as "Myrtle," has some very pretty varieties with variegated foliage, which seem to be hardy. They are fine for vases and baskets.

Green and Hot-Houses.

A large majority of the plants are now out of doors, either turned out into the borders, or placed where they will ornament the grounds. The tropical plants are still kept in the house, as well as other delicate things. Let whatever is left in the houses be tastefully arranged, in order to avoid the desolate and rubbishy look that most green-houses present during Summer. Give plenty of air.

Camelias should be placed where they will have partial shade. Cut back to give the plant a proper shape and see that insect pests are destroyed.

Cuttings.—A stock of Geraniums, Fuchsias, Chrysanthemums, Heliotropes, etc., should be propagated to furnish plants for winter blooming.

Grapes.—When the fruit is ripening the syringing overhead should be discontinued. Thin out the late crops. Bearing shoots should be shortened to three leaves beyond the bunches and all unnecessary shoots pinched off. Air freely and water as needed.

Inarch those hard wooded plants which do not strike readily from cuttings, nor from layers.

Oranges, Lemons, etc., may be budded this month.

Potting.—Rapidly growing plants need more pot room and should be shifted to larger sized pots. Potting soil should be always at hand. Sods from an old pasture piled up and allowed to decay make an excellent compost, this mixed with sand as may be required, will answer for the majority of plants.

Seedlings started in the green-house may be potted off or set out in the grounds as fast as ready.

Verbenas.—A stock for winter flowering should be propagated from cuttings. They strike easily.

Water.—Plants in small pots will dry out rapidly; give a supply of water as needed. See that the pots out of doors have thorough drainage, or the earth in them will remain soaked after heavy rains.

Apiary in June.

June is the swarming month in the Apiary, and at least one new colony should be expected from each old stock. A hive from which no swarms should be examined. If they have refused to leave for want of a queen, they will usually be found weak, when it is best to drive them out and unite them with some other stock. If the colony is strong, a new queen, or a cell containing a queen, can be introduced from some other hive. If a hive has failed to swarm from diseased brood, drive them into an empty hive to commence anew. . . . When two swarms issue at the same time, they are apt to settle together. To prevent this, sprinkle the bees of one hive with water, as they are about to start, which may be usually discovered by the commotion about the entrance of the hive a few moments before flying. The sprinkling will delay them until the first swarm can be hived. . . . The first issue from a hive is usually large enough for a good colony, the second half as large, the third a quarter, consequently two of the second, or four of the third will be needed to make a swarm equal to the first. If second swarms issue late in the month it is advisable to make one strong stock by uniting two. It can be readily done within a day or two after issuing. It has been proposed to prevent the issuing of a second swarm by returning the old queen to the hive. This would only be likely to end in one of the following results: The queen might destroy all the royal cells, and go on laying eggs for three or four weeks, until another swarm had matured, when she would issue, leading out a second swarm. Or she might leave the royal cells undisturbed, and issue the next day, taking with her a small swarm. Or she might entirely disappear without being heard of again; at any rate her presence would not be likely to prevent a second swarm. Prevention can be accomplished in the movable frame hive, by cutting out the queen cells after the first swarm has issued and after the young queen has taken her place, and not allowing any such to be perfected. . . . If a second swarm can not be well disposed of otherwise, return it to the old stock. Hive it first, carry it near the old stand, and let it remain until next morning, when all the queens but one will usually be destroyed, as well as the supernumeraries in the parent hive. Shake out the swarm, and find and secure the queen; then put a few bees at the entrance, with something on which the rest may creep there, and they will all readily enter. . . . All new swarms should be kept shaded during the middle of the day. . . . When bees cluster in a crowd at the outside of the hive, it is time to add boxes to receive surplus honey. If the honey is intended for home consumption, a wood box will be sufficient; for marketing, those with glass sides are preferable. They should be not more than five inches deep. The bees will work in them more readily if pieces of nice white comb are placed in the top. They can be fastened by dipping one edge in melted beeswax, and applying before it cools. Old colonies should be induced to begin in the boxes before they swarm, as the bees will be more likely to finish up the work, than to begin after swarming, especially if the colony be not very strong. Remove the boxes as soon as filled. It is not usually advisable to put on boxes immediately after hiving; the bees are likely to rear brood and store bee-bread in them. It is safe to put them on after the swarm has been hived three or four days.

TO KEEP RABBITS FROM GNAWING TREES.—John M. Lacey, Mahaska, Iowa, writes that after trying other expedients, he has for the last two years given the trees a coat of soap and sulphur, and that they have been unharmed by the rabbits. He says he saw the lint in the *Agriculturist*, and thinks we should republish it annually.

A Curculio Talk.

At the Fruit Grower's Meeting, held May 7th, the curculio question was brought up and discussed at length. Some members took the ground that the plum crop was the least valuable one, and might be left to this insect, while others complained that they could not raise apples in seasons of scarcity owing to the depredations of the curculio. Dr. Trimble, of New-Jersey, who has made this insect a study for years, thought it was cowardly to give up any of our fruits to their insect enemies. He showed a vial containing 100 curculios (bred from apples), another vial with 100 pea bugs, and a third vial having 100 grains of buckwheat, to show that the three were nearly of the same size. After pronouncing against the various solutions and powders recommended for their extinction, all of which had proved valueless to him, he said the only reliable method was to turn the hogs into the apple and plum orchards, to eat up the punctured fruit as it fell from the trees, or pick it up by hand, and destroy it. This disposes of the embryo insect, which would be troublesome the next year. But when the curculio comes, his plan is to jar it from the trees upon sheets, using care not to start the bark. The hand is sufficient to jar small trees.

He has a stout sheet made, 12 feet square, with a pole attached to one side, and a slit made in the opposite side to the centre. Two short poles are also fastened to the side where the slit is made, to stiffen the cloth. The sheet is then taken by two boys, who place it under the tree with the trunk in the centre, when a third person hits the tree two or three raps and the lads soon gather up what insects fall, and march off to the next tree. The orchard is soon gone over in this way, and in clear weather the process must be followed up each day or oftener if the insects are found at work—in cold or rainy weather they do not trouble the trees.

The Dr. has satisfactorily proved that the perfect insect or beetle emerges from the ground in August, or four to six weeks after it enters the earth in the larva state, and spends the winter in crevices of bark, under shingles, and between boards of old buildings, etc., and is all ready to attack the plum and apricot as soon as the fruit sets. This is usually about the 18th of May, and they do most of their damage between that time and the 1st of June. Hogs must do the work in the apple orchards, as large trees can not be jarred. Cherries are often stung and ripen prematurely. Birds destroy a great many of them, as they often take the early cherries as much for worms found in them, as for the cherries themselves.

If any one doubts that the curculio attacks the apple, let him gather the fallen fruit the last of June, or early in July and put it in a barrel with several inches of earth. Spread gauze or millinet over the barrel and the curculios will be secured when they attempt to leave the earth.

Strawberry Exhibition.

AT THE
Office of the American Agriculturist

The Proprietor of the *Agriculturist* invites Strawberry Growers, of this vicinity and elsewhere, to make an exhibition of their choice fruit on Thursday and Friday, June 18th and 19th,* at the *American Agriculturist* Office; and to give zest to the exhibition, he offers the following

PRIZES:

A—For best 25 approved varieties (one quart each) . . .	\$7
B—Second prize	5
C—Third prize	3
D—For best dish of market berries (two quarts of one variety.—It will be very desirable to show plants with fruit in addition)	\$2, \$1
E—For second and third best do. do.	2, \$1
F—For largest three berries of one variety, (weight and size both being considered)	2
G—For best New Seedling not before exhibited . . .	5
H—For Second Best Seedling not before exhibited . .	2
I—For best flavored Strawberries (one quart)	2
J—For best quart of White Strawberries	2
K—For best quart Everbearing	1
L—For best quart of Bonte St. Julien	1
M—For best quart of La Constante	1
N—For best pint of Princesse Frederick William . .	1
O—For best pint of Empress Eugenie	1
P—For best pint of Marguerite	1
Q—For best quart Fillmore	1
R—For best quart Centre	1
S—For best quart of Triomphe de Gand	1
T—For best quart Wilson's Albany	1
U—For best quart Hooker's Seedling	1
V—For best quart Hovey's Seedling	1
W—For best quart Victoria	1
X—For best quart Jenny Lind	1
Y—For best quart Vicomtesse Hericart de Thury	1

*No sample can compete for more than one prize.

The berries to come in competition for the premiums must be upon the tables as early as 11 A. M. on Thursday June 18th, and each specimen must be correctly labeled. The Awarding Committee will attend to their duties at 12 M.—The exhibition will not open to the public until 2 P. M. When the premiums are awarded, the names, residence, and places of business of the exhibitors will be put upon the specimens, and the prize samples designated.

No Fruit exhibited will be removed before Friday evening without special permit.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

The Premiums Close in July.—That there may be no disappointment, we repeat that all premiums of every kind, general and special, will close in July, excepting only the new Barometer Premium, and the Wringing Machine No. 2; these will continue open to August 31. For special Premiums see page 192. For general Premiums see page 155, last month. It is not at all certain that we shall offer any premiums in the future; the price of paper, etc., will decide that matter.

To Correspondents.—The paper is finished up about the 20th of each month preceding that for which it is issued, and nearly all reading matter must be in the hands of the printer by the 15th, or before. We have numerous letters asking us to reply in "next month's paper," which come too late for us to do so. To many of these queries the answer would be too late if published on the following month. For this reason many correspondents remain unanswered. To others we can not reply without taking time for observation and investigation; while some we can not answer at all; and still others are deferred for want of room.

The Best Barometer Cheap.—We invite particular attention to the Special Barometer premiums on page 192. The publisher is of course interested in the business part of the arrangement, for he is making an effort to raise the circulation of this journal to the highest possible point at the present time, in order to meet the very greatly increased expenses, without raising the terms. But aside from this, the barometer offered is not only an excellent one, but it is a thing that it will pay to have in every house. If it promote the better gathering of a crop in only a single instance, as it will be quite likely to do, it will pay well for its cost. The annual interest on \$8 or \$12, is only 50 to 80 cents a year, and even as a useful ornament, the barometer would be worth this much, to say nothing of its value as a weather gauge. The terms upon which it is now offered are special, and can not be continued beyond the period named. The small number of subscribers required, can be readily obtained in almost every neighborhood; the paper will be well worth its cost to the subscribers, and the barometer will repay the trouble taken by those who secure them. Even should a person himself subscribe for half of the required copies and present them to his friends or neighbors, he would still secure the Barometer cheaply. We are quite sure the instrument offered will give entire satisfaction, and be found a paying investment. The safe delivery guaranteed is a special inducement.

Come to the Strawberry Show.—From present appearances the display of strawberries at the *Agriculturist* Office, June 18 and 19, will be well worth visiting. The plants have set a good crop of fruit, which with favorable weather will be ready at the appointed time, notwithstanding the late Spring. On the first day the doors will be closed to all but the Judges, until 2 o'clock P. M., after which the public will freely be invited to feast (their eyes) upon the magnificent display anticipated. See announcement on page 164. The Committee of Award was announced last month, page 156. This Committee is one of the most competent that could be selected from the whole country, and their judgment will be valuable. No one to whom there can be the least reasonable objection will act upon the Committee.

"Alkekengi."—A friend in Philadelphia has sent us a Boston circular setting forth in glowing terms his "new and beautiful fruit," under the above name. From the description we conclude it to be the Winter Cherry (*Physalis viscosa*). It is a very good thing for preserves, and we have distributed the seeds freely for several years. The *Physalis Alkekengi*, from the South of Europe is a larger, better fruit, but unless started early in the green-house, does not always ripen. The seed, if desirable, can be obtained cheaply at the large seed stores.

"Ice Cream in Four Minutes."—So reads the advertisement of Torrey's "Arctic Freezer," and it is not far from the truth. The manufacturer brought some ready flavored cream, salt, and pounded ice to the *Agriculturist* Office in one of the hot days of May, and commenced operations against time. According to our "chronometer," in 4 minutes the cream was pretty stiff with cold; in 5 minutes it was solid; in 7½ minutes it was beat to a smooth paste as good as the best

that ever was made—and in 12½ minutes it was all gone,—by the aid of our whole office force, and a crowd of visitors—invited and uninvited.—So much for the time. Mr. Torrey's freezer is a good one, the best we have seen; it is cheap, and the apparatus for stirring the cream, and the freezing mixture at the same time, greatly facilitates the freezing.—Wherever ice is accessible, farmers who have the genuine cream, or the rich milk and fresh eggs, can have such (nice) cream as is seldom seen by city dwellers. A quart of cream will make a far more delicious dessert for dinner than the best pie or pudding; will cost less money and labor, and be far more healthful on the top of a hearty dinner of meats and vegetables.

What a Woman Can Do.—J. B. Bardwell, Worcester Co., Mass., writes to the *Agriculturist* that an unmarried woman of that place, now over 80 years old, a few years since bought a farm for \$5,300, and recently added to it a pasture lot costing \$500 more. She had accumulated the whole by doing housework at \$1.50 per week, and putting her savings at interest. She formerly let the farm to tenants, but not liking their doings, last year she assumed the management, and with the help of one man carried on the business. She kept sixteen cows, attended personally to the dairy, and attended her own housework, besides doing the marketing, etc. A large class of young men who are idly "waiting for something to turn up," should take lessons from this old lady.

Native Fibres.—We have received from Justin S. Lewis, Franklin Co., Kansas, the fibre of a kind of nettle; from M. Taylor, Alleghany Co., Pa., a piece of cord from the fibre of a species of Milkweed probably; and from J. Howells, Wood Co., Ohio, a sample of the fibre of what is probably the Indian Hemp.

A Watering Apparatus.—"W. H. W.," communicates the following convenient plan for watering seed beds or plants generally. "Take a hogshead or other large water tight cask, and set it in a wagon upon the head, bore a hole in the upper head for inserting a funnel by which to fill it from the brook or river. Have, near the bottom of the cask on the side, a stop-cock to which a rubber hose is to be attached by a coupling, with a sprinkler at the other end. Have the hose of any desirable length and the head of water in the cask will force the water through the hose and out of the sprinkler which may be directed to any desired point."

Seeding Stony Land.—"Z." Bolivar, Md. We should advise to go over land too stony to be plowed, with a heavy harrow, sow grass seed, timothy on low land, and then top-dress with fine manure. It is rather late for the operation the present season. The sun would be likely to kill out the young grass plants.

Fruit of Pistillate Strawberries.—F. Thomas Reilly, Ottawa Co., O. The fruit of pistillate strawberries would be but little influenced by the variety of staminate used to fertilize them. The seed would partake of the character of both of the parent plants.

Trouble with Grapes.—J. S. B., Keypress, N. J. You say that your ground "is very wet all winter and spring." This is a sufficient reason for the failure of any grape. Drain the ground. Your variety, the Isabella, is very apt to wither during the summer.

Pudding Trees.—We do not believe in the practice, except where the roots are necessarily exposed for some time before planting. In this case a coating of mud will protect them somewhat, but we would always wash it off before planting out, that the fine rootlets may be spread out rather than lie cramped and matted together, as pudding leaves them.

Plum Trees.—G. S. Tinker, Portage Co., O. Your fruit is probably attacked by curculio. See p. 164.

The Tribune's Strawberries.—Though the advertisement of these plants comes in competition with one of our special premiums, we cheerfully admit it. We believe in strawberries for the million. No fruit is more readily and quickly grown, and nothing is better adapted to the circumstances of the masses. Not a few journals formerly sneered at the seed and plant distribution of the *Agriculturist*, but there are millions of plots of beautiful flowers and of other plants now growing in this country, the original seed of which came through our general and premium seed distributions. Probably nine-tenths of the important sorghum crop now being grown is derived from the twenty to thirty thousand parcels of seed distributed all over the country, a few years since, from the office of the *American Agriculturist*. Let the *Tribune*, let any other journal in the land,

take up and carry out the plan we have so long followed; it will help beautify the garden, and supply the tables with luscious home-grown fruit. In the meantime we shall not wholly retire from the field; see our special strawberry premium on page 192.

Maple Syrup for Strawberries and Wine.—H. P. Bratt, Ozaukee Co., Wis. Maple syrup will probably impart a little of its own flavor to these, but as the flavor is generally liked, that may not be an objection. If made clean and dry, it ought to have the same preserving effect as its kindred cane sugar. It would be well to try it on a moderate scale at first; and please report the results to the *American Agriculturist*.

Crops in Salem Co., N. J.—A. W. Hillman writes that sweet potatoes are largely planted in that county, farmers often devoting from 6 to 20 acres to that crop, and that this year more than usual will be planted, on account of the probable short crop at the South. Small lots of flax, tobacco, sorghum, and cotton, will be grown. The desired information given in May No.

Book for Dairymen.—A. H. Miner, Orange Co., N. Y. Flint's *Milch Cows and Dairy Farming* contains the information you need as to breeds of cows, and their general management. It comprises much practical matter on dairying, and is well worth the price, \$1.50, to every one engaged in the business. See page 186.

Domestic Silk.—L. H. Davis, Suffolk Co., N. Y., sends a skein of very nice sewing silk of his own manufacture. We know not where to get eggs. Who does?

Plants for Names.—"D." Makanda, Ill. The plant enclosed is *Collinsia verna*, one of our prettiest Spring flowers, and worth cultivating. The "May Apple" you describe, is *Azalea nudiflora*, and the portion eaten is a sort of excrescence, or rather monstrosity of the flower, supposed to be produced by insects, though the fact is not well established. Your other plant is probably *Calystegia pubescens*; is very pretty, but its roots spread so rapidly that it becomes a nuisance. Lula S. Lauber, Lancaster Co., Pa. The plant is *Epigaea repens*—known as Trailing Arbutus and May Flower. Nothing is more beautiful or fragrant, but it is difficult to cultivate. Must have a rather peaty and moist soil, and be shaded. H. B. Comstock, Cortland Co., N. Y. We do not recognize the very pretty leaf; send flowers; no seed came. You are right: a plant is worth double with a correct name.

Cauliflowers.—"C. A. W." Hudson, N. J., asks why the cauliflowers grow up into long sprouts, when not immediately cut. The head of the cauliflower is a mass of undeveloped flower stalks and buds. When the season is long, these go on and develop and throw up branches to flower and bear seed.

Craig Microscope.—To Many Inquirers.—For looking at very small objects, such as the dust upon a butterfly's wing, starch grains, etc., this does remarkably well for so cheap an instrument. For examining seeds, flowers and such comparatively large objects it will not answer at all, as the focus is very short. For these purposes a common pocket glass, such as is generally sold by opticians is better.

Flower Pots.—Eleanor Rielson, Juneau Co., Wis. The hole at the bottom of the flower pot is for the purpose of securing drainage. Were it not for this, the earth might become too wet for the health of the roots. The proper amount of moisture is that which the earth will hold when the excess can drain off. A few pieces of broken pots, or bricks, or small stones, should be at the bottom of the pot, before filling with earth.

German Stocks.—C. A. Nelson. These being annuals cannot be kept through the Winter by covering. They must be grown from seed each Spring.

Squirrels Carnivorous.—J. R. Pierson, Susquehanna Co., Pa. alluding to an item under this head, on page 262 last Vol., says he shot a red squirrel in the very act of making a meal of some half grown robins.

Cauliflowers.—"N." Ravenswood. See page 146, last month. Your seed is probably unreliable.

Use for Sawdust.—J. K. Niest, Stark Co., Ohio. Sawdust is valuable to compost with yard manure, or to apply alone to lighten heavy clay lands. It is excellent as a mulch for fruit trees, vines, etc., and may be used advantageously for this purpose during drouth.

Horse Cleaner.—P. S. Brokaw, of Somerset Co., N. J., objects to using currycomb, or brush, or the implement described in *May Agriculturist* (page 141) for removing mud from horses, because it is unpleasant to be so near the animal while using them. He recommends the stump of a worn out broom, with which the work can be equally well done and at arms' length.

A Cow Nursing Pigs.—B. Beaver, Washington Co., R. I., writes that a farrow cow owned by him was seen on several occasions lying in the barn yard, with two of a litter of pigs in the same enclosure busily drawing supplies of milk from her well furnished bag. The cow seemed in rather enjoy the novel experiment.

Hungarian Grass for Sheep.—Luther Allen, Randolph Co., Ind., requests those who have tried feeding sheep with Hungarian grass to give the results.

Book on Sheep.—C. T. Wilson, Washington Co., Wis. We know of no better work on sheep raising than "Randall's Sheep Husbandry," price \$1.25. We can forward it by mail, post-paid, at this price.

Choice Eggs.—G. W. Cook, L. I. Poultry fanciers sell eggs of their stock, but there is great risk in transporting them. Jarring often destroys vitality. If packed at least carefully, partial success may be realized.

Sex of Eggs.—M. Genin, in a communication addressed to the French Academy, states that eggs which contain male chicks, have wrinkles on the smaller end, while those which are to bring forth females are smooth. We should like to hear results of observations and experiments to discover the truth or falsity of the matter.

Good Maple Sugar—A Hint.—The cake of Maple Sugar reported on our Exhibition Tables last month, from L. Wolcott, Croton, N. Y., has since been tested, and proved unusually excellent in flavor as well as in internal appearance. The lesson to be learned is, that the secret of making such sugar is expressed in one word—*cleanliness*. There is no doubt that pure white, well flavored maple sugar can be made by catching the sap in clean covered vessels, and boiling it down in clean vessels shielded from falling smoke, ashes, leaves, or other filth. The nearer we can approach to this point, the nearer perfect will be the sugar. Those who have permanent sugar groves would undoubtedly find it a paying investment to secure a set of good covered buckets with an arrangement by hook or staple to suspend them on nails or spikes driven into the tree.

Blackbirds.—A. A. Stewart, Logan Co., O., speaks in behalf of these persecuted birds. He does not find them pulling corn or molesting the young of other birds. "They follow the plow and pick out large numbers of worms and grubs, and are the farmer's best friends. Not so the crow and blue jay, which devour the eggs or nestlings of other birds. True, the crow destroys large numbers of insects, and claims some leniency, but the sly jay merits shooting at sight."

Prolific Bees.—Thomas Thompson, of Wausheka Co., Wis., says he purchased a swarm of bees last Spring, and during the Summer took 6 swarms from it.

The Asparagus Beetle.—Dr. Asa Fitch, stated at a recent meeting of the Executive Committee of the N. Y. State Agricultural Society, that the Asparagus Beetle, which has recently proved very destructive to this vegetable on Long Island, is readily devoured by chickens. As they do not injure the crop, they may be made serviceable in exterminating the pest.—Worth trying.

To Keep Striped Bugs from Squashes.—In sending some squash seeds to the *Agriculturist* Office for trial, an Illinois correspondent says he keeps the striped bugs from his vines by watering with filthy suds from the wash room, and then dusting with coal ashes. This is repeated as often as the ashes are washed off, and the squashes are not injured by the application, or by bugs. In the absence of coal ashes, dry soil may be used.

"Rooting" out Grubs.—A writer in the *Country Gentleman* says that, having lost a corn crop by grub worms he turned in the hogs, and they instinctively sought out the grubs, rooting them up and devouring them. On another occasion, an old pasture was badly infested with this worm, and the hogs being turned in after haying, they rooted up the worms wherever the wilted grass showed their presence.—Such a thing might occur on very light soil, but we very much doubt

whether as a general rule hogs would root after grubs without finding some other food inducement in the soil.

To Repel Insects.—Charles H. Snow, Baltimore Co., Md., writes that plaster of Paris, mixed with spirits of turpentine, one pint to a bushel, and sown upon cabbages, turnips, melons, etc., repels insects. The plaster is a good preventive; the turpentine may be an addition.

Dissolved Bones.—"G. W. C.," Queens Co., L. I., we have already stated that muck, or in its absence good soil, should be used to dry the wet compound.

Stone Gathering Machine.—C. Bonnell, Wyoming Co., Pa., inquires where a machine for gathering loose stones from the field by horse power may be obtained. We have seen descriptions of such an apparatus, but do not know if it is manufactured at present. The inventor or proprietor should advertise it, if good.

Tree Chopping Machine.—Julius Meyer, Potter Co., Pa. We have not seen this apparatus, which was patented in 1859. It has not been brought before the public, and we judge is not of great value, or its merits would have been made more widely known.

Prospective Demand for Sorgho Syrup.—In a communication to the *Sorgho Journal*, Isaac A. Hedges gives extracts from a letter written by Belcher, the great sugar refiner of Chicago, Ill., offering to contract for *Twenty Thousand barrels* of fair to good raw sorgho syrup, at *forty cents per gallon*, for refining. This offer has doubtless influenced many to plant largely, under a guaranty of a good price and a sure market.

Manual of Flax Culture.—Under this title D. D. T. Moore, of the *Rural New-Yorker*, has issued a handsomely printed, illustrated pamphlet of 48 pages, containing considerable information of interest to flax growers. There is less detail of experience by practical men than could be wished, but the work contains hints and suggestions fully worth the low price (25 cents, post-paid) at which it is issued. We will have it to supply.

Black Walnut Posts.—"J. S. S." Mansfield, Ohio, inquires how long black walnut posts will last in the ground. He reports a case in which black walnut and oak posts were set together, and the walnut are sound while the oak are completely decayed; the walnut posts are likely to outlast a new set of oak posts.

Scientific Questions. — A Weekly Journal wanted.—B. M. French, Montgomery Co., Pa., and a number of others. It would be interesting to a limited class of intelligent readers, to discuss the theories respecting the action of ammonia and other compound and simple elements, and a thousand other questions, and when enough readers demand and will support a large weekly Journal devoted to the science as well as the practice of Agriculture, we shall be glad to publish such an one. It would pay the farmers of the country to support at this metropolis a journal that could not be issued at less than \$3 to \$5 a year, one giving extensive reports of the grain and other Agricultural markets, and of Agricultural intelligence generally. But the people are not ready for it yet. We are watching the indications, and as soon as there is a reasonable prospect that such a journal will be supported, we promise that it shall be forthcoming. Until then we must confine ourselves to a monthly at a low price, such as will meet the practical wants, and the views of the public mind as it now is.

Grapes on a Rock Heap.—A New-Hampshire reader of the *Agriculturist* writes that he finds grapes do the best when running over a heap of rocks. The rocks absorb the heat during the day, and radiate it gradually during the night, keeping up a gentle warmth.

Making Raisins.—H. A. S., will find directions on page 325, Nov. *Agriculturist*, 1861. Only sweet varieties of grapes can be used; no sugar required.

Standard Trees — Dwarf Trees — How Produced?—In answer to inquiries from several readers of the *American Agriculturist* we explain: *Full Standard* trees are those growing on roots of the same variety. These are usually allowed to grow full size, and generally with trunks trimmed five to six feet high. *Half Standards* are those cut in somewhat, in the limbs, and are allowed to branch two to three feet from the ground. *Dwarfs* are usually worked on a small stock of some slow growing variety; and are usually trimmed to a pyramidal shape. Thus to produce dwarf pear trees, they are grafted on quince roots

(usually the Angers quince); sometimes on the thorn. Apple trees are dwarfed by grafting upon the Doucain stock, which is a small-growing species of apple, that naturally produces small, sweet apples. The Cherry tree is dwarfed by grafting upon the Mahaleb cherry, a naturally dwarf stock. Peach trees are given a dwarf shape, not by grafting, but by cutting in, planting in pots, etc. Ornamental trees are dwarfed by grafting the finer large varieties upon roots of some other variety of the same species.

To Reuscitate Dry Trees.—It not unfrequently happens that trees imported from abroad, and even those sent from nurseries a long way over-land, are quite dry and shriveled when the bundles are opened, and some persons would throw them away at once as worthless. Two subscribers to the *Agriculturist* inform us that they received some fruit trees in this condition, and at once planted out the freshest of them and buried the others, *root and branch*, in the earth. Those planted out when received, mostly died, while the others, after remaining buried for a week, were set out and nearly all lived. They were found to be restored to freshness when taken from the trench in which they were covered.

Ground Cherry.—R. A. Young, Allegheny Co., Pa. The Ground Cherry fruits the same year from the seed; it is worth cultivating for preserves. Earth Almonds or Chufas are not the same as the Ground Nut. The tubers are planted. Both can be had at the seed-stores.

Good Strawberry Mulch.—Z. Breed, Hillsboro Co., N. H., who has raised strawberries for market ten years, writes that he uses muck for a mulch between strawberry rows, with chaff or chopped straw around the plants to keep the berries from getting soiled. Muck absorbs and retains heat, thus warming the soil, and it also keeps moist for a long time.

Scorzoneria is the name of the seed sent for identification, by S. A. Green, Pierce Co., Wis. It is cultivated and used the same as salsify (vegetable oyster) which it resembles, but it grows to a larger size, and the root is dark colored instead of white like the salsify.

Fine Camellias.—Our exhibition tables were gay, a short time ago, with specimens of this favorite flower, from Mr. Chorlton, the well-known horticulturist of Staten Island. The varieties were: Dunlop's White; Speciosa; Alba plena; Lowii; Myrtiflora; Rubescens; Marchioness of Exeter; Binneyi; Formosa; Imbricata; Prince Albert; Donklearii; Sherwoodii; Chalmerei perfecta; Pæoniiflora; Abby Wilder; and Floyii.

Holocantha.—"J. H. P. G.," Ill. This is a native of the barren plains of Northern Mexico. It would not be likely to flourish, even if you could obtain it. We have seen it in its wild state, and an ugly object it is.

A Desirable Aquatic Plant.—We have seen in some grounds near Boston, a very free-growing and highly ornamental plant for artificial ponds: the *Limncharis Humboldtii*. It has fine dark-green foliage, and bears an abundance of large lemon-yellow flowers. We grew it last year very successfully in a tub sunk in the border. The plant will not stand the Winter, and enough should be kept over in the house or cellar to continue the stock. Planted in a basket of peaty earth, and set in shallow water, it soon becomes established, and spreads rapidly. It is a fine plant for the aquarium. Sold by B. Greenwood, 394 Broadway, New-York City.

Can't do Without It.—"The following pithy letter was received from an old subscriber in Wallingford, Conn.: "\$1 for *Agriculturist* for 1863—can't do without it—'Children cry for it'—neighbors borrow it—Refer to it weekly, sometimes daily—Tells me 'how to do it,' and 'how not to do it'—vive l' *Agriculturist*, and its Editors, and Tim Bunker, Esq.—You should see my pear trees—my roses—my compost heap! all on account of the *American Agriculturist*—keeps me bewitched about trees and fruits and flowers"—and all for a dollar year!

Worcester's Dictionary—Postage.—Miss Elizabeth Bewman, Lenema Co., Cal. This book weighs 10 lbs., and, if pre-paid, costs \$1.60 postage within 3,000 miles, or \$3.20 to California and Oregon. The Express Co., charges us \$5.00 each, on the dictionary to San Francisco. It is therefore cheapest to send by mail.

Fancy Printing.—J. J. Herst, Pa. In fancy printing or printing in colors, the work generally goes through the press as many times as there are colors. Sometimes the compound colors are produced by printing one color over another, as purple, by red over blue, etc.

How often Should Mares Breed?

—E. S. Phelps, Bureau Co., Ill. A healthy mare of strong constitution may safely bear a colt annually for several successive years, but it is exhaustive of strength, and is usually best to intermit every third year, and in many cases every other year.

Cure for Scratches on Horses.—T.

Lashbaugh, Laporte Co., Ind., writes that he has never failed in curing scratches in horses, by applying melted tar to the affected parts. It should be rubbed in well, and the hair smoothed down over it.

The Currycomb in Summer.—F.

Farmer's Boy, inquires whether the currycomb and brush are necessary for horses in warm weather. Certainly, even more than in Winter. Remove dust and perspiration gathering under the hair to keep the skin healthy.

Kicking Mules.—M. B. Turner, Lec Co., Iowa. Mules may be cured of kicking, and otherwise made gentle, by the application of Rarey's system of taming. A full description of his method is contained in Herbert's Hints to Horsekeepers.

Book for Horsekeepers.—C. T. Vincent, Hartford Co., Conn. We know of no better work for general directions and sound every-day practical suggestions on the management of the horse, than Herbert's Hints to Horsekeepers. We can send it post-paid, by mail, for \$1.25.

To Prevent Hens Sitting.—Christian Paltz, Buffalo Co., Wis. Hens may sometimes be cured of a propensity to sit by dousing them with cold water.

How Many Sheep to the Acre?—S.

S. Wiest, Lancaster Co., Pa. From three to nine sheep per acre of grass land may be kept, according to its quality and the kind of sheep. It is generally reckoned that 8 Merinos consume about as much as an ordinary cow.

Corn and Wool.—"J. M.," Logan Co.,

Ohio, inquires whether it be true that every pound of corn fed to sheep will add one ounce to the growth of wool. It might in some cases, but the statement appears to be rather a loose one. Sheep breeders are interested, and it would be instructive to hear the results of careful experiments made to ascertain the value of corn for this purpose.

A Good Hog.—Wm. T. Russell, Ulster Co.,

N. Y., writes to the *Agriculturist* that in August last he commenced feeding a shote weighing 100 lbs. live weight. For two weeks his provender was best quality wheat bran and milk; from that time to December 2d, he received all the Indian meal he would eat, with a very small quantity of milk. He was fed just 107 days, and gained 257 lbs. in that time. (2½ lbs. per day—less 10½ lbs. on the whole.)

A Patent Hog Ring.—Daniel Brown,

Marshall Co., Ill., sent to the *Agriculturist* office some time since, a newly invented hog ring for which he has received a patent. It consists of a spiral coil of wire forming a spring, which rests in front of the animal's snout; the two ends of the wire are bent so as to enter the nostrils and clasp the membrane within, where they are held by the spring. It is easily applied, and Mr. B. says was found very efficient last Summer in a herd of one hundred swine.

Sulphur for Lice.—Several correspondents

have written to the *Agriculturist*, that sulphur fed to cattle, will rid them of lice. One who says he has used the remedy successfully in a number of cases, directs "to give two tablespoonfuls in a quart of meal to each animal, to be given daily until cured." Sulphur is used in the human system as a gentle laxative, and for several diseases of the skin. That it escapes from the surface of the body, is shown by the odor, and by its blackening silver articles in the pockets, and on this account, it is not unlikely that it may affect insects on the bodies of animals. A few doses may, in some instances, by its cathartic effect improve the health of the animal, and thus prove effective against lice, which are chiefly found upon debilitated or sickly animals. The common sulphur powder frequently produces griping when used as human medicine, to counteract which it is mixed with ¼ to ½ its bulk of calcined magnesia, or cream of tartar, and this mixture would probably be the best to give to animals.

Defective Teats in Cows.—Abraham

Williamson, Hendricks Co., Ind., inquires whether the half of a cow's bag which has from some injury ceased to give milk, will yield it again, at the time of her calv-

ing. Probably not, although it may depend somewhat on the nature of the injury. We have never known a defective teat to be thus restored.

Lizards in a Spring.—E. Day, Kingston,

Ulster Co., N. Y. We would not advise to destroy lizards. They are as harmless as fish, and as they feed mainly upon insects, they help to keep the water pure.

Ants.—H. L. Moss, Minnesota, wishes to know

how to kill ants in his flower garden. He has tried hot water, sulphur, ashes, salt, carbon oil, etc., ineffectually, and so have we. Who can tell how to kill ants in the garden?

Burning the Striped Bug.—F. Thos.

Reilly, Ottawa Co., O., recommends to burn brush over the ground on which melons and other vines are to be planted, and also in the Fall, on spots which they have occupied, to destroy the larvæ of Striped Bugs and other injurious insects. This would undoubtedly kill many in the immediate locality, if the fire were large enough, but numerous others would undoubtedly come from the surrounding ground, to take their places.

Bee Queries.—A. Webster, most of your

inquiries are answered in the "Apiary" for the present month. To introduce Italian bees into a large Apiary, movable comb hives of some kind are indispensable.

Chloroforming Bees.—T. H. Mason,

Litchfield Co., Conn. This has been practised by a few parties without injurious results to the bees, but we should be fearful lest an over-dose might, in unskillful hands, destroy the swarm. A little tobacco-smoke blown into the hive will usually render the bees inoffensive.

Insects on Pine Trees.—C. A. Nelson.

The "little white fuzzy insect" described, is doubtless the Pine Blight. It mainly affects slow growing trees in poor soil. Remove it by scrubbing the bark with soap-suds.

Insects on Fruit Trees.—At a recent

Fruit-Growers' Meeting, Mr. W. S. Carpenter stated, and many members agreed with him, that he relied upon a healthy growth to keep off insects. It was his opinion that a perfectly vigorous tree would defy the attacks of the different varieties of bark-lice, while a tree set out with no more care than if it was a post, and afterward neglected, would soon be injured by them.

Insects on Roses.—H. B. Comstock, Cort-

land Co., N. Y. The color of the rose-leaf hopper is yellowish white. We can not tell the other insect from the description. The cut worm usually works near the ground, it may climb bushes but we never knew that it did.

Unseasonable Grasshoppers.—Mr.

J. H. Patterson writes that Grasshoppers appeared near St. Clairsville, O., about the 20th of March, in large numbers, and that they passed through two snow storms and continued wet and cold weather without injury.

Aphis in Anstralia.—A friend in that

far off land sends us a slip from an Australian paper which says, they destroy the plant lice with a decoction of an astringent bark. This completely "tans their hides." Will some of our friends try the effect of a few applications of a decoction of oak-bark, and report result?

Eggs on Apple Trees.—J. P. Funk, Md.

The specimens sent were the eggs of the Katydid.

Cementing Cellars.—"J. J. W.," Meriden,

Conn. If we had a damp cellar we should cement it even if floored with brick. See article on page 174.

Designating Grapes by Leaves and

Wood.—L. Varies, Madison Co., Ill. A person familiar with the different varieties of grapes can in many cases pick them out while growing, by examining the appearance of the leaf, color of wood, length of joints, etc., without waiting for them to ripen fruit.

Deep Planting of Vines.—C. R.

Thomas, Warwick Co., Ind., says that the Germans in his neighborhood set grape vines three feet deep in the soil, to prevent rot, and asks our opinion of the practice. If we wished to kill a vine, or put it where it would have to struggle for its life, we should put its roots three feet below the surface. The vines may survive, but it will be because they throw out roots near the surface, while those far below will soon become a decaying mass.

Prolific Grape Vine.—Amos F. Hannahr,

Portage Co., Ohio, says he has an Isabella grape vine

which has been allowed to grow pretty much as it pleased, and has given good crops, with two exceptions, for 13 successive years. In 1850 it yielded 6½ measured bushels of excellent grapes. Mr. H. challenges a better result from a single vine trained according to the books. Its roots receive two or three pails of soap-suds on each washing-day, and the ground is kept mulched with decayed leaves, rotten wood, walnut shucks, etc.

Grapes in April.—Not hot-house grapes,

but Isahellas and Dianas, simply kept in the cellar, the same as apples. So reported Mr. T. W. Field, at the New-York Fruit Growers' Meeting. He saw them at Syracuse, N. Y., the 16th of April, and to appearance and taste, they were in a fine state of preservation. They were kept by the bushel, simply spread on shelves, or laid in boxes with lids at different heights on side cleats to prevent the upper clusters pressing those below.

Profitable Orchardling.—Dr. I. M.

Ward, of Essex Co., N. J., stated at one of the New-York Fruit Growers' Meetings that he always realized from \$1000 to \$1200 per annum from an orchard of 1½ acres, planted with dwarf and standard pears and apples. He lets the trees have all the soil, but plows the ground lightly in the Spring, and runs a one horse cultivator over the surface at intervals during the Summer.

Fruit the First Season.—C. D. Walters,

Worcester Co., Mass. Transplanted trees, vines, etc., should not be allowed to ripen fruit the first season, because all the strength of the plant is needed to repair the injury done to the roots by removing. Fruiting always taxes the highest energies of vegetation.

Disease in Apple Trees.—Henry Weaver

writes us that the bark of his apple trees becomes black and the trees die. Others have made the same complaint. We are not able to say, without specimens, what the disease is. As it begins with a small spot and extends, it may be some fungus. We should perhaps try cutting out the infected spot as soon as it appears.

Recognizing Fruits.—O. C. Wilson,

Perry Co., O.—Downing's Fruits and Fruit Trees of America, gives descriptions and drawings of most of the cultivated fruits, by which a person can usually recognize any named sort. It also contains thorough and reliable instructions for the management of fruits. We can forward it post-paid upon receipt of the price, \$2.00.

Quince Trees.—C. T. Bradley, Clearfield

Co., Penn. The unfavorable situation is probably the cause of the slow growth of your young trees. At the proper season they may be moved without risk. Suckers ought not to be allowed to grow, but the bushes should be trained with a single stem like an apple tree.

Cherries from Seed.—W. H. Coleman,

Ky. There is no probability that the seeds of any of our cultivated fruits will produce *precisely* like the parent trees; the stone fruits, usually vary less than others.

Osage Orange.—Several ask us about pro-

pagating this and its value as a hedge. The seeds cannot be obtained at present, and unless the plants can be found at the nurseries, its cultivation must stop until the close of the war. One subscriber wishes to know how to destroy an Osage Orange hedge. Doubtless, like other shrubs, it may be killed by cutting; when in full leaf, repeat the work as often as it springs up anew.

Propagation of Box.—Mrs. E. Cravath.

Box is most readily multiplied by layers. Set the plants out rather deep and spread the branches in such a manner that the lower portion of them will be covered with earth. Another season it will be found that the covered portions have taken root, and the branches may be pulled apart and set out as separate plants.

Propagating Flowering Shrubs.—

J. C. Dubois, Ingham Co., Mich. This may be done with many, by layering or removing suckers, according to the manner of growth. Some can only be grown from cuttings in the propagating house, where they will have bottom heat; but there are many cuttings, such as Roses, Weigelas, Forsythias, etc., which start very readily if kept from the hot sun. A hot-bed frame with the sash covered with whitewash, or cloth, or a frame of boards with cotton cloth tacked over one opening, will answer to shade them and keep them moist. Put the cuttings in rather sandy soil and keep them properly moist and shaded, giving them air when necessary.

The Death of Dr. Wm. Darlington.

This distinguished man died at Westchester, Pa., on the 22d of April at the ripe old age of 81. He was a representative of that class of old school gentlemen of whom we unfortunately have too few left, bringing the attainments of the profound scholar into an active life and participation with passing events. He was among our oldest botanists; about 40 years ago, he published the *Flora of Chester County*, which passed through several editions, each one keeping pace with the progress of the science, and it is still a standard work. Dr. Darlington was untiring in his efforts to arouse agriculturists to a sense of the dignity of their calling, and to inspire them with a love for the sciences connected with it. This is shown in his numerous addresses before Agricultural and Horticultural Societies, and in his *Agricultural Botany*, which, in its revised form, is now popularly known as *American Weeds and Useful Plants*. The interesting Pitcher Plant of California (*Darlingtonia Californica*), will keep his name fresh among scientific men, and his many useful labors will commemorate him in the community in which he lived. Though a Scholar, Patriot, and Statesman, he was at the same time, from his genial sympathy with those around him, a lovable old man.

Gray's Manual of Botany—(Fourth Edition).

Iverson, Phinney & Co., N. Y. When the first edition of this work appeared, it at once became the standard authority upon the flora of the Northern States, and it has through subsequent editions confirmed its title to that position. The works of Doct. Gray have the rare merit of being in a clear and popular style without departing from scientific accuracy. An intelligent person who carefully reads Gray's First Lessons in Botany, will have a clearer idea of the structure of plants than can be obtained from any other work in the language. The volume before us contains these First Lessons, a section on Garden Botany, and the Manual proper, which gives descriptions of the native and introduced plants growing North of Virginia, and East of the Mississippi, and includes the discoveries made since the last edition. An important addition has been made to the present edition of eight beautiful plates, illustrating the genera of Grasses. The study of these interesting plants, which is generally considered difficult, will be greatly facilitated by the help of these accurate delineations. The Lessons and Manual are sold separately, or bound in one volume, and will be found in our book list.

Prices of Books.—The cost of printing paper has remained nearly stationary for a month past, and the prices of books have not varied materially as will be noticed in the list on page 186. Until the paper market becomes settled, the publication of sundry books will cease as the editions previously on hand becomes exhausted, and prices of others will be advanced. There is no prospect of any decrease until long after the war is over, and it will be expedient to secure early, any book likely to be wanted. The prices in our list are good only for the month in which they are published. We do not keep a "book store," but usually have on hand or procure as needed, books relating to the Farm, Garden, and Household, for the convenience of our subscribers, and mail them post-paid at the usual retail price, though this affords but small profit—sometimes none at all.

Investing Money—Last Month of the Five-Twenties.—We referred last month (page 133) to the value, etc., of the U. S. Six per cent Bonds, called "five-twenty" because they are payable in 20 years, but the government reserves the right to pay them after 5 years. If this reservation were not made they would command a large premium. The same kind of Bonds not payable until 1881, are now selling at \$108, or 8 per cent. premium. The reason of this is, that foreigners and others, prefer a loan having a long time to run. A good farm mortgage of 20 years will sell for more than one of 5 years. We think these 5-20 Bonds are the best sure investment now in the market. It will be noticed that the privilege of taking these bonds at par expires with the present month. For further particulars, see last month's notice, and especially the full advertisement on p. 186, of the Government Agents, Messrs. Fisk & Hatch, who are careful, accommodating, and reliable Bankers. Those having funds in Savings Banks will do well to note the closing paragraph of their advertisement.

For the Hamburg Show—Free Freight.

The last steamer for Hamburg, by which articles can leave in time for the Great International Show, will sail from New-York, June 13th we believe. It may not be generally known that the Legislature of New-York appropriated \$1000 to be devoted to paying freight on articles manufactured in this State. This was placed under the direction of the State Agricultural Society, and the officers have decided to pay the expenses from the point

of shipment to Hamburg, including freight to New-York, and transference in the city. This places parties in all sections of the State upon a par. The articles are to be forwarded to the care of Austin Baldwin & Co., 72 Broadway, N. Y. Only the \$1000 can be so expended, which will be applied to the articles in their order of entry. For further particulars address Messrs. Austin Baldwin & Co.

Farm Help Wanted—and Coming.

A letter from Illinois says: "So many have gone and are going to the war from the patriotic West—we mean to open the Mississippi at least, if *all* have to go—that we can not get help to plant the extra acre you advise in the *American Agriculturist*, and if planted, we are not sure of help to cultivate it, or to gather the harvest. Can you not send us men from your over-crowded cities at the East? They can here get plenty of work at good wages, and abundant cheap food for themselves and families."

Reply.—The East is patriotic too, as the records of the War Department will show. For months past we have seen no men worth anything who have gone begging for work. Common laborers readily get \$1 to \$1.50 per day (without board,) which, deducting board and stormy days, is equivalent to \$13 to \$18 per month. We should hardly know where to look for a dozen men to send to the West. But the demand for farm help is in a fair way to be at least partially supplied, within the next two or three months. Never before has there been such an influx of able-bodied men from Europe—from Germany, and especially from Ireland. So great is the emigration from the latter country, that the British Government recently addressed a note to the American Minister, intimating that our Government must be using special influences to attract them away to our armies. Mr. Adams replied that no official influence had been used, but naively intimated that it was not surprising that so many were leaving oppression and want, and flying to a country where there is abundant cheap food and well-remunerated employment. We learn that this emigration is only limited by want of ship-room and the means of paying passage hither. The shipping facilities are being rapidly increased. We suggest that the German and Irish residents of this country be encouraged to send for their friends. They can still get here before the close of the harvest season, if they come by steamer. Let them understand that foreigners coming to this country will not be subject to the draft, unless they voluntarily take upon themselves the duties and privileges of citizenship; while their coming now will be a benefit to the country as well as to themselves. A man in Ireland, or elsewhere in Europe, with a dependant family, and with no prospect there but poverty and want, can by coming here earn enough the present year to send for his family, and place them where with cheaper and more abundant food he can not only support them, but lay aside something to build up for himself a home in the West ere long.

The Homestead Law allows any one who may hereafter become a citizen to choose a free farm from the public domain, where he can settle in a home of his own. There was never a more favorable time for the teeming population of the Old World to come to the New. Industrious men of good habits will be welcomed by farmers, at almost every point throughout the Northern States. Let these facts be properly set before the foreign population in our midst. A few dollars loaned to a servant girl, to be added to her savings, may often enable her to send for a father, or brother, or relative, whom she is now helping to support in poverty on the other side of the Atlantic. No doubt many farmers would find this a good way to secure additional help for harvest and Autumn work.

The Crop Prospects.—The result of the returns being gathered at the Agricultural Bureau, on the state of the growing crops, will not be ready before the publication of our next issue. From all we can glean from our correspondence and from exchanges, up to this date the general prospects of the crops are very good. There are some exceptions here and there, but these are confined to limited localities. The winter grain proved to be less injured by the open weather than we feared it would be. The late opening of Spring kept back the crops, and it retarded spring work so much that farmers are now greatly driven, but the May weather is hastening forward the growth of all crops in the ground. The fruit trees have bloomed very freely, and if no untimely frost occurs, the fruit crop will be very large. After two successive years of fine crops of almost all kinds we could hardly hope for a third one, yet that is the present promise. The result will depend upon the weather between now and harvest time. The only unfavorable thing for our country, is the apparently prosperous condition of the crops on the other side of the Atlantic. If this continue until harvest, it will largely diminish the foreign demand upon us, and perhaps depress the market prices here.

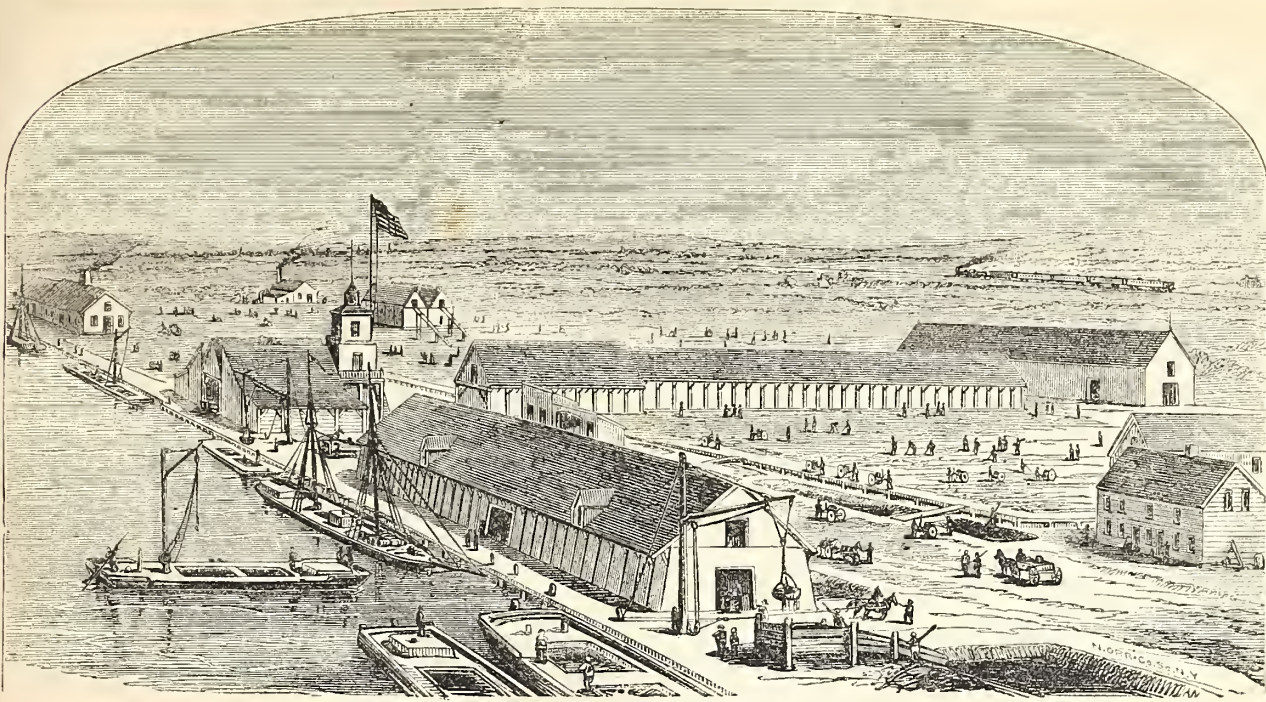
Are the Implements Ready?—A Scarcity of them Probable.

The present short supply and the high price of labor, may in part be remedied by securing more or better labor-saving implements. Two men with a mowing machine, horse-rake, and horse-pitchfork, will gather as much hay as eight or ten men using only the scythe, hand-rake, and common pitchfork. The same is true in regard to the reaping machine, the horse cultivator, etc. The more rapid gathering of a crop, at just the right time is a strong reason for using these implements. As we have often urged in the *American Agriculturist*, a man with a first-rate plow, hoe, ax, etc., will do nearly double the work in a week that can be performed by another man using poorer implements, while the extra cost of the former will often be less than the price of a single day's work.—Another suggestion. Those who intend to get new or improved implements this summer, should look out for them *at once*. Owing to the uncertainty in business matters, manufacturers generally did not provide their usual stock, while it is very probable that the demand will be greater than ever before. Indeed, the dealers in implements and seeds tell us that their business is already far exceeding any thing in past years. It will not do this year to put off the buying of a mowing or reaping machine, for example, until the week it is wanted, or there may not be one to be had at any price. Better have the orders in at once, that the manufacturer may prepare to fill them. Our advertising columns will indicate some of the present sources of supply. A note to the different dealers and manufacturers will obtain the terms etc., when not fully given in the advertisements. No time should be lost now.

About Advertisements—Explanation.

Numerous letters from subscribers seem to render an explanation necessary. The advertising pages, which are usually not supposed to be edited at all, are the most difficult labor assumed by the Editors of the *Agriculturist*. The reception of advertisements is allotted to one of them, who is instructed by the Publisher to exclude all unreliable men, or those believed to be so; all unknown parties who cannot give satisfactory references; all humbugs, secret remedies, patent medicines, etc.—in short, everything likely to deceive the readers. In these times, this is a hard rule to live up to. We are really giving back to our readers *all* their subscription money, and even a part of our advertising receipts, in the paper which we furnish them. It is also difficult for us to compete with other journals, almost all of which—not excepting the religious Press—admit to their advertising columns, things which the publishers would not have read aloud in their family circles. These semi-obscene advertisements, as well as those of humbugs, are of the most profitable kind; for those who make but a small return to their customers can best afford to advertise largely, and those who make their living out of the morbid curiosity of the youth of both sexes pay well for the privilege of bringing themselves to notice. We are sometimes offered \$2 or \$3 a *line* to insert such advertisements in the *Agriculturist*.—We still continue to follow the rule mentioned above, but would state, in answer to several letters, that we do not specifically endorse whatever appears in our advertising pages. Take, for instance, the manufactured manures, superphosphates, phosphatic guanos, etc. We do not buy or use many of these, and do not advise others to do so,—yet as many persons have a degree of confidence in these compounds, we allow responsible parties to advertise them. Again, with regard to new fruits, tree cotton, and recently-introduced plants generally, these may be desirable, or of doubtful utility, or even worthless. When we believe the parties are offering them for experiment in good faith, we admit the advertisements for the benefit of those who can afford to try them. Well-known public journals advertise with us, and these are of widely differing character. We of course do not endorse the politics or the specific religious views of any particular paper that uses our columns to make itself more widely known, if published by responsible parties. Excluding all whom we *know* to be dishonest or unreliable, we allow our advertisers to present their wares to the readers of the *Agriculturist*, presuming that they will exercise their own judgment upon them. Our advertising columns are well worth perusing; they keep the intelligent reader posted as to the recent improvements in agricultural implements, new plants, seeds, etc., and other matters of interest.

We strongly repeat our standing request that those who order of or write to our advertisers, will let them know where their business cards were seen. It will please the advertisers, and be a material aid to our business department, as it is the success of this part of our paper that enables us to supply it at so low a rate.



The "Night Soil" of New-York City.

That night soil is one of the most concentrated and powerful fertilizers, has long been known; though from natural aversion, for wise reasons made instinctive, few persons are willing to turn this material to practical account. There are in this City, at all times, more than a million of resident and transient persons. If we estimate the night soil at only eight ounces per day for each inhabitant, the yearly amount would reach 182½ million pounds, or ninety-one thousand tons! This material would doubtless be worth to the fields of the Eastern States at least two cents per pound, if it were properly saved and mixed with the soil, or more than three and-a-half million dollars! Indeed we believe it would produce an increased product of crops worth five or ten fold this sum. Since the introduction of Croton Water, a large proportion of this night soil is washed into the sewers, and then out to mingle with the waters of the ocean. Still, according to the City Inspector's report, about 9,000 privies, vaults, etc., are annually cleaned by night scavengers, the contents being conveyed away in covered carts. The number of cart loads (25 bushels each) ranges from 40,000 to 50,000 a year. The extension of water pipes is constantly decreasing this amount. The carts are dumped into barges at a few points along the river. For the five years, 1861-5, the barges are furnished by the Lodi Poudrette Company, the City paying them about \$15,000 per annum. We recently visited the works of this Company, located on the west side of the Hackensack River, N. J., about half way between New-York and Newark, in order to see how they disposed of the material, and to learn from observation, whether it was honestly prepared for use by farmers. For twenty years past farmers have heard of the Lodi Poudrette, and large numbers have used it. Some of our acquaintances have purchased it regularly for from five to twenty years, and believe it a good investment. We made our visit to the works without previous notice, to the end that we might see just how the manufacture was carried on in the ordinary daily routine. The accompanying sketch gives a general view of the works. About six acres of swamp marsh, along the bank of the Hackensack river,

are occupied by the buildings and drying beds. This is, we believe, the most extensive establishment of the kind in the world, exceeding even the noted Poudrette Works near Paris. As will be seen in the engraving, there is a long wharf (about 1000 feet in length). Running parallel with this are a series of canals, or reservoirs, for holding the night soil as it is raised from the barges by means of buckets and poured into them. Sixteen of these barges (holding about 8000 bushels each) are constantly plying back and forth to the city, or lying at the wharves to receive the material. The end of one of the reservoirs is seen in the foreground. The emptying of the barges is done by a portable steam engine moved along the wharf to the different landing places. The material is dropped from the buckets upon a coarse screen which separates the larger rubbish—bricks, pails, boots, etc. In the reservoirs the dark green, semi-fluid mass partially dries down, the odors arising being from some cause much less offensive than we expected to find them. Back of these reservoirs are the drying beds where the men are seen at work with shovels. These are in part covered with board flooring, and in part are the smooth ground surface.

The manufacturing process is begun by spreading over the surface of the floors, a thin layer of muck dug near by, or alluvial soil brought from a point where it is washed out by the Hackensack and Passaic rivers. The night soil is then taken from the reservoirs, and a thick coating spread over the layer of muck. As it gradually dries out, the mass is shoveled over by large gangs of men, of whom 100 to 120 are employed at the works. This shoveling over and mixing is done several times, before the whole is dry enough to be taken in wheelbarrows to the screening buildings. In the latter it is thrown into large heaps, and again shoveled over to make the whole mass as uniform as possible. This is important, for if not done, the variable character of the night soil, as gathered from different parts of the city, might make one batch inferior to another.

The next process is to pulverize and screen the mass. To do this, it is shoveled into box sieves, and worked over and over, and beat with shovels until the finer portions fall through the screens. It is then ready for packing into

barrels. These are all manufactured on the spot, the sawn staves being brought from Maine, the ready made heads from Massachusetts, and the hoops from various places. (The staves, heads, and hoops now cost about 18 cts. per barrel, and the men get six cents per barrel for putting them together, averaging 35 per day per man.)—We were greatly amused at seeing the immense masses of rubbish separated from the night soil, during the different screenings, showing the privy vaults to be an "omnium gatherum" for all conceivable things, deposited in part by design, and in part by accident. We noticed brick bats by the scores of cartloads; bottle corks by the million; broken crockery of every possible kind, and some not broken; stove pipes; tin pans, tin pails, tin funnels, tin kettles, and about everything else made of tin; children's toys in inconceivable numbers, and of every kind ever made; beer bottles, stone jugs, glass bottles, and glass ware of all kinds; oyster cans, sardine cases, brooms, oil cans, carpets, old garments of all sorts; hats, boots, shoes, books, clock wheels, etc., etc.—not to mention bones, (some of them evidently human), many watches, gold rings, and other jewelry, precious stones, coins genuine and counterfeit in large numbers, counterfeit dies, etc. The workmen often find valuable prizes, which is perhaps one incentive to the following of a business at best unpleasant. Women gather the glassware and sort it, selling the different kinds at various prices, to be melted over, or ground up. They also gather the bones, the company paying a stipulated price per bushel. The establishment is worth visiting as a "curiosity shop" quite equal in some respects to Barnum's. Any one going there will need to provide himself with a good pair of boots, and, if having over sensitive nasal organs, to take along a bottle of hartshorn. Strange to say, however, the manufactured product, though containing but a small proportion of muck as an absorbent or dryer, is in the form of a dry powder, and nearly inodorous.

After being put in barrels, it is taken to the city warehouse, and delivered to the different steamboats, railroads, etc. Farmers take away large quantities in bulk. The fact that there are regular customers who come year after year, (we conversed with some of them who chanced to come while we were there), is fair evidence that the material is of practical value. It is used most largely for corn, a handful in the hill with the seed, to give it a vigorous start, a good development of the first roots whether on poor or good soil. Its great merit seems to be quick action upon young plants. It is not injurious to the seed, though in contact with it. Poor or heavy soil needs also coarser barnyard manure, to improve both the tilth and fertility.

Management of Sheep in Minnesota.

To the Editor of the American Agriculturist.

As stern necessity is forcing an increased interest to be taken by Northern States, in the business of wool growing, I propose to give you a few practical items from Minnesota.

My neighbor Mr. Bennett, is the owner of about 2000 sheep, chiefly mixed blood, though a few are extraordinarily fine Spanish Merinos. He farms out about 1200, taking for his profits the fleece, and when the flock is returned, an equal number of young healthy sheep. The remaining 800 he feeds on his farm, and it is to the management of this home-flock that I would call attention, as I think that he has wintered them with unusual economy and success.

Mr. B. raised a quantity of Indian corn, which was cut and cured in the usual way in the field, where it was left standing in stack for daily use during the Winter. The feeding season with us is almost invariably free from rains. The corn was drawn and scattered over a large pasture at the rate of about one and-a-half bushels of grain to a flock of 200 sheep. The little animals stripped the stalks and cobs absolutely clean; then after being watered they were enclosed in yards adjoining the sheds, and supplied with an abundance of fresh straw, in racks.

Cost of Wintering.—Mr. B. estimates the cost as follows: In our neighborhood, unimproved land costs from five to ten dollars per acre. An acre of well cultivated and well cured corn, costing about \$5 for labor, will support 15 sheep, at 33½ cents per head. It is now the last of March, and he has still some weeks of provision left.

How the Sheep Look.—Under this head it is unnecessary to multiply words. The sheep are fully as fat as desirable. They are healthy, fleece heavy, clean, and in excellent condition. Mr. B. estimates his clip will average four lbs. to the sheep, including the last year's lambs.

How Sheltered.—Our climate, I repeat, is unusually dry during the Winter; we have few or no rains, or heavy snows, therefore but very ordinary protection is required; nor need we confine the animals to close, heated, and unhealthy stables. Sheds of rough boards, or poles and straw are infinitely preferable to the most costly and closely built stables. Mr. B.'s sheds open to the south, and are well boarded against north-east and west winds. They have a depth of about 16 feet, which gives ample protection, affording a dry, airy, healthful, and all-sufficient shelter. The pens and sheds are daily spread with clean fresh litter—the straw which the sheep pull from the racks. In warm days which come suddenly upon us as Spring approaches, the animals are driven to the open fields, away from the fumes of the heated manure, until the approach of night-fall, and in this daily care for the health of his flock, lies the true secret of Mr. B.'s success.

So soon as grass appears, pasturage with us is not an item of cost. A sufficient range is so easily procured, that at most it can only cost the wages of a man, who with a good dog, will look after and care for from one to two thousand.

The Profit.—According to present appearances Mr. Bennett's profit item will stand as follows:

Sheep averaged when purchased.....	\$2 20
2,000 Sheep at \$2 20.....	\$4,400
Cost of keeping.....	1,320—5,720
Sheep worth without the fleece, say \$5.....	\$10,000
8,000 lbs. of wool, say 75c.....	6,000
Lambs, say.....	1,500
	17,500
Deduct first cost.....	5,720
Balance in Profit*.....	\$11,780

You will observe that I have added a cost for Summer keeping equal to the Winter, which is

of course an excess; but I have made no allowance for loss by disease or death, which for six months past has only amounted to about \$10.

Having given you the above items I now solicit permission to propose a few inquiries to be answered by experienced sheep breeders.

1st. There is a prevailing opinion that the further north, wool and fur animals are grown within the limit of plentiful support, the finer and better is the growth of the animal's covering:—Is this only a conceit, or demonstrated fact?

2d. Do fine blooded sheep of the Eastern countries, degenerate in flesh or fleece by removal to the colder climates of the American States?

3d. Have sheep growers determined the quality of sheep natural to the temperate and colder climate of the Northern States of America?

The subject of wool growing is at this moment so pregnant with interest that it deserves much more than ordinary investigation. Thousands will be tempted to embark in the business, knowing little or nothing of the habits, the quality, or the wants of the animals. T. T. MANN.

Washington Co., Minn.

* Mr. Mann's estimate of profits is too large. His figures put wool at \$1 a pound, making the profits \$11,780: we took the liberty to change the estimate for wool in Minnesota to 75c., and that is nearly double the usual price. The present quotation in New-York (May 6) is 70 to 90 cents, from which must be deducted freight, commissions, etc. Again, is not \$5 a head for shorn sheep rather a high estimate for Minnesota. If one were to now embark in sheep growing, he would of course have to pay present rates for stock sheep, and not \$2.20, the price paid by Mr. Bennett. We readily grant that wool growing is largely profitable, and likely to continue so, but add these remarks as a caution against too great expectations.—Ed.

Shall Sheep be Washed?

Wool undoubtedly needs cleansing before it can be used in the manufactory, but it does not follow that it must be washed while on the sheep's back. There are many reasons why it should not be—few if any valid ones for a continuance of the practice. The best washing will only remove part of the foreign matter from the fleece. The manufacturer subjects all wool to a cleansing process, whether it has been previously carefully washed, or only "soused" in a slovenly manner. Sheep washing is violently unnatural. No animal dreads the water more, and with good reason; it requires days of warm weather to evaporate the moisture held in the meshes of a thick fleece of wool, and the animal not only suffers discomfort, but frequently positive injury. It is comparatively an easy process to remove the yolk and dirt from wool when sheared from the sheep, but impossible to complete the work while upon the back of the struggling animal. It would be just as wise, and little less humane, to give children an occasional plunge to remove stains and soils from their garments. But for the washing, the sheep might be sheared one or two weeks earlier in the season, which would promote heaviness of fleece, and add to the comfort and thrift of both sheep and lambs.

The great objection urged against shearing unwashed sheep, is that an unwarrantable deduction in the price of the wool is made by manufacturers. The remedy for this is with the producer. He has only to remain firm in a reasonable demand, and in time his terms must be acceded to. There is a very just cause of complaint in the practice pursued, of buying wool according to a general average of cleanliness, instead of fixing the price according to the actual condition of each lot. This has, in effect been, to offer a premium for neglect, and

many clips of professedly washed wool have been little superior in cleanliness to unwashed fleeces from sheep properly cared for. Producers should, in every case, insist upon selling their wool according to its own merits, and this can as easily be done with the unwashed article as any other. To change the present practice will require general simultaneous effort, and this can scarcely be expected without considerable discussion. It is here intended only to indicate some of the leading points that seem to make the change desirable.

Tim Bunker on Sheep Traps.

"What upon airth d'ye call that?" asked uncle Jotham Sparrowgrass, as he hailed Seth Twiggs in the street, this morning. Seth had a gun over his shoulder, and held in his hand what might have been mistaken for game, at a short distance. On closer examination, the object revealed a pair of short ears, a prominent nose, a long clean pair of jaws, well armed with sharp, bloody teeth. It was what is left of a dog after his tail has been cut off just behind his ears.

"That is what I call a sheep trap," said Seth, as he flung the head upon the grass, pulled his pipe out of one pocket, and a match out of the other, and lighted.

"Why that is Jake Frink's dog!" exclaimed Uncle Jotham.

"Taint Jake's any longer," replied Seth. "Ye see I caught him in the act, this morning airy. He was gnawing away at a sheep he had run down, and that is sheep's blood you see on his teeth now. I put that lullet between his eyes, and he hadn't time to clean his teeth before he emigrated to 'other country. That trap has caught three sheep of mine this Spring, besides lots of my neighbors, to say nothing of the lambs, and I was so afraid the trap might be set again that I jest cut his head off after I shot him, to make sure work of it. That critter has destroyed a hundred dollars' worth of property this Spring, I haven't a doubt. Sheep have been found dead, and badly maimed, and he has been seen chasing them. When complaint has been made to Jake, he could not believe he was guilty of even chasing sheep. He did not allow him in such tricks. His dog was as innocent as a lamb. Children could play with him, and he wouldn't even growl. To hear Jake talk, you would think the dog's mother must have been a sheep. Waal, now, ye see, that talk didn't go down with me. I can tell a sheep stealin dog as soon as I lay my eye on him. There is a kind of guilty look about the critter, that says mutton, as plainly as if it stuck in his jaws. Jake has never been able to raise sheep. If he tried, his lambs disappeared mysteriously when that dog was a puppy. He always laid it to other folks' dogs. But Rover was the guilty wretch that drunk lamb's blood. I have been watching him for about a week, and ye see this morning I got him jest where I wanted him. There was a piece of mutton in his mouth when I fired. It will take a smarter man than Jake Frink to get away from that fact."

"I guess you'll catch it when Jake hears of it."

"He won't have to wait long, for I'm going to take home Jake's sheep trap this morning. I wouldn't have you think that I'd shoot a man's dog, and then not own it. That would be too much like a sheep stealing dog. I calculate to take the responsibility."

This conversation of my neighbors shows the way the current is setting in the dog question, and the progress the reform is making, under

the new laws, and especially under the high prices of wool and mutton. This last, I think, has more to do with dog killing, than all the laws that have been enacted. With wool at a dollar a pound or in that neighborhood, every body that owns land wants a few sheep. Even Jake Frink rubs his eyes and wakes up to the fact that sheep raising will be a paying business. Sheep will live and do well on his poor pastures where his cows grow poor. He will bluster of course, when he learns that his dog is killed, but he will be resigned and conclude that his sheep as well as his neighbors' will be safer with that sheep trap out of the way. A large number of poor farmers, and rather poor citizens, who have the dog mania will invest in sheep, and that will make *them* the natural enemies of dogs. I have noticed that it makes a mighty deal of difference whether it is your sheep or your neighbors' that are bitten or killed. Resignation is a virtue easily practised, when a pack of dogs get into your neighbor's flock and worry and slaughter. But when you go out some fine morning and find your fattest weather half eaten up, or your full blood Merinos made into mutton prematurely, it stirs the blood at once against dogs. You owe the whole race a grudge. You think of steel traps, bullets, and small stout cords in close proximity to dogs' necks. You talk fiercely and threaten vengeance. Men in such a humor are prepared to legislate rationally upon the dog question. They see very clearly that one vile cur, not worth a copper to any body, may easily destroy a hundred dollars' worth of their property in a single night. With sheep at two or three times the old prices we shall not only have good dog laws, but we shall have men that will execute the laws, and the dogs at the same time. The old arguments on this question are just as good as any new ones that can be brought forward, but men see them a great deal better. A sheep is a creature of consequence, just about three times bigger than it was two years ago. The dogs have grown small, and a multitude of them have grown out of sight entirely.

There used to be a dog on about every corner of the streets in Hookertown. Some families kept a half dozen, and they had tight match to get enough for their children to eat, too. Now they are getting scarce, and I am in hopes that the time is not distant when they will be confined to cages, and shown up as curiosities at Barnum's. It does my eyes good to see children and lambs fat and happy, and dogs lean and miserable. Fat dogs indicate a low civilization like the Chinese, or a low state of morals like the White Oaks, where the dogs are more numerous than the people.

I have hated dogs ever since I was a boy. My father kept sheep and was a lover of choice mutton, and chose to do his own butchering, in a humane and decent manner. I remember an old ewe with twin lambs, a cosset who came home with the cows to be petted, and cared for as if she were a member of the family. One morning she was found dreadfully torn by the dogs, just alive, but unable to move and her lambs missing. I have hated the sight of a dog ever since, and never pass one in the street, without an apprehension of a bite, and a great longing to brain him on the spot. Seth Twigg has given them the right name, "Sheep Traps."

And the morality of keeping a sheep-killing dog is on a par with that of a malicious neighbor, who should set steel traps in the sheep walks of your pasture. I would much rather have steel traps than the dogs. The trap would

be certain to dispose of only one sheep in a night, while the dog might kill or maim a dozen. The trap and the victim would be found together in the morning, and the mystery of the broken leg would be cleared up. But your cowardly sneaking dog does his work by night and is miles away in the morning, with his chops all licked, and lying by his master's door, as meek looking as if he never dreamed of mutton. The owner of a steel trap is a responsible being, but the owner of a dog seems to think that his brute is what Mr. Spooner would call a free moral agent, fit to do business on his own hook. He is not accountable for the deeds of his dog. I go in for trapping rats, skunks, foxes, weasels, and other vermin. If we must trap sheep and lambs, I prefer an article with steel springs and chain, to a pair of living jaws on four legs. The latter catches too much game.

Hookertown, } Yours to command,
May 10th, 1863. } TIMOTHY BUNKER ESQ.

Small Pox in Sheep.

It will be remembered that no little excitement was caused in England last year by the appearance of small pox among sheep. Active measures were soon instituted to meet the emergency, and we are happy to learn that they have been successful. An Association formed among the sheep breeders in Wiltshire, to prevent the spread of the malady and to afford compensation to those who might sustain loss by its attacks, has just closed its accounts, there being no present necessity for its continuance. The proceedings of the Association during the year are of general interest. When the disease first appeared it was recommended and practised to some extent, to inoculate exposed flocks, on the supposition that the malady would be less severe in its effects. This, however, proved not to be the case; inoculated flocks died off rapidly, and thus the proposed preventive only spread the infection. The Wiltshire Association instituted experiments to determine the efficacy of vaccine virus, which proved entirely satisfactory. Six healthy sheep were vaccinated and then confined with others that were diseased with small pox, and which subsequently died, but the vaccinated sheep resisted all contagion and remained perfectly sound. To put the experiment to the extreme test, the six sheep were afterward inoculated with small pox virus. Two of them died, two had the disease rather severely, the other two slightly, and the four fully recovered. The Association recommend instant isolation of an infected sheep, and the vaccination of those in the vicinity, as almost certain means of eradicating the disease.

The labors of the Association brought to light some startling facts concerning the introduction of diseases among stock by importations from infected districts. There remained no doubt that the small pox was thus brought in. According to Government reports, the cattle diseases of England rose in ten years from a yearly average of 14, to 5, 6, and 10 per cent. A Government commissioner stated that, in 1862 the loss from disease was at least three times the total amount of cattle imported, a large part of which was clearly traceable to the introduction of diseases from abroad. It is very justly considered a matter over which Government should exercise proper control, and it will not be amiss for American farmers to give the subject due attention in time. The Pleuro-pneumonia excitement, though somewhat exaggerated, shows how great the danger may be, and

as our flocks and herds become more valuable, and greater attention is given to raise the standard of excellence by bringing in new blood, the risk will be proportionately increased.

Cure of Foot Rot in Sheep.

To the Editor of the American Agriculturist:

I have repeatedly used the following treatment for foot-rot in sheep with complete success. Prepare a solution of blue vitrol as strong as it can be made, by pulverizing and dissolving in warm soft water. Each hoof should then be examined, thoroughly cleansed with a knife, and if too long, cut to the proper dimensions. If no infection be found, let two men take the sheep with a leg in each hand and dip every foot into the solution of vitrol. When an infected hoof is found, carefully pare it until every particle of the infection is exposed—avoid bleeding the foot if possible. Then thoroughly saturate the foot with spirits of turpentine from a vial with a quill inserted in the cork; pour on as much fine powder as you can make adhere to the foot or the parts infected, and apply a lighted match to the same; after which dip the foot in the solution as above directed. The sheep should then run on a clean floor until the remedies have had sufficient time to take effect.

I have cured an entire flock with a single course of the above treatment. But to be safe, the same should be repeated in five or seven days, and if any cases of infection be found, repeat again. Should an obstinate case be found where the rot has penetrated into the center of the quick, the sheep should be put into a pen or small yard by itself, and subjected every second day to the prescribed treatment. Thoroughness is the great secret of success in treating the foot-rot. The knife is the principal remedy, if sharp and skillfully handled. A SUBSCRIBER.

Middlebury, Vt.

Prevention of "Cribbing" in Horses.

To the Editor of the American Agriculturist:

I found myself cheated to the amount of \$50 by the purchase of a horse sold as "sound," but which proved to be an inveterate cribber. Various remedies were recommended and tried without success. Finally, I have found a preventive, if not a cure. I have arranged the stall so as to leave nothing against which he can press his teeth. He is fed from a low box which is pushed into the stall from a passage-way, and the box is withdrawn when not in use. (It is said that a horse can not crib with his head down.) The opening for air and light is placed too high for him to reach it, to crib against its sides. Since adopting the above arrangement, the horse has improved in condition and spirit, and his value is also much increased. X.

Salting Stock.

Probably we do not know all the uses of salt in the animal economy; but a few are obvious. It acts beneficially upon the liver, yields a supply of soda to the bile, and gives increased nutritive power to food. It acts as a vermifuge, keeping the bowels of stock free from worms, and gives increased tone to the stomach. It tends to prevent rot in sheep. As to the amount and the time of giving it, farmers disagree. Some are accustomed to salt their stock regularly, once a week. Many successful farmers keep salt within reach of their stock, believing that they will eat only as nature requires. *

Experience with Italian Bees.

To the Editor of the American Agriculturist.

July 3d, 1861, an Italian queen was received at my Apiary. During the last of that season, I reared six queens and introduced them into stocks that Winter. In the year 1862, under the same circumstances, the Italians did one-fourth better, and where I introduced them to some of my neighbors, they say that they have done one-half better than the common stock. Of two colonies that stood side by side—the Italian filled 14 4½lb. boxes; the common bees, filled 8 4½lb. boxes. In introducing Italian queens, I find that the common bees disappear in about 90 days. This season I intend to introduce a common queen to an Italian stock to test what is now theory, that is, whether the life of the Italian worker is longer than the common. Either this is the case, or the Italian queen is *very much* more prolific. That it is a more active worker I have no doubt; that it will defend its stores with marked promptness is also true. I have been troubled less with robbery from the Italian than the common bee. Last year until after swarming or dividing, I had over 100 colonies at my place; then I carried some to what I supposed were better honey producing localities. The Italian bee is larger when it builds its own comb. I notice that they fly earlier and later than common stocks of equal strength, also on a cool day when scarcely a common bee is out. If the Italian bee is abused, it will resent it more vigorously than the common bee, but with care they can be managed as well. This Spring my Italians are in good condition and I am much pleased with them.

Tipton County, Iowa. C. G. McNEIL.

[We print the above as one of the apparent results of experiments with the Italian bee; but it will require a great number of careful experiments, to finally decide whether or not the Italian bees, as a rule, are better workers, more vigorous, and otherwise superior to the common bees. In the above case, and in the few others reported, the apparent difference in the amount of the honey, may have resulted from other causes, as it often happens that of two common swarms, apparently of equal number and vigor, the one will store up double the amount of honey secured by the other, though no reason can be given for the difference. If the general experience continues to show a marked difference in favor of the Italian, there will then be good reasons for introducing them generally.—Ed.]

Sheds for Manure.

Some farmers would build sheds for their manure, if it were not for the trouble. Others would do so, if they did not fear fire-fanging, or waste by drying up. But the trouble is nothing to an industrious man, and if the heap is properly managed, there is no danger from excessive heat. By protecting it from wind, sun, rain, and washing, its value will be largely increased.

It is doubtless true that horse-manure alone, if covered, will suffer from too rapid decomposition. But this can easily be prevented by mixing with it, as the heap is forming, frequent "dividers" of muck, tan-bark or common soil. The very best way is to throw up rough sheds, without siding, over the port holes of the barn,

large enough to cover the dung-heaps and a large pile of muck. Every few days, after the stalls are cleaned out, let a man shovel an equal amount of muck over the pile of fresh manure. This will absorb the liquid parts and prevent "fire-fanging." And when this heap is finally shoveled over and mixed, the compost will be as valuable as an equal amount of simple manure.

We are continually hearing of farmers who *accidentally* learned the lesson we now teach. They now never think of leaving their manure "out in the cold." They know that the increased value of their manure annually is four-fold greater than the cost of their sheds.



Poultry—The Black Spanish Fowls.

This breed of poultry is deservedly becoming popular in this country. It has long been reared in Spain and the adjacent countries along the Mediterranean, where it is said to have been introduced from the West Indies. Bement, in his Poulterer's Companion says of it: "The thorough-bred Spanish fowls should be entirely black, as far as feathers are concerned, and when in high condition display a greenish metallic lustre; an erect brilliant scarlet comb, serrated; with a clear milk-white face and earlobes; dark-blue legs; and a lofty carriage. Wattles of the hen small, but large and very conspicuous in the cocks, and like the comb, of a light scarlet. This marked contrast of black, bright-red, and white, makes the head of the Spanish cock as handsome as that of any other variety; and in the genuine breed the whole form is equally good. The cock-bird should be strong and short in the legs as possible; his back from tail to neck short, tail large and ample. He should weigh not less than six pounds; the head is rather large, the spurs long and sharp, and the bearing and carriage proud and high. The face should commence from where the comb joins on the head, and must extend downward over and around the eye till it meets the white earlobes.

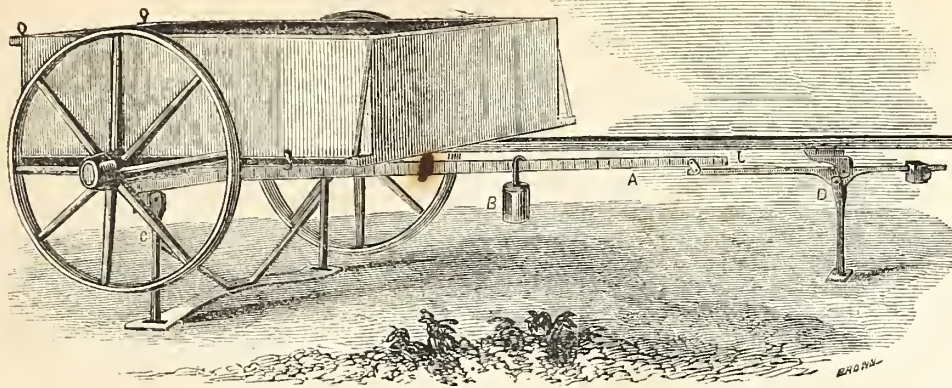
Spanish hens are also of good size and good figure, and are celebrated as good layers, producing very large white eggs. The head of the hen should be neat, and of moderate size; eyes bright; comb single, very large and pendulous;

face entirely white, the white extending around the eye; neck of moderate length, neatly set on; body broad, wings of middle size; legs a bluish-white; tail long and well squared; plumage of a glossy black, with brilliant tints of green and purple, as in the cock, but less brilliant. Her weight should not be less than five pounds. It must be especially observed that the slightest approach to coarseness, in either cock or hen, must be discountenanced, even at the expense of size; for in no class of fowls is fineness of quality more requisite and more appreciated than in the Spanish."

These fowls are favorites for their beauty, their excellent flavor of flesh, and their prolificness as layers. Such is their indisposition to sit, that it is advisable to depend upon hens of other breeds to rear their young. They are subject to one or two drawbacks. Their large combs are apt to be frosted during our northern winters, unless the birds are kept in warm quarters, and without proper care, mortification and death may ensue. They also are liable to lose their plumage, and if they moult late, they suffer from exposure.

Look After the Cabbages Early.

The importance of the cabbage as a field crop has hardly begun to be appreciated in this country, while in England, it ranks second only in value to the great root crops. As a food for fattening animals and as a change of diet for all, cabbages are highly esteemed. The crop is liable to the attacks of both insects and disease. The most common pest is the aphid or cabbage louse. If the plant is vigorous, it will soon outgrow its attacks. The sprinkling of ashes or air-slaked lime over the plants is recommended as a remedy. Mr. M. Scougale, of Mich., writes to the *Agriculturist*, that he has found it beneficial to sprinkle salt over the cabbages. Soon after the plants are set out, the cut-worm makes its appearance, taking off the leaves and sometimes the entire plant. The only remedy is to search for it just beneath the surface. It shows its tracks in the fragments of leaves, and the hole by which it has entered the soil. After the plants are out of the way of the cut-worm, they are preyed upon by the caterpillars of several species of butterflies. These, when young, are close together upon the outer leaves which may be broken off and the caterpillars destroyed. If over-looked until they get larger they become scattered, when hand picking must be resorted to. Cabbages are liable to a disease called club-foot, which shows itself in large swellings, or excrescences upon the root. This is by some supposed to be caused by insects, and by others regarded as a disease of the plant resulting from poor culture, and that the insects found accompanying it, are there because they find a favorable place for their operations, and are a result rather than the cause of disease. The only remedy that has been proposed for club-foot is to cultivate on land which has not been occupied by cabbages or any of the family for several years. In Massachusetts, where the culture is, perhaps, carried to as great perfection as anywhere else in the country, the best growers do not plant cabbages on the same land oftener than once in three or four years. In setting out the late crop this hint should be followed.

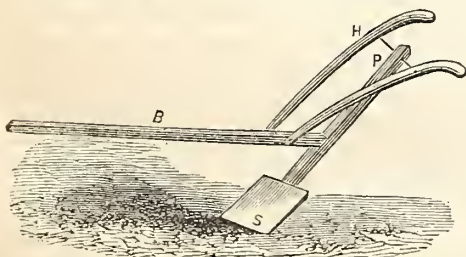


A Cart Weighing Machine.

Mr. J. S. Taylor, of Danbury, Conn., has left at the office of the *Agriculturist* a model of an apparatus which may be readily attached to a cart for the purpose of weighing the load. The engraving will give a general idea of the arrangement, though to exhibit it more distinctly, would require a separate engraving of the apparatus detached, for which we have not room. A long lever or scale beam, A, carrying a movable weight, B, is fixed upon a support or fulcrum, C. The whole is clamped by thumb screws to the axle of the cart in such a way that the weight comes upon the short arm of the lever, A. At D, is a compensating lever to hold the weight of the tongue. The supporting frame under the axle and the leg at D, are so arranged as to be turned up out of the way and allow the cart to be moved from place to place. When it is wished to weigh the load, these can be let down and the weighing performed. It is claimed that this apparatus will be found useful in weighing produce, etc., in those neighborhoods which have no large scales.

A Corn Coverer.

A "Prairie Farmer" sends to the *Agriculturist* a sketch and description of the implement illustrated below, designed for covering corn on smooth mellow land. This may be new to some readers; it has been for a number of years in use at the West, where it is called the "jumping shovel." The beam, B, is of 2x2½ inch stuff, 4 feet long. This is mortised into the post P. The latter is 2x2 inches, and 2 feet 9 inches long. The mortise to receive the tenon



of the beam is 1 foot from the lower end. The two are held together more strongly by a ½ iron brace under the beam. A 1 inch augur hole is bored 3 or 4 inches from the upper end of the post to receive a round brace which is fastened to and supports the upper end of the handles H. These are ¾ by 1 inch, in size, long enough for convenience, and bolted to the sides of the beam. The shovel S, is bolted to the lower part of the post. It can be made from

an old ditching spade, or a piece of steel 8x10 inches. It should have a straight edge at the bottom. To use the implement, the ground is first marked out both ways, two boys are employed to drop the seed, and a man follows with the coverer drawn by a horse. The shovel is kept in the furrow, gathering earth as it goes, and is raised a little at each hill, throwing the soil over the corn. The maker says that with a little practice a man can cover five acres in this manner as well and as quickly as one acre could be planted with a hoe.

Profitable Corn Raising in Connecticut.

In the Spring of 1862 the writer commenced preparing a newly purchased field of twenty-three acres, to be planted with corn. Most of the field was an old pasture lot, much grown to cedars and briars, stony, with a northeastern exposure; the remainder was mowing land, separated from the former by a deep ravine. We commenced operations by removing the division fences, clearing the cedars and stones, under-draining the wet portions, and plowing it all deep and well. Some parts that had never before been plowed, cost from \$6 to \$8 per acre. It was manured with 800 lbs. per acre of Quinnipiac Co.'s Fish Guano, sown broadcast and harrowed in. Harrowed the field three times and brushed over once, marked the rows three feet nine inches apart each way, dropped in the hills a small handful of manure made by composting fish guano with soil, planted the corn with a hand corn planter, and covered with a hoe.

As soon as the corn was up, which stood very even, the ground was thoroughly stirred with a cultivator going each way, which was repeated three times during the season, and it was twice hoed by hand. The corn looked remarkably well, retained its dark green color, until very late, and ripened to perfection. An account of expenses was carefully kept each day, and the labor being all hired and paid for, prevented any difficulty in knowing the exact amount. Thus:

17 1-10 days plowing \$3 per day.....	\$ 51.30
7 days harrowing \$3 per day.....	21.00
1 day bushing \$3.....	3.00
10 7-20 tons fish guano \$33½ per ton.....	344.96
12½ days sowing \$1 per day.....	12.50
2½ days marking out \$2.50 per day.....	6.25
8½ days manuring in hill \$1 per day.....	8.25
3½ bushel seed corn \$1 per bushel.....	3.12
11½ days planting \$1 per day.....	11.50
Protection from birds.....	2.37
21 days cultivating.....	46.75
36 days hoeing.....	38.25
Interest on cost of land.....	50.00
Total expenses of crop.....	\$599.25
By 1000 bushel corn \$1 per bushel.....	\$1000
Net profit on the crop.....	\$400.75

The cost of harvesting is not taken into account, neither the value of corn-fodder, one is expected to balance the other. The yield was

determined by careful estimate, made when the crop was gathered, and by what has since been sold, and is considered below, rather than above the actual amount. The price given, has been received per bushel of 56 pounds. The wood paid the cost of clearing the brush off the land, and the increased value will more than balance the expence of draining. Let Western farmers beat it, if they can. HALL DICKERMANN.

New Haven Co., Conn.

[We'll agree to turn out any number of western farmers who will beat this, if Mr. D. will take the corn at half the price he names. The best corn has occasionally sold here the present year at \$1 per bushel, but 60 cents per bushel is as high as it will do to calculate upon. Many farmers upon the western prairies would get rich very soon, if they could depend upon 25 cents per bushel, one year with another. We do not make these remarks to discourage planting corn, nor to depreciate the experiments of Mr. D., but as a rule, eastern men, especially in New England, put too high a price upon their farm products, when reporting upon farm operations. Being nearer the market for consumption, they obtain much higher prices than western farmers, and can afford to work poorer land, and expend more in tillage and manure. Still, western men would find it pay better to go over less surface, or by better cultivation get the same amount of crops from smaller areas.—Ed.]

What Kills the Squash Vines?

Several correspondents have written to the *Agriculturist* that their vines were destroyed last year to such an extent as to discourage them from attempting to raise squashes. One succeeded in ripening only a single Hubbard Squash from a packet of seeds sent from this office. The vines, apparently in full vigor, suddenly die, and when cut open, are found to have a worm or borer near the root. The destructive worm is the larva of a rather pretty insect, called *Trochilium cucurbitae*, or Squash-vine Borer. We give an engraving of the perfect insect from



a drawing kindly furnished us by Prof. Glover, the entomologist of the Department of Agriculture at Washington. The forewings are black and the second pair transparent; the body orange colored, and the hind legs furnished with long fringes. The insect deposits its eggs, which are very minute, from June to August on the stem of the vine near the root. The larva penetrates to the interior of the stem, and by eating away the substance kills the plant; after it reaches its full size, it enters the earth and forms a cocoon of a gummy substance covered with particles of earth, from which the perfect insect issues the following summer. These are the habits of the insect, and as will be seen, it is a difficult one to exterminate, as its presence is not suspected until the mischief is done. If the moths are seen flitting about the vines, every effort should be made to entrap them. The vines should be examined daily, and if any one is observed to droop, the larva should be searched for in the stem near the roots and cut out as carefully as possible, hilling earth around the stem, so as to cover the wound. If a vine is killed, care should be taken to destroy the insect which has done the mischief, to prevent multiplication.

For the American Agriculturist.

A Finality on Rats.

No pests are more annoying to the farmer and housekeeper. The destruction of property by them in the aggregate, is enormous. Many a farmer loses more by rats than the whole amount of his taxes. They burrow under the pig-trough, and come as regularly for their feed, as the pigs themselves. They share the food of the poultry and the horses and cows, if they are grain fed. They show themselves in the barn and house cellar, and devour the roots stored for Winter use. Thus there is a continual waste, and the amount in the course of the year is very large. But this is not the worst part of it. The scoundrels are so cunning that they outwit us, and evade every effort to oust them. Set traps for them, and you rarely catch more than one in a place. Stop up their holes, and they dig new ones. Set poison for them, and after a single night's experience the survivors will not touch it. A few are killed but all their neighbors come to the funeral and occupy their places. Put your cat in the barn, and they only withdraw to the house cellar. Put her in the cellar, and they flee to the barn. Occupy both with cats, and they flee to the corn crib. Wherever there is a chance for depredation, there the rats do congregate and multiply with astonishing rapidity.

What can be done? There is no effectual remedy but to make your buildings rat proof. The corn crib is easily insulated from rats and mice, by setting it on four posts capped with inverted tin pans, or large flat stones. The posts should be three feet high and the steps to the door should be movable, and should be taken away whenever the door is shut. But other buildings with cellars must be cemented on the bottom, and have the walls pointed with mortar in order to exclude them. This work fortunately is easily and cheaply done, and no man need go without a cemented cellar bottom for lack of skilled labor to do the job. He can do it himself. The articles wanted for the mortar, are sand and common water lime, which sells ordinarily in the New-York market from \$1¼ to \$1½ a barrel. Builders and masons in our large towns and villages, generally keep it on hand. The sand should be as pure a siliceous as you can find, and if the grit is coarse, so much the better.

To make the mortar, take two parts sand to one of cement, and mix thoroughly in the dry state, then apply just water enough to have it work well, and lay upon the cellar bottom with a trowel an inch thick or more. Only so much should be mixed, as you can use immediately.

If you do not wish to employ the mason, you can make your work rat proof without him. First prepare your cellar bottom by making it level, and ramming it so that it shall be as hard as a foot path, then apply the mortar and smooth it with a trowel. The thickness of the cellar bottom will depend upon the use you design to make of it. If you wish to drive a cart over it, as is necessary sometimes in large barn cellars, it should be at least four inches in thickness. In this case it is well to mix with the cement, gravel of the size of hens' eggs or smaller. If it is a cellar bottom, simply to hold manure, or to store roots in, an inch in thickness is just as good as more. In this case you should dig a trench say four inches deep by three broad, immediately adjoining the cellar wall on all sides and fill it with the mortar. The point of danger is immediately by the wall where the rats seek to enter. This also may be mixed with sifted

gravel stones. When their teeth bring up against the gravel, it rather blunts the edge of their voracity. The expense of cementing the cellar of a common sized house, say thirty by forty feet, will not be over ten or fifteen dollars, not counting the labor. Many a farmer loses more than this in a single season. The cementing is a work done for life and we have found it to be very effectual. CONNECTICUT.

["Connecticut's" suggestions are good, irrespective of cemented bottom cellars being proof against rats. Unless, however, the walls and the earth outside are made solid with the cement, the rats will do more or less mischief outside the walls.—In the April *Agriculturist*, page 119, we referred to using a "phosphorus salve," bought in Fulton-st., (we forget the name and number,) and are glad to report that the rats and mice are still absent. Not a dead one has been seen, or "smelled," and we conclude they went elsewhere. The remedy proves so effectual, even in our buildings which contain so many inviting seeds, that we shall advise Mr. Lane, of the Purchasing Agency, to hunt up the material, and advertise it in this number.—ED.]

Talks About Weeds.

Perhaps few persons have taken into account the immense labor, expense, and care involved in the destruction of weeds. A large proportion of all the work required in the cultivation of the hoed crops, arises from the necessity of keeping these pests in proper subjection. If weeds did not grow, we could dispense with half of all the labor now expended in growing our thousand million bushels of Indian corn; and so of the turnip, the onion, the tobacco, the cabbage, etc., and of nearly all garden products. This subject is so important, that we deem it worth while to devote a few chapters in the *American Agriculturist* to the discussion of the habits of the principal weeds, with hints upon the best modes of exterminating them. And first, a few general considerations.

We have many letters inquiring how this or that particular weed may be killed; the mistaken idea being that there are specific poisons for the destruction of the different noxious plants. A weed is any plant which grows where it is not wanted, no matter whether it is in itself beautiful, or useful, or not. Rye, a useful plant when grown by itself, is, when mixed with wheat a troublesome weed; and many of our choicest garden plants are weeds in other countries, while some of our common weeds are cultivated elsewhere for their beauty. Weeds are subject to the same laws of growth, and flourish or languish under the same conditions as other plants; any destructive agent or poison that would kill them, would destroy the useful plants also. In cultivation, to serve our own purposes, we place certain plants in an unnatural condition—a condition which alone makes them valuable to us. We all know how perfectly worthless the common carrot, parsnip and turnip become if allowed to run wild, and doubtless without the care of man, a majority of our cultivated plants would become equally valueless. A given space of soil can sustain only a limited number of plants; those of a naturally strong growth, or which find the locality favorable to them, live and flourish, while the weaker ones or those unsuited to the locality, are killed out by the greater vigor of the others. This is the natural state of things. Cultivation gives a plant the best possible chance to develop itself, and

to do this we not only supply an abundance of the kind of food best suited to its growth, but also remove all other plants which would interfere with it, and thus give it full possession of the soil, and relieve it from the necessity of struggling with competitors. In preparing and enriching the soil for the desired plants, we at the same time adapt it equally well for those not desirable. If a field is planted and left to itself, all have an equal chance, and the probability is, that the undesirable plants, or weeds, will either obstruct the growth of the cultivated plant or kill it out altogether. In cultivation we must not only give our plants the best chances as to food, but must also see that they have full possession of the soil prepared for them. The practical part resolves itself into two questions: how do weeds get into the soil; and, being in, how are they to be exterminated. We must recollect that nature makes abundant provision both for the reproduction and the preservation of every plant, no matter how insignificant, or troublesome even, it may be, and we can not work for the growth or the destruction of any plant unless we understand its peculiarities and treat it accordingly. Take any field which we wish to cultivate, and plow it up; if left untilled, it will be found that there were already seeds enough in the soil to completely cover it with vegetation. If we manure the field, a host of seeds will be introduced in the manure. Not only this: numbers of plants of the thistle family have their seeds furnished with down, and every breeze will bring hundreds of them from the neglected field of some careless neighbor; cattle and sheep may bring them in their hair and wool; even the workmen will bring them attached to their clothing, and birds will deposit them in their excrements. If the field is where it is overflowed by freshets or where it receives the wash of other lands, multitudes of seeds will be brought in by water. It will be seen that there is abundant provision for seeding the soil to weeds. As already hinted, the vegetation which first gets possession of the soil, tends to keep other plants out, hence it will be seen that the early destruction of weeds tends to give the crop the advantage; this of itself, is a great point gained.

Weeds have three general modes of growth: 1st. The *annual* weeds, or those which start from the seed and perfect themselves the first year, like purslane and shepherd's sproats: 2nd. The *biennial* weeds, which pass the first year in making strong roots that bloom the second year and die, as the wild parsnip and carrot: 3d. The *perennials* that may or may not flower the first year, but which keep on growing and make a strong mass of underground roots and stems that soon get possession of the soil to the exclusion of all other vegetation, as the Canada thistle, and the docks. The free use of the hand hoe and the cultivator, will destroy the annuals, and also the others while they are in the early stage of their growth. It is only when the last two sorts get possession of the soil, that there is any serious trouble. When they are old enough to have made large roots or tubers they then have a store of material from which they can throw up numerous shoots; and this they do so frequently and so rapidly as to give the impression that it is impossible to kill them. Any of these plants will die, if not allowed to produce leaves. Frequent mowing or, if not too numerous, cutting just below the surface of the ground will ultimately exterminate them. The underground supply of food which these plants have stored up, must give out, if it be not replenished by the growth of leaves. If the cultivator

only persevere, the conquest is certain. Weeds of whichever class, should not be allowed to perfect their seed. A single weed that goes to seed, provides for incalculable labor in the future. (See interesting figures in the next article.) With these considerations we leave the subject to take up some of the weeds in detail, at another time.

Multiplication of Weeds—Interesting and Instructive Figures.

Did the reader ever make an estimate of the rapidity with which plants multiply, especially those classed as weeds? A few years ago, while detained several hours at a railroad crossing in Pennsylvania, by the failure of a train, we went into a neighboring cornfield, and pulled a single stalk of the Ragweed (*Ambrosia artemisiifolia*) so common in some parts of that State, and sought amusement and instruction in counting the number of seeds. Sorting the average sized spikes, and counting the seeds on several of each, we found the number of perfect seeds grown that year on a single plant to exceed 16,000! Suppose each of these seeds to be scattered and grow, and go on multiplying: in the short space of only four years the number of plants growing would be 65,536,000,000,000,000, or about a dozen plants for every square foot of the entire earth's surface—land and water included. But suppose we take the average annual multiplication at only 100, which is far below the average increase of most weed plants. At a hundred a year, a single seed would in the tenth year produce 1,000,000,000,000,000 plants! This is equivalent to 111 plants for every square inch of the entire earth's surface; or 444 plants to every square inch of land, if we take the usual estimate that three-fourths of the surface is covered with water. Let the readers of the *American Agriculturist* apply these figures to their own farms or gardens, and estimate how long it would take a single weed seed to produce plants or even seeds enough to carpet the whole surface. They may then appreciate the importance of not allowing a single noxious plant of any kind to perfect its seed.

Arithmetical Note.—If we estimate the earth to be a perfectly round globe 8000 miles in diameter the following figures give contents and surface:

Solid Contents in Cubic miles.....	268,083,200,000
Surface or Area..Square miles.....	201,062,400
Surface or Area..Square feet.....	5,605,298,012,160,000
Surface or Area..Square inches.....	807,162,913,751,040,000

Transplanting—Why, and How.

This is the month in which many of the plants in the kitchen and flower garden will be transplanted; that is, removed from the place in which they were sown to that in which they are to perfect themselves. As nothing of this kind happens to plants in their wild state, it may be asked if this is not an unnatural operation. To this it may be replied, that all cultivation is in a measure unnatural; it consists in giving the plant those advantages which it can only enjoy under the care of man. We take advantage of certain capabilities and tendencies of plants, and direct them to serve our own purposes. When we dam a natural stream and make an artificial pond, we alter the course of nature, but in order to do it successfully, we must work in strict accordance with natural laws. So in cultivation, we induce a plant to grow differently from what it would if wild, but in doing this we follow the laws which govern its growth in the natural

state. We do not oppose, we only direct. The leaves and roots of a plant bear direct relation to one another; if from any natural or artificial cause the root-growth is cramped or checked, the leaf-growth is correspondingly diminished, and the plant shows a greater tendency to produce flowers and fruit. Tomatoes in pots will show blossoms when only a few inches high, while if sown in the open ground they will make quite large plants before they show any signs of flowering. Now transplanting, no matter how carefully it may be done, by breaking off the minute root fibers has a tendency to hasten the maturity of the plant. It does this in a less striking manner it is true, than when the plant is grown in a pot, but it greatly modifies its development, and flower and fruit are borne much earlier. This tendency to early maturity is sometimes increased by two removals; the plants are taken from the seed bed and "pricked out," as it is called, into another bed, from which they are finally removed to the place where they are to mature. Each removal breaks off and shortens some of the branches of the root and, after the first shock is over, new small fibers or feeders are thrown out which, from their increased number, enable the plant to grow with much greater vigor than before, and mature much earlier than it would have done if left to grow where the seeds were sown. Sometimes there is an advantage in clipping the long or tap root in order to induce the formation of fibrous roots. As the functions of the roots are disturbed in transplanting, it follows that the relations between their absorbing surface and the evaporating surface of the leaves are broken up; the plant gives off moisture by the leaves more rapidly than it is received by the root, and the plant wilts. This indicates that a moist atmosphere is the most suitable time for the operation,—a "drizzly spell," when the soil is not too wet. It frequently happens that the plants are getting too large and there is no prospect of a damp season. Transplanting can be done, with proper precautions, at any time. For several years past we have been accustomed to work without regard to the weather and have been uniformly successful. If the holes are well watered and the plants are shaded for a day or two, they rarely fail to do well. The shading is easily done with a handful of cut grass, a burdock or other broad leaf, or a shingle stuck in a position to ward off the sun during the hottest part of the day. Where the plants are few and stand thinly in the seed bed, each may be carefully lifted by the trowel so as to retain a ball of earth around the roots, and removed with comparatively little disturbance; but where there is a large garden this particular care can not be exercised—all the operations must be carried on in a wholesale way. Where many plants are to be removed, they should be carefully lifted from the seed bed, separated and "grouted." Grouting consists in coating the roots with thin mud, which protects the delicate fibres from drying, and should always be done where the plants are to remain for some time out of the ground. The directions for grouting plants can not be better given than by quoting from Watson's *American Home Garden*, which by the way is one of the most reliable and practical works ever published in this country. (Price \$1.00.) "Grouting is performed by mixing rich earth, to which cow dung may be added, with water, to the consistence of soft mud, and dabbling the roots of the plants in it, not by thrusting them through it, but rather by drawing them through it, or, as it were, striking them upon it until each root is loaded. A dozen plants may be

grouted at once; and as they are held in the hand preparatory to this process, an inch or two of the root end may be cut off." In transplanting in the large way, labor can be profitably divided: one hand can make the holes with a trowel, another can drop the plants, and one or two may follow to set them. The plant should be set somewhat deeper than it originally stood, and the earth should be well pressed around the roots. If the transplanting is done in dry weather, the holes should be filled with water; when this has soaked away the plant should be put in and its roots covered with moist soil taken from beneath the dry surface. We always add a little dryish soil over the surface, especially if the earth used in filling be damp; the dry soil absorbs the surplus water, and keeps the mass from baking. We prefer making rather large holes with the trowel, to the use of the dibble, which in making the holes for the plant, packs the earth too closely for the favorable growth of its roots. The proper time for transplanting the different varieties is mentioned in the Calendar of Operations for each month.

How to Save Paper.

Those correspondents who write us long articles upon the way in which wheat may be converted into chess, and on the influence of the moon upon vegetation should, in these times of the high price of the article, save their paper. We can not publish such communications. Our position upon the chess question has long ago been defined, and although we have had much talk about the conversion of wheat into chess, we have had no proof that it has ever taken place. Let us have the specimens and we will submit them to the best authorities in the country, and if they decide that a specimen has grown part wheat and part chess, or is in an intermediate state between the two, we will give it up. Proof that chess grows where wheat grew before is no better evidence that wheat turned to chess, than finding a cow in a horse's stable is that the animal has been transmuted. Gentlemen troubled with chess upon the brain, please excuse us until you have some facts. Regarding the moon question, we are only sorry that this superstition exists among otherwise intelligent people. The weeds of error are some of them very tenacious of life. Melons and cucumbers are said to be particularly influenced by the moon. The *Agriculturist* advises to prepare the soil well, keep off insects, and put on liquid manure, and let the moon do her worst.

Fill the Missing Hills.

A vacant hill will be found here and there in the cornfield, at the first hoeing. Unless many of them occur together, they are quite likely to be passed by as of little account, but it is attention to small matters that marks the difference between carefulness and neglect, and not unfrequently here is the turning point between thrift and what is called bad luck. In most sections it will pay to replant missing hills with corn at the first weeding. In a favorable season it will come to maturity. Or pumpkin seed may be put in, which will yield choice morsels for animals next Autumn. It would be better to plant and cultivate these spots even without return, than to leave them to be occupied by weeds which will be sure to take possession, and ripen seed for a succession of troublesome crops.



GOING TO THE HAY FIELD.

Engraved for the American Agriculturist.

The above engraving, from an English painting, shows the bright side of Haying time in that country. The artist represents the whole family going forth to participate in the labors which are to transform the waving grass into stores of winter forage. The girls as well as the boys, will have a hand in the business, and their ruddy cheeks, when they return at night, will glow with the bloom which healthful exercise imparts. Even the baby is taken along to nestle and crow in a bed of new mown hay. Last season we saw many English haying scenes, none exactly like the above, but there were often gangs of thirty to fifty men and women all in one field, and when done there, they passed on to the next estate. The almost perpetual rains there, required much more "making" of the hay than in our dryer climate. We felt half tempted to set up the business of supplying "hay-caps," for we are quite sure they would be a god-send there. They pay with us, where much longer seasons of dry weather can be depended upon.

Were we presenting an American scene, we should perhaps show only two persons, one driving a mowing machine, and the other following with a horse-rake. Our labor-saving machines have in many sections of the country done away with much of the picturesque and poetical in hay-making; but we can afford to lose these if they bring us larger crops and in enlarging our home comforts help us to a higher civilization. Still, on many farms, especially in new countries, the scythe, the hand-rake, and the pitchfork are to be used in securing the great hay-crop,—great, for it is more valuable than cotton was in the best days of its reign,—great, for it is part of an ever present miracle, an intermediate stage between gross earthy material and life sustaining milk and meat.

It is not in Europe alone that women go into the field. In this war time, where the absence of men has made labor scarce, women, who are ever in advance of men in patriotism, take a share of the farm labor upon them. We have

just now a letter from "Elizabeth," in Iowa, who says: "Last year I helped my father stack our hay, nearly twenty tons, and felt all the better for it. I am willing to work out of doors for years yet, and let my brother fight for our country. I would rather do it than that one star should fall from our glorious old Flag."—With such women as these to take care of the homes, who shall despair of the country!

HORSE PITCH-FORKS.—Next to the mowing machine and horse-rake, the horse pitch-fork will be found the most valuable labor-saving implement for the hay making season. Very good forks, with pulleys and ropes complete, cost about a dozen dollars, the interest of which is less than a dollar a year. With one of these, a load of hay is quickly and easily raised and deposited in the highest mow, by a horse. Several kinds are made, any one of which is better than none. Two good ones were advertised last month, and they may be in this paper.

Cultivation of Beans.

The small crop last year together with the great demand for the army and navy, have caused beans to bear so high a price that doubtless many farmers will be induced to give more attention to this crop than formerly. The common bean has run into a great number of varieties, but the white sorts only are raised for use in the dry state, though some colored ones are much richer. The principal varieties grown in the large way are the Blue Pod, Marrow, and Pea-Bean. The earliest of these is the Blue Pod, which is a favorite sort in New England, on account of its early maturity and prolific bearing. The Marrow, called also White Marrowfat, is a favorite sort, and by many preferred to any other for cooking. The Pea-bean, also known as the army or ship bean, is quite small and rounded, and is the kind more largely cultivated. The soil should be warm and light, and not too highly manured; almost any but a heavy clay soil will answer. The planting is best done as soon as danger from frost is over, but if put in any time before the last week in June, they are pretty sure to make a crop. They should be planted in rows about 2½ feet apart, or sufficiently wide to allow of working with the cultivator. They may be planted with the hoe, putting 3 or 4 beans in the hill at a foot or fifteen inches apart. There are bean drills which do the work expeditiously, some of which drop the seed in a continuous line, and others are so contrived as to plant in hills. From a bushel to six pecks are used for an acre. Though the planting is generally left until the press of Spring work is over, it is advisable to get them in as early as possible, both on account of having them out of the way of early frosts, and to have the land clear for Fall crops. Do not let the weeds get the start, but hoe as soon as they make their appearance. Ground that has been cultivated with beans, is in excellent condition for wheat.

Try a few Roots.

Were animals competent to advise as to what should be grown and stored for their winter sustenance, there would be a unanimous request for at least a few carrots, turnips, or beets, to be fed with the dry hay which must form the staple diet. This request should be freely granted—not merely in kindness to dumb creatures, though that is something. It makes a man feel pleasant to witness the welcome which attends the distribution of an occasional juicy breakfast to stock that have been longing for something succulent. Variety of food promotes appetite and growth as well as pleasure to the animal palate. It is also no small help to the hay mow and grain room to have a well filled bin of roots to draw from. Although a given weight of grain will add more pounds of flesh than the same amount of roots, yet a larger quantity of food per acre can be secured from the latter. Fifty bushels of corn is above the average yield; with fair cultivation twelve hundred bushels of mangel wurzels can be produced, and much more by proper manuring and tillage. But there is less need than formerly to urge the cultivation of root crops, particularly in the older settled portions of the country. At the far West where corn and hay are almost superabundant, these may suffice; but throughout the East the benefit of root culture is yearly being more highly appreciated.

There is yet time to put in a winter supply

of ruta bagas, beets and carrots. White turnips are better left until July. Sugar beets and mangel wurzels should be planted early the present month. Carrots head the list for all kinds of stock, including horses; next we prefer beets; the mangel wurzel is most productive. All roots need rich, deep mellow soil. It is discouraging to an enterprising beet or carrot to plow its own way into a hard subsoil. Straggling roots here and there may find a small crevice in which to burrow, but the crop under such circumstances will be stunted and poor. A well tilled field occupied by corn the previous year will usually be a favorable location; a good dressing of old manure should be well worked into the soil. Much labor will be saved if the land be free from weeds. The first crop of these may be mostly destroyed by plowing early, allowing them to spring up, and then going over the whole with a cultivator harrow. The seed should be put in drills two feet apart for mangel wurzels, or ruta bagas, and sixteen or eighteen inches for carrots: nothing is gained by crowding the ground. At the first hoeing, thin the beets to one foot apart, the carrots to six inches. About four pounds of beet seed or two pounds of carrot seed per acre will be required. The after culture will consist in keeping the ground clean and loose. Almost the whole of it can be performed with the horse-hoe. It may not be advisable to commence largely at first, but we feel assured that those who commence with a quarter of an acre by way of experiment this year, will increase the size of the plot in future, particularly if proper attention be given to the first investment.

Interesting to Flax Growers.

It will be remembered that we published in the May No. of the *Agriculturist*, page 140, the decision of the committee of the N. Y. State Agricultural Society appointed to examine the various processes for the improved manipulation of flax, with a view to award the appropriation offered by the Legislature. It having been deemed advisable to retain the appropriation for another year, the Executive Committee desire to procure all possible information concerning the progress of flax culture and manufacture in this State. To this end they ask for communications from those interested, on the following points, viz.: 1st, The breadth of land sown with flax in the year 1863 in each town in the State. 2d, The amount of seed sown per acre. 3d, The amount of seed and straw raised per acre. 4th, The price received per ton for the straw, and for seed per bushel. 5th, Such other information relative to the culture of flax as the cultivator may deem essential. 6th, The amount of straw purchased by each factory, and the price paid for it. 7th, The purpose for which it was manufactured, as, for instance, paper stock, upholsterers' purposes, or flax cotton. 8th, The invention of any new machines for dressing flax. Letters containing information on the above points should be addressed to "Flax Committee, State Agricultural Rooms, Albany, N. Y." Such information will greatly facilitate the investigations of the committee into the important interest committed to their care, and will undoubtedly be cheerfully imparted by those of our readers in this State who are engaged the present year in flax culture, even though they may have just commenced on a small scale. The difficulties and observations of beginners are frequently of great value. Those just commencing often note points

which are passed over as unimportant by the more experienced cultivator, but which are of great weight in determining the essentials to, and probabilities of success.

A New Humbug.

Most of the Humbugs by which operators seek to fill their pockets at the expense of the credulous, are old games, which have been so frequently exposed, especially in the columns of the *Agriculturist*, that only those who will not read are in danger of being taken in by them. Only occasionally a new scheme is brought to light. Here is one having the merit of some originality. A highly patriotic and philanthropic individual issues circulars announcing that

* * * * "The proprietor of one of the most valuable and successful, as well as popular and indispensable 'FAMILY REMEDIES' known in this country, has resolved to dispose of and close up his extensive business, for the special benefit of our SICK AND WOUNDED SOLDIERS, and the Widows and Orphans of those who have sacrificed their lives, and those who may hereafter, for the Preservation of our Glorious Union! The entire net proceeds shall be given to the above named persons, throughout all the Loyal States, and the amounts to correspond as nearly as possible to the number of troops drawn from each; for which purpose he hereby offers and agrees to give the RECIPE with the right to make and use the same, to every Family in the United States, for the small sum of ONE DOLLAR for each family."

EXTRA INDUCEMENTS are offered: Immediately upon the close of the Enterprize a grand Octavo Volume is to be published, containing the names of the Donors in regular order. Those who give five dollars, shall have their names printed in capitals; those giving ten dollars are to appear in capitals, and have a copy of the volume splendidly bound; and those who are thus patriotic to the amount of a hundred dollars, are also to have their Portraits superbly engraved in steel for the volume, and receive twenty-five proof copies extra? He who gives the largest amount is to have his portrait, lots of books and proofs, and his biography printed in the volume. A numerous signed certificate sets forth that the Manager is a gentleman of unblemished character, possessing superior business capacities of the strictest integrity. This man's "business capacities" may be of "the strictest integrity," but we can hardly vouch for his personal honor. Happening to know one of the parties whose name was appended, we inquired into the particulars, and were informed that the certificates were signed in reference to another entirely different enterprize, apparently a legitimate one, and that the signer considered the present scheme a transparent humbug. How many will be induced to swallow pills, or apply a lotion, for the benefit of the poor soldiers? Probably not many readers of the *Agriculturist*. Those who are disposed to help the afflicted in their country's cause—and who are not?—will find abundant opportunities to do so without sending a dollar to an unknown adventurer, who appeals to the unworthy motive of vanity, by promising to exhibit their names in print with others who may have been similarly duped, and in case they have been largely "sold," to show their portraits to an admiring world.

A THISTLE PULLER.—Julius Meyer, Potter Co., Pa., eradicates thistles by pulling them out by the roots before blossoming. To save the

hands, he uses a pair of wooden nippers of 2 inch stuff, 3 feet long, with teeth fitting into each other. This will exterminate them if properly followed up. Where they are very numerous it would be a tedious undertaking.

Precautions Against the Weather.

Science has not yet enabled man either to certainly predict or to change the weather. Although in general, the succession of the seasons, seed time and harvest, are guaranteed by the Almighty Ruler, yet they are not alike propitious to all localities. At times the North is blasted with untimely frosts, while the South is fervid with sunshine; the East may be parched with drouth, while the West is rejoicing in refreshing showers. But the cultivator may do something to provide himself against such contingencies. First, by a mixed husbandry. If corn be stunted by continued rain, the grass in meadow and pasture will grow with unwonted luxuriance, and what is lost in the plowed field may be found in the cattle yard and the hay mow. He who depends upon wheat alone may grow rich if the snows of Winter and the rains of Summer are propitious, but he may also lose all when the seasons change their aspect, and are unfavorable. Thousands have paid a heavy price for the experience by which this lesson has been learned, and no longer trust to a single crop.

Draining is a most efficient regulator by which to counterbalance in some measure the effect of wayward seasons. If there be too great rain-fall, the water speedily finds an outlet from the roots which it would otherwise drown. If drouth occur, the porous soil is enabled to draw moisture from beneath, and also condense it from the air which can enter from above. Corn on a well drained field will pass safely through a soak or a drouth which would diminish, by one-third, the yield from an undrained compact soil. Frequent stirring of the soil, keeping it loose and light, is of paramount importance, especially in drouth. The rapid evaporation which goes on at the surface under such circumstances, cools the adjacent air, and causes it to deposit copious dew, and moisture from below will also be drawn upward to supply the wilting plants. If in addition to this, mulching be practicable, to prevent the too rapid escape of moisture, drouth may be resisted, for a lengthened period. This may be done in the garden and fruit yard, and to some extent in the corn-field, where straw or refuse hay is plenty.

It is less easy to keep grass lands in heart during drouth, and other measures should be resorted to where the stock of cattle is large, and the amount of pasture and meadow only just sufficient to carry them through a favorable season. A field of corn or millet should be sown the present month, to be cut and fed green in August and September. The latter plant resists drouth even better than corn, and an acre will yield a supply for several head of cattle during the period when drouths are most frequently injurious to pastures. There need be no loss, if the crop be not wanted to supply Summer deficiency. A feed from the soiling patch at night will make itself felt in the milk pail in the morning, and what can not be profitably used in this manner can be cured and used to advantage in Winter. There is always less difficulty in disposing of superabundance of feed, than in eking out a short supply, and the wise husbandman will endeavor to err on the safe side, if at all.

Cultivating Orchards.

It is a question much discussed of late, whether or no orchards should be plowed and manured and cropped. We have seen orchards both old and young, cultivated to their injury. If an old orchard is plowed deep, it is quite sure to tear up and break the roots; and this will be followed by blight and stunted growth. If a young orchard is plowed carelessly, not only will the roots of trees be injured, but the bark will be bruised by the whiffletrees, and the trees themselves be gnawed and trampled on by the horses. An old orchard can be plowed shallow, and little harm come from it; but as a general rule, the plow should be kept outside of its boundaries. If the land needs enriching and re-seeding, scarify the surface with a harrow, and give a dressing of old manure, scattering the seed where it is wanted.

A young orchard not only can be plowed safely, but it absolutely requires cultivation. One might about as well throw his young trees into the street at first, as to set them out in tough sward, and let them so remain. Perhaps most of them will manage to live, but they can not thrive. Plow the land properly, manure it well, keep the surface hoed clean of weeds and grass for six feet around every tree, and it will make more progress in one year, than a grass-bound tree would in three or four. This is no mere speculation; the experience of every year proves it. As the trees become large, and the roots ramify, let the plow be gradually withdrawn.

The Scale on Apple Trees.

Mr. Hardy, of Chenango Co., N. Y., has sent us a specimen of apple tree bark completely covered with the scale insect, and numerous other readers of the *Agriculturist* have written us concerning its depredations upon their trees, asking for a remedy.



The insect is believed to have been imported from Europe, and is especially troublesome at the West, the section from which most of our complaints are received. The figure will give an idea of the appearance of the insect at the present season. The natural size is from 1-10th to 1-8th of an inch, and they are frequently so numerous as to cover every portion of the trunk and limbs. The shape of the scale is so much like that of an oyster that it is sometimes called the "Oyster-shaped Bark-louse." It is known by Entomologists as the *Coccus conchiformis*, and *Aspidotus conchiformis*, the specific name—*conchiformis*, meaning shell-shaped. These scales contain the female, which dies after depositing her eggs. The eggs, which may be seen by carefully lifting the scale, are hatched late in May or early in June. The young insects are very minute; they move about for some days and then settle down and insert their proboscis or snicker into the bark, from which they draw their sustenance, and acquire their hard coat or shell. The females never leave the shell, but the males come out as small flies and have wings. These being, in brief, the habits of the insect, it will be seen that they can only be successfully destroyed soon after they are hatched, and before they acquire their hard and impervious scale. Various preparations have been recommended for their destruction; Harris advises the use of two parts of soft soap

with eight of water, to which lime enough is to be added to bring the mixture to the consistence of whitewash. This is painted over the trees early in June, covering every limb and twig as far as possible. Mr. Kimball of Wisconsin, trims the trees thoroughly and then applies, with a paint brush, a mixture made by boiling leaf tobacco with strong lye, until it is reduced to a pulp, and then mixing with soft soap to form a paint-like compound. Mr. Smith, of Connecticut, uses a decoction of tobacco, aloe and soft soap, applied with a syringe. Prof. Glover, of the Agricultural Department at Washington, informs us that he succeeded in destroying a similar insect upon the Orange trees in Florida, by syringing them with a wash of soft soap, water, and a little guano. Another says that the use of mackerel-brine will prove effectual in destroying them. This insect has its natural enemies which destroy great numbers of them, still its increase in some sections is alarming; it needs vigilance and care just at the right time. We would thank any of our readers who have had success in exterminating the scale, to give us their methods and the results.

How to Raise Peaches.

It is a well known fact that peaches do not succeed as well as formerly. In addition to want of fruitfulness from the unpropitious seasons, the borers and yellows are making great havoc in many sections. Timely care and faithful labor will clear the trees from borers, but the "doctors" have not as yet found an "infallible specific" for the yellows. Of one thing, however, observing cultivators are pretty certain, namely, that the disease is perpetuated by planting pits from unhealthy trees; and that too many nurserymen use no discrimination in the selection of seeds, we have evidence in the barrels of pits of all kinds collected in the streets of this city, and sold to planters. For aught the nurserymen know to the contrary, nine tenths of these pits were from unhealthy or diseased trees. To such, and to all who wish to raise their own trees, we commend the following from the pen of Hon. Wm. Parry of New-Jersey, in the *Hammonton Farmer*.

"The peach tree does best on new land, and seldom if ever will yield a crop where peach trees have grown before. There are trees on the light, new lands of Atlantic Co., N. J., over fifteen years of age, in a flourishing condition, bearing annual crops of fine fruit. The proper method of raising such trees is to save seed or pits from trees which are perfectly healthy, free from yellows, borers, and all other defects that would tend to weaken the constitution of the parent stock. The pits should be planted in Autumn, and covered with two inches of sand, so as to allow them to freeze and thaw during the Winter. In the following Spring, about two thirds of them will open their shells, and the kernels may be picked out and planted in mellow land suitable for corn or potatoes, in rows four feet apart and six to eight inches in the row. They should be kept clean and well cultivated until the latter part of Summer, when they are in a suitable condition to bud with desirable sorts, selecting buds from *healthy trees*.

The young trees should be left to grow one Summer after budding, in the nursery rows, and the next Spring be set out on good mellow soil prepared as for corn, which crop may properly be grown among the trees the first year after setting out. In planting the trees, mark out the land in squares, twenty feet each way, by

running a light plow through, and set a tree at each crossing. Dig the holes twice as large and twice as deep as would just receive the roots in their natural position. The roots should be carefully examined, and all bruised parts cut smooth with a knife, drawing it from the under side out. The yellow subsoil thrown from the bottom of the hole is not to be returned around the roots, but mellow surface soil must be filled in and packed closely under and over the roots, so as to prevent any cavities remaining.

An orchard thus carefully set out must not be neglected. The ground should be kept mellow and clear of weeds by frequent stirring, the suckers and surplus branches trimmed off, and the ends of the most vigorous limbs shortened in so as to give a more compact head. If gum should be seen oozing from the stem near the ground, take a knife and remove the little intruder that is preparing to make its winter lodging under the bark.

Plant Evergreens.

No grounds, however limited, should be without evergreens, which are beautiful in Summer and indispensable in Winter. The latter part of May is usually the best time for planting, though the backwardness of the season will this year extend the time well into June. Indeed, with a little care they can be removed during the early part of June in any ordinary season. Recent introductions have increased the list of varieties so enormously that one is puzzled, in looking over the catalogues of the nurserymen, what selection to make. Most of the recent importations bear a high price and their hardiness in our climate is yet to be tested; and our advice is to leave experiments to those who can afford it and to stick to the old and well established kinds which are always satisfactory and can never become too common. The two evergreens which, from their ease of culture and intrinsic worth, are most popular, are the Norway Spruce and the Arbor Vita. They are easily transplanted, of rapid growth and, when well shaped specimens are chosen, are fine for the lawn and excellent for masses and screens. They will live in poor, and thrive in good soils, and will bear cutting as the cultivator may fancy. Nothing is more beautiful than a well grown specimen of our common White Pine, or Weymouth Pine, as it is called. The chief obstacle to its general introduction seems to be its nativity. If it were brought from a distance and sold at a very high price, it would be more generally sought after. Then there is the common Hemlock (*Abies Canadensis*), than which few evergreens are more beautiful. It is unfortunately rather impatient of removal, but it is worth while to take special pains to secure so fine a tree. The Austrian, Scotch, and Cembrian pines make noble trees, and the Pigmy Pine (*Pinus pumilio*) and the Irish and Swedish Junipers are desirable for small grounds. At any time, and especially in late planting, the greatest care should be taken to prevent the roots of evergreens from drying. They should be kept well covered from the moment they are out of the ground till they are replanted. Where it is practicable, the holes should be prepared beforehand, adding peaty earth if the soil is of a sandy character, and then wait for a cloudy day upon which to take up the trees from the nursery. Large stones laid over the roots are better than stakes; besides holding the tree in place they will act as a mulch to prevent the soil from drying out.

Basswood Bark for Tying.

Every nurserymen and gardener know that the Bass or Russia matting is the best possible material for tying up plants, binding buds, and many other purposes. The Russia article is frequently scarce, and is always difficult to procure by those who live far from cities. The want can be readily supplied from our native Basswood or Linden which is abundant throughout the northern States. Young and vigorous trees should be cut down during the present month and the bark stripped off. This is to be put into a stream or pond of water until the inner bark is readily separable in layers, which will be in two or three weeks. When the bark parts readily, it is to be taken from the water, carefully separated, a layer at a time, and then washed to free it from mucilage, and dried. There will be found a considerable difference in the strips. The finest should be selected for tying buds and other delicate work, and the strongest and thickest left for coarser purposes.

A Perfect Hedge.

A perfect hedge is seldom seen in this country. Our people are in too much haste to see results, too impatient of the needful labor and cost, to build up a good, durable hedge, one that will turn cattle, and be a real ornament to any farm or residence. Consider, a moment, the conditions of such hedge building. The line must not run beneath the drip and shade of trees, or among their roots. The land must be good, or be made fertile by manure. The plants should be properly set out, the ground tilled and kept free of weeds for several years. And yet, how few enrich and cultivate soil along their hedges, after the first year! Equal in importance to this, is thorough and systematic pruning every year. The majority of hedges are allowed to grow up several feet before they feel the shears at all. Of course, they become lank and bare at the bottom, where they ought to be bushy and strong. They are shaped more like the letter V, and must always remain so, while they ought to be more like that letter inverted, Δ . They should, from the start, be cut back every Spring to a foot of the new growth: i. e., the hedge should be allowed to gain in height only one foot each year. The sides should be slightly trimmed, by all means keeping the lower branches broader than those above. The pruner should always keep in mind what the final shape of the hedge is to be. The inverted Δ seems to us a little too sharp, and we should advise rounding the sides a little, making it resemble a straw bee-hive, or rounded cone.

After the hedge is brought to its required height, say of four to six feet, it must be pruned at least once in mid-summer, to check its growth. Now, there are only a few persons who will take all this trouble, and this is a sufficient reason why we see so few good hedges.

Another reason lies in the defectiveness of our hedge-plants. The English hawthorn, so excellent in that moist and equable climate, does not generally succeed with us. Several of our native thorns have been tried, but where the hedge becomes full grown, and it is necessary to summer prune it, the leaves turn yellow and the plants become sickly. In a few sections, as about Wilmington, Delaware, the Cockspur is reported as doing well. The Osage Orange answers a good purpose south of the latitude of about 40°, but is not sufficiently hardy at the north. The Three-thorned Acacia is now

being extensively tried. It is hardy and thorny enough, but as it is a very rampant grower, it is by no means certain that it will bear the severe summer pruning necessary to keep it within bounds. And would our busy farmers find time to do that work? The Buckthorn comes the nearest to being a perfect hedge-plant in all respects but its thorns. It is hardy, not over-rampant in growth, for, unlike the Locust, it is a bush rather than a tree, bears shearing well, and is subject to no diseases or insects. It will answer for a strict barrier, if one will take the trouble to set a low and light wooden fence on the exposed side, made of only a single board, four or five inches wide, running from post to post. Paint this board green, and it will hardly be noticed. The White Willow is now creating quite a sensation at the West. Whether it will make a perfect hedge, is yet quite uncertain, but time and experience will determine.

The Best Native Gooseberry.

This is the Houghton Seedling. It is not of the first class, as compared with the foreign sorts, but it is the best American, seldom mildews, is hardy and prolific. Its origin is interesting. Some thirty years ago, Mr. Abel Houghton, then of Lynn, Mass., set out in his garden four of the best English sorts in a circle, with a native variety in the center. They all flowered and fruited the second year. He sowed the seeds indiscriminately, and where the plants came up, he transplanted them by the hundred into rows. In five years, they came into bearing, but nearly every one suffered from mildew. He saved the best and threw away the worst, and finally the sort known as Houghton's Seedling was the only one which proved worth saving and propagating. All honor to Mr. Houghton. Honor, indeed, he should have, for it is said that he has made no money by his long experiments.

Strawberries.

This is the harvest month for strawberries, and the time when the fruit is in perfection is the proper one in which to plan for new beds. While to many, one strawberry is as good as another, those of larger experience know that this fruit presents a great variety, not only in flavor and relative sweetness, but in the size and hardiness of the fruit and the vigor and prolificness of the vines. The best berry for the table is not always the best one for the market; firmness of flesh and abundant bearing are for this purpose the most important qualities. Though we may have many very fine varieties, perfection is not yet attained, and every year there are new claimants to superiority over old varieties. It is no doubt possible that the efforts of cultivators will yet produce a fruit which will combine all the excellences of the best known varieties. Now is the time for those who intend to plant in the coming Autumn or Spring to visit the grounds of cultivators, or fruit exhibitions, and make observations for themselves. We expect that the exhibition which will be held at the office of the *Agriculturist* will present the finest collection of strawberries ever seen in this country, and those who attend it will derive much information. We shall publish some reports of the discussions of strawberry growers upon the merits of the different varieties, for the benefit of those who cannot attend the exhibition and the meetings.



The *Strelitzia reginae*.

A fine specimen of this old but little known plant, from E. James, Esq., of East Morrisania, N. Y., has been on exhibition for some weeks at the office of the *Agriculturist*, where its tropical looking foliage and very curious flowers have been admired by a throng of visitors. The plant is about 3 feet high and has four strong shoots, one of which has been figured by our artist. The *Strelitzia* was first introduced into England from the Cape of Good Hope nearly a hundred years ago. Its name was given to it in honor of the wife of George III., who belonged to the house of Meeklenburgh-Strelitz. The plant belongs to the same family as the Banana, and its leaves resemble those of that plant, though they are much smaller. The manner of flowering is very singular; a long green sheath is borne at the end of the flower stem, this bends to a horizontal position, and from a slit in its upper side the flowers rise one after another. From their gay color and peculiar shape, the plant is called by some the "Bird of Paradise."—The three under portions of the flower are of a golden yellow, and the narrow or central part is purplish blue. Each flower continues for several days, and is succeeded by another which rises out of the sheath.

For a long time it was cultivated as a hot-house or stove plant, but it is now found it will grow well in the green-house or as a house plant, as it will live in any room, where it is protected from frost. The objection to its general introduction as a house plant is the slowness with which it is propagated. It is multiplied by suckers which it throws up very spar-

ingly, and by seeds which are only formed by artificial impregnation of the pistil. It will grow in any good soil and should have a period of dryness and rest after flowering.

Arranging Bouquets.

We have letters from several correspondents asking us to give directions for the arrangement of flowers in bouquets. As this is a matter that depends so much upon individual tastes, it is difficult to give any precise directions, though there are a few general rules which may be followed. The beauty of a bouquet depends upon its form and color. The regular bouquet makers seldom use flowers upon their own stems; the separate flowers are each fastened to a splinter of broom corn by means of a bit of fine wire. Thus furnished with a strong and elastic stem, the flowers can be made up with greater ease than when upon their own stems. Bouquets made in this way are of course not benefited by placing them in water, but they retain their

freshness in a remarkable manner if occasionally sprinkled. A light and graceful appearance should be given by means of little sprigs of small flowers which should project beyond the general surface. A general fault in bouquets, is a deficiency of green; all flowers appear better in contrast with foliage. The Ground Pine (*Lycopodium dendroideum*), is one of the greens most used by the bouquet makers. Sprigs of asparagus are used with very good effect; any good green that does not readily wilt may be used. In regard to colors, the laws of contrast must be observed. A bouquet made entirely of yellow, red, and orange colored flowers would not be pleasing, for these are all harmonious colors. White flowers are very useful as they contrast with every other color. Red and blue do well together, while the effect of purple is weakened by either of them. Yellow and blue should be contrasted with white rather than with strong green. Neither red nor yellow should be put near orange. A little practice will enable one to combine the colors in the most effective way.

VINES IN THE FLOWER GARDEN. The introduction of vines and climbing plants into a garden gives it a gracefulness and variety which can come from no other method. By this plan, we not only have the ground covered with verdure and bloom, but the air also is filled with them. It is surprising to note what pleasing effect may be produced by simply setting up a few cedar poles, 6 or 8 feet high, and covering them with some common vines, like the

Morning Glory, of different colors. Set two or three within a few feet of each other, and extend stout cords from the top of one to the other. The vines will cover these cords and hang down in graceful festoons. Instead of poles, one may make ornamental frames or arbors, and cover them with a great variety of vines. The result will be every way satisfactory, and the whole need cost little time or money.

Plants with Variegated Foliage.

For a long time the striped or ribbon-grass of our grandmothers' gardens was the only variegated leaved plant in common cultivation, but now we have, under the rather absurd name of "foliage plants," a great variety, some of which are very beautiful. Many of the rarest ornaments of the green house are prized for their foliage rather than their flowers and we have annuals, perennials, and shrubs, and even trees the leaves of which are either wholly or in part of some other color than green. Japan seems to be very prolific in plants of this kind, and we have from there recently a Honeysuckle, an Arbor Vitae, and a Ginkgo with variegated leaves. Among the bedding plants of this character, *Coleus Verschaffeltii* takes a very high rank. We give below an engraving of a young plant, but it is impossible to properly represent its beauty without the use of colors. The leaves are pleasingly variegated, the lighter portions being of a tender green, while the markings are of a rich maroon or brownish purple color. This most desirable ornament to the flower border is to be had at the large horticultural establishments, but as yet bears a high price. From the ease with which it grows from cuttings it will doubtless before long be very abundant and cheap. Among annuals, the *Amaranthus tricolor* and *Perilla Nankinensis* are well known. *Amaranthus melancholicus ruber*, a new blood red



COLEUS VERSCHAFFELTII.

annual from Japan is highly recommended. A bed of these presents a striking appearance when viewed from a little distance.



About Ginger.

This is the root, or rather the under-ground stem, of a plant which is a native of the East Indies, but is now grown in many other tropical countries. The stem grows 2 or 3 feet high and is reed-like; the flowers are borne on a separate stalk, they are of a dark purple color, and appear from between broad scales, as is represented in the engraving. In order to save room, the artist has cut off the top of the leaf stem, and placed it by the side of the flower stem. Our supply comes from both the East and West Indies, and is imported in the root, which differs much in appearance and quality. When scalded as soon as it is taken up and dried in the sun it has a dark brownish color, but if the root is scraped before it is dried, it is much lighter colored. Some of the finer kinds are not only scraped but bleached, and are known as white ginger. The root is retailed in powder, and in the grinding is frequently adulterated with meal and similar substances, and several grades of ground ginger are kept at the wholesale stores at prices corresponding to the amount of adulteration. The preserved ginger, which is brought in jars from China, is prepared from the young and tender roots, before they have become stringy or have acquired a very powerful pungency. The fresh root is imported from the West Indies, and is frequently sold in cities for the purpose of flavoring citron-melon, and other preserves. These fresh roots which are usually brought in the Fall, may be planted in a pot and kept through the Winter, and in Summer be turned out into a warm place in the garden where they will flourish during hot weather.

Storing Butter under Ground.

A. Thompson, Pendleton Co., Ky., writes to the *Agriculturist*: "Last June I commenced packing butter. I washed it well through two or three waters when it was first churned, and worked it over again before I packed it, putting it in large stone jars, and digging a hole under the floor of the smoke house, having no cellar or other good cool place. The top of the jar was left just above the ground. I then put strong brine about two inches over the butter, pouring it off each time as I put in fresh but-

ter, adding nothing but salt to the butter, and in January last I sold 60 pounds of butter that was as sweet and good, as when first packed." To preserve butter in good condition the first essential is thorough working. A very small amount of buttermilk left, will soon taint the whole mass. When well worked and properly salted, it should be kept at a uniform low temperature. This was secured in the above instance by partially burying in a shaded place. Some other location than a smoke house would usually be preferable, as butter quickly absorbs any odor from surrounding substances. A small building would pay, where much butter is to be stored. A great gain will be realized by selling June made butter at January prices.

Which are the Best Milk Pans?

The following experiments lately made at the Munster Agricultural School Farm in Ireland, to determine the effect of various materials used for milk pans, upon the yield of butter, are given in the London Agricultural Gazette. The pans selected were of five kinds, viz.: glass, earthenware (black glaze), delft (white earthenware), tinned iron, and wooden vessels. In order to carry out the experiment with the greatest accuracy, the feeding of the cows was changed, and the temperature of the dairy varied at each experiment. The milk as it came from the cows was strained into a large vessel, and then measured accurately into the pans. The quantity of milk set in all cases was 8 gallons, and the cream from this, ranged from 5 to 6 pints. One week was allowed to elapse before the next experiment was commenced. In all, four experiments were made. In the first experiment the feeding was of a rich nature, and a large produce of butter was expected, and the temperature of the dairy was high for the season, viz., 55°. The feeding consisted of White Turnips, Swedes, Rape-cake (3 lbs. to each cow per day), grains, and hay. The expectation of a large yield of butter was realized, as two of the vessels gave the highest produce—3 lbs. of butter from 8 gallons of milk. In the second experiment the temperature of the dairy was lowered to 48°, and the feeding was Aberdeen Turnips, Swedes, grains, and hay. In the third experiment the temperature was raised to 50°, and the feeding was Mangels, Swedes, Aberdeen Turnips and hay. The temperature was 52° in the fourth experiment, and the feeding was Mangels, Swedes, grains and hay. The produce in butter is shown in the following:

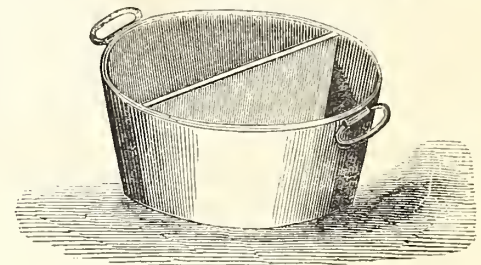
Milk vessels	Experiment No. 1.	Experiment No. 2.	Experiment No. 3.	Experiment No. 4.	Average of the four experiments
Glass	3 0	2 10	2 12	2 14	2 13
Earthenware (black glaze)	3 0	2 10	2 12	2 14	2 13
Delft	2 14	2 8	2 10	2 12	2 11
Tinned iron	2 14	2 8	2 10	2 12	2 11
Wood keelers	2 4	2 4	2 6	2 7	2 5½

It will be noticed that the yield of butter was varied by change of feed and temperature, but that the superiority of the glass and glazed earthenware was maintained throughout. The milk in wooden vessels was less affected by temperature, wood being a poor conductor of heat. The milk soured first in the wooden keelers, and in the delft and tinned iron vessels a few hours sooner than in the glass and glazed earthenware. The longer milk is kept sweet, the more time there will be for the cream to rise unobstructed by coagulation. The pores

of wooden vessels in time are more or less affected by moisture and acidity, according to the pains taken to cleanse them, and this hastens the souring of the milk. They can not be kept as clean as tinned iron or glass. The latter material in the above experiments gives about 5 per cent more butter, than the tinned iron, and 18 per cent more than the wood. The heaviness and brittleness of glass and earthenware are objectionable, and the loss from breakage would probably counterbalance any advantage gained in increased quantity of butter. The tinned iron pans in common use in this country, are, all things considered, the most convenient vessels yet brought into use. But for the expense, the best vessels would be porcelain lined iron ware, such as are used for preserving kettles. It may be a question whether the great durability of these vessels, as well as their effectiveness, may not make them the cheapest in the end. The annual interest would not amount to five cents each, per annum.

An Improved Dish-Pan.

A Western correspondent of the *Agriculturist*, "Bay," sends a sketch of the household implement shown below with the following description and remarks: "Diameter of the pan lengthwise of top, 19½ inches, at the bottom 15 inches; short diameter of top 15½ inches; of bottom, 11½ inches; depth of pan 7 inches; handles 2 by 4 inches. My mother, a good housekeeper after the English pattern, always considered it a lady's bounden duty to wash up the breakfast dishes herself, thereby making sure each day that her china-closet was in order, that none of the silver was missing, or glass and cutlery strayed into the kitchen. This operation is facilitated by such a pan as I describe; having divisions,



one for washing, the other for draining: it can be used without slopping, and obviates the necessity that exists in some families, of having dishes carried to the kitchen and back, after each meal. This not only saves time, but risk of breakage, as well as insuring a wholesome division between dining-room and kitchen table articles." [A dish-pan of the above dimensions, would seem to be too small for both washing and draining divisions, unless for a family of only two or three persons, and using but few changes of dishes.]

To Keep Bed Clothes on Children.

Many a severe cold, and not unfrequently sickness and death, have resulted from sleeping without covering; and this happens quite as frequently in Summer as in Winter, for in the latter season, greater care is exercised, and the windows and doors are less likely to be left open in a way to produce a direct draught of air. Restless children will throw off the clothing, notwithstanding the final visit to their beds by the careful mother or father, before retiring. This can, in part, but not wholly, be prevented by light suppers of simple food, taken early enough to be in part digested before going to bed, which is always advisable. No one, young or old, can sleep well with a poultice of hearty, undigested food on either the outside or inside of the stomach. In addition to the above, we have for several years successfully practised fastening the

covering upon the bed. For this purpose, simple screws, or small wooden knobs, fastened into the two side rails on the under side—one near each head post, and one near the foot. Two strong tapes or narrow strips of cloth are tacked across one coverlet a few inches from the head and foot, and loops on the ends are brought over the side rails, and thrown over the screw-heads, leaving the coverlet loose, but so that it can not be pushed off. The long strip is preferable to short loops fastened to the edges of the coverlet, which may tear out. This method is effectual, and costs but little trouble. In a letter to the *American Agriculturist*, "Ann Eliza," of Cold Spring, L. I., writes on the same subject: "To make a child sleep comfortably, and not push off the bed clothes, sew a small knob on the side of the trundle-bedstead or cradle, on the inside, then sew strong loops or strings, on the under quilt far enough from each end, to draw it snug across under the chin, not too tightly; then, put on as much other bedding outside as is necessary, and so long as the loops and knobs do not give way, the child can not get uncovered. If a child has the habit of throwing the head back, and pushing itself out in that way, slip down inside the head board, another peg high enough to go 10 or 12 inches above the pillow; or better still, if the trundle-bed is drawn out before a door or window, have a head similar to a cradle head, to slide down far enough, to set firmly on the bottom of the trundle-bedstead, and the child can not help sleeping warm. If for two children, put a middle loop on the quilt, and a knob in the center at the head. The knobs should be far enough down so that they can not strike the head against them, and the loops long accordingly. In very cold weather the child's bed should be warmed, by laying in the bed pieces of wood or board, that have been previously warmed in the stove oven, putting in half an hour before the child goes to rest, so that not only the blanket but the bed will be warm; and the little ones will not be shivering a long while, but nestle down and in a few minutes be fast asleep. The two children of the writer sleep, one in the trundle-bed, and one in the cradle, fastened as above described, and have never known what it was to sleep cold. None but a mother can know what a satisfaction it is, to be certain that her child is comfortable in a cold Winter night, and no fear of throwing off the covering, and laying the foundation for a fit of sickness, and perhaps death."

Refrigerators—Economy in Ice.

Ice is not merely a luxury but almost a necessity in the household, and in this season of scarcity, the greatest economy should be exercised in the use of it. Great improvements have been made in refrigerators or ice chests, within a few years. In the old box refrigerator, where a lump of ice is put at the bottom, and the articles to be cooled placed over it, there is an unnecessary waste of ice. The provisions in this are cooled only by giving off or radiating their heat which is absorbed by the ice, and they, being at the top, are always in the warmest part of the refrigerator. In several recent inventions the ice is placed at the upper part of the refrigerator and its contents are not only cooled by radiation, but also by a descending current of cold air which is passing over them. This current can not take place when the ice is below. We have upon our Exhibition Tables a model of a "Polar Refrigerator," which has some excellent points. The box is divided into two compartments by a central ice chamber. This is made of corrugated zinc, and wedge shaped with the larger end uppermost. The ice is placed at the top of this chamber upon a rack, and the water, which results from its melting, and which is still very cold, is retained in the lower part, where it can be drawn off for drinking. It is an advantage to have separate compartments in the refrigerator, as delicate fruits, butter, milk, etc., can be kept where they will not contract any unpleasant flavor from meats and other provisions. In the use of ice for cooling drinking water, a great saving is effected by

the use of double ice pitchers. These are two metallic pitchers placed one within the other, and the intervening space filled with some non-conducting material. In cooling water in the ordinary way, we often use ice very wastefully. A pound of ice in small fragments will cool more than three lbs. of water from the ordinary Summer temperature, to 32° or ice-cold. It is not necessary to reduce the temperature of water so low as this, it being too cold either for comfort or health, and a much smaller quantity of ice than is generally used by most persons will make the water pleasantly cool.

How to Fasten Corks.

It is often very desirable to confine the corks of bottles more strongly than can be done by merely sealing them with wax. In bottling cider, sparkling wine, etc., the gas evolved exerts a very strong pressure, sometimes sufficient to burst the bottles, and the cork is easily forced out, if not tied down. Wire is sometimes used for this purpose, but stout twine properly put on, will be sufficient. The illustrations show quite plainly the manner of doing this. A simple knot is first made, (Fig 1.), and the loop drawn upward to pass over the top of the cork.

It is then placed around the neck, just below the projection, drawn tight, and the two ends are brought up over the cork, when it can be readily tied, as shown in Fig. 2. If preferred, fine flexible wire can be used in the same way. This may seem like a small matter to illustrate, but we consider nothing as unimportant which may prove of convenience to the housekeeper. We may here add what has often been stated, that we are always pleased to receive such suggestions and hints of contrivances which may not be generally known to young housekeepers.

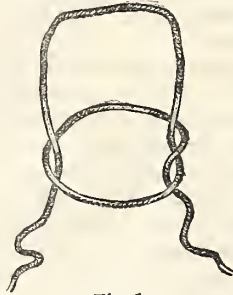


Fig. 1.

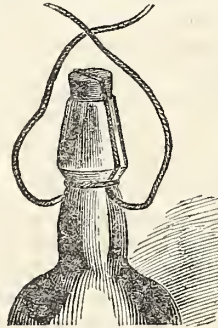


Fig. 2.

"Splendid Jewelry!"

The above words head an attractive advertisement, recently published in this City. The articles offered are said to be made of "the celebrated Oreide Gold," which "has been found to work equal to pure gold. In finish and beauty they are equal, if not superior to the genuine article." Following this is a price list, from "Gold" watches at \$10, down to "Gold" studs at \$1. This is an attempt to obtain money under a wrong coloring. Oreide Gold, as it is called, is a cheap alloy of copper and zinc, worth little more than brass, but capable of longer retaining a bright polish. In appearance it somewhat resembles gold, but will ultimately tarnish like any base metal. So good is the imitation, however, that thousands of dollars have been realized from the sale of articles made from it. At first they were represented to be fine gold, and were distributed by "Gift Enterprise" establishments, until that game was played out. Now the attempt is made to palm off this cheap compound under a deceptive name. Fortunately the community have been somewhat enlightened as to the probability of obtaining a dollar's worth of goods for a few cents, and the swindle will probably not be abundantly successful, at any rate, not among the readers of the *American Agriculturist*, we think.

The cheap jewelry manufacturers have much to answer for, not only on account of the deceptions

practised in the business, but because of the incitement given to a love of display, which was already a sufficiently prominent national characteristic. Young persons now-a-days are seen glittering with shining ornaments, which might provoke the envy of the Squaws of our Western wilds, or the untamed negroes of Central Africa, but which only excite disgust in the minds of persons of good taste. There is no rational objection to personal adornment. The Almighty intended man to be the most beautiful of all earthly creations. But the addition of a profusion of shining metal, or sparkling stones is no improvement to beauty. A plain ring, a neat pin, or some inconspicuous ornamental keepsake may be admissible, but any jewelry or other articles which attract attention from the wearer, thereby demean him into a mere walking show case for the manufacturers' wares. No trinkets can make a homely face beautiful, but modesty, patience, kindness and all virtues will add charms of surer and more lasting attraction.

For the *American Agriculturist*.

How to Polish Shirt Bosoms.

I was somewhat amused by the letter from a young housekeeper, Mrs. Pry. As she feels desirous to make her husband's shirts, bosoms and collars look nice, I will endeavor to tell her how my wife does up mine. The first thing is to wash them clean, then starch them thoroughly with the best of starch. A little pure spermaceti or dissolved gum arabic in the starch will improve it, but have the starch thick, and work it into the linen thoroughly. When in a proper condition, use the common sad iron to smooth them, and get them in proper shape, the same as though they were not to be polished, I would here say that you can not polish linen on a soft cloth. Take a piece of hard wood (I use birch) say 10x14 inches, or size of a shirt bosom, and plane it even and smooth. When you use the polishing iron lay the linen on that, without any cloth underneath; a liberal supply of elbow grease is indispensable to make the things look first-rate. Now for the polishing iron. We use McCoy's Patent. I have seen several kinds, but I like this the best. You can not polish with an iron with a flat face; the one I use is made something like a small shoe, with a round heel on both ends, nicely polished, and care should be had to keep it so, if you wish to have your linen look well. The linen we buy at the stores, is polished by men, or machinery, which gives it a finer polish than can usually be given by females. But if Mrs. Pry will get a good polishing iron, and follow the directions as given, she will not feel ashamed of her husband's bosoms and collars.

Cumberland County, Me.

BENJ. FURBISH.

"What to Do with the Rats?"

In answer to this question in the *April Agriculturist*, I would say, do as a friend of mine did when he found his newly-purchased house and stable infested with these destructive animals. Mix equal quantities of plaster and Indian meal, and put where they can get it, and they will devour it greedily. It will make them thirsty and they will seek water, which brings on an indigestion. My friend found them, in the morning, lying in heaps by the gutters. In the country it would be well to put water where they could get it easily, so that they need not rush to the wells. This appears to be the safest and most effectual way of managing them.

Westchester Co., N. Y.

E. D. REED.

[Plaster is wholly inert, and if useful as a rat destroyer it must act mechanically, by hardening into lumps inside the "critters," and of course the burned plaster such as is used by stereotypers, plasterers, stucco workers, etc., must be fed with the meal. If the rats will eat enough of it with meal, to make a respectable bonder inside, it will probably be effectual. Plaster is cheap and can be easily tried. The common ground field plaster will not harden with water.—This rat remedy reminds us of the great stories told "out west," when plaster first came into

use. It was said "that a person riding by a house early one morning, discovered a pair of enormous legs and feet hanging out of the window. On inquiry, it was found that some plaster had accidentally been mixed with the flour for tea biscuits. The 'fertilizing' effects were so great that the mau had, during the night, grown so fast as to have his legs extend through the windows and bending down at the knees, his feet touched ground." They would probably have taken root but for the disturbance of the early passer by! This is a fact of course—just as much so as one half the stories of the wonderful effects of many of the manufactured manures. Ed.]

To Put up Strawberries, etc.

We have had all Winter, and are still using, some of last year's crop of strawberries, in excellent order and flavor. They were chiefly kept in Potter & Bodine's Jars, the most convenient, and every thing considered, the best of the twenty odd kinds we have tried thus far. (Many patent jars promising well have cost us loss of time, fruit, and sugar, to find out that they were poor. The porcelain-lined iron jars are the best of all, but are rather too costly for general use, though possibly cheapest in the long run.) The best plan is, to fill the jars with strawberries, then pour in a syrup made by boiling $\frac{1}{2}$ lb. to 1 lb. white sugar in a quart of water. The jars are then set down nearly to their necks in cold or lukewarm water in a wash boiler, and the water heated to boiling. When the berries have had time to barely cook through, the jars are lifted out, and one is used to fill up all shrinkage in the others, so that they shall be quite full. Wipe the top clean with a damp cloth while they are still hot. The covers are then put on and fastened tightly. Set into the cellar or any cool room. We put up 144 quart jars last year, of different kinds of fruit, and only lost by fermentation two bottles of tomatoes. When the above, or other good jars, are not accessible, common junk bottles, thoroughly cleaned, or other glass bottles or jars, may be used, as we know by many successful trials. Tightly fitting soft corks, tied in, answer well for covers. It is best to make these surely air tight, by dipping the corks and necks when dry, but still hot, into a cement made by melting together an ounce of lard and about a pound of rosin. Simple beeswax, or grafting wax, will answer.—The fruit may be first cooked with a small quantity of syrup, in a porcelain lined, or even a finned vessel, and then dipped into the previously warmed jars or bottles, sealing up as soon as the air bubbles have risen and their place is filled with more cooked fruit. This mode is more convenient, but does not preserve the shape and flavor of the fruit as well as the other way. The smaller the amount of sugar, the better will the natural flavor be preserved. We use just sugar enough to fit the fruit for the table.

The above directions answer for other berries, cherries, peaches, and for other fruits, except that pears, quinces, cherries, etc., require longer cooking to heat them through. Tomatoes need boiling down one half, both to save room and to make them keep well. The above method is infinitely better and cheaper than the old mode of preserving with a large and unnecessary quantity of sugar.

"That Squeaking Door."

"Careful! careful! Don't open that door; it squeaks [creaks] so, it will wake baby up."—This was what the writer heard when making a call, the other day, and what has been heard in a hundred or thousand other houses. Many mothers go on a whole year watching the creaking door, lest it "wake baby up," or disturb a sick one. It may seem a small matter, but Mr. Editor, please tell all such mothers that read the *American Agriculturist*, to take a few drops of oil in a spoon, or a little fresh lard, and with the finger rub a trifle upon all the door hinges at the points where they wear bright, and the creaking will be stopped for months at least. A minute's time on a door, will save hours

of time in watching it, or in getting the baby to sleep after being waked up. HOUSEKEEPER.

Vinegar from Clover

L. C. Cook, Saratoga Co., N. Y., sends the *Agriculturist*, the following as a substitute for good cider vinegar: Take 2 qts. red clover blossoms and 10 qts. of water, boil five minutes, strain, and add 1 lb. sugar, 1 pint molasses. Put it into a stone jar, and when lukewarm, add four tablespoonfuls of good yeast. Put 2 qts. more of clover blossoms on the top of the liquid, cover close, set in the sun, and in four weeks you will have a cheap and good article.

[Spent tea leaves, and indeed almost any kind of vegetable material will make vinegar, when mixed with sugar and yeast. The acetic acid, or vinegar, is mainly produced by the sugar, the yeast starting the acetous fermentation. The vegetable matter affects the flavor, and perhaps the clover blossoms may give a flavor pleasing to many persons. It will cost little labor or trouble to try it.—Ed.]

Directions for Curing Beef.

Contributed to the *American Agriculturist* by Joseph H. Alexander, St. Charles Co., Mo. "For 100 pounds of beef, take 10 lbs. salt, 4 ozs. of saltpetre, 1 quart molasses, 6 gals. water. Boil the mixture, skimming off the impurities; and having cut up and packed the beef in a tight vessel, pour the mixture on the beef hot, boiling hot. The beef is ready for use as soon as it is cool. Some recipes say take twelve lbs. of salt instead of ten, but from actual experience I have become satisfied that ten pounds will make the meat more palatable—being one pound of salt to ten pounds of beef."

Charlotte Russe Pudding.—Contributed to the *Agriculturist* by "C. E. M." Heat three pints of milk to near the boiling point. Stir into it the yolks of eight eggs, and one large tablespoonful of corn starch. Let it thicken a little, and sweeten and flavor to the taste. Lay slices of sponge cake in a pudding dish, pour over them the pudding, add to the top of it the whites of the eight eggs well beaten, set it in the oven and let it brown slightly, when it is ready for the table.

Rice Pudding.—Contributed to the *Agriculturist* by "E. F. S." Boil $\frac{1}{2}$ pint of rice in milk until soft; then stir it gradually, while still hot, into the well-beaten yolks of 4 eggs, and add 4 tablespoonfuls of sugar, and flavor if desired. Beat the whites of the eggs to a stiff froth, add to them 4 tablespoonfuls of pulverized sugar, and a little flavor, pour over the prepared pudding, and set in the oven until nicely browned.

Apple Pudding.—Contributed to the *Agriculturist*, by Mrs. M. E. Goodwin, Litchfield Co., Conn. Fill a dish $1\frac{1}{2}$ inches deep with sour apples pared and quartered. Spread over them a batter made of $1\frac{1}{2}$ cupfuls of flour, a little salt, $\frac{1}{2}$ teaspoonful of saleratus, and wet with milk (lipped milk is best), to make it as thick as the batter can be spread. Bake in a quick oven, and when done, turn it bottom upward on a platter, and sprinkle with sugar, or serve with any sauce.

Suet Pudding.—Contributed to the *Agriculturist* by "E. F. S." $\frac{1}{2}$ pint finely chopped suet, $\frac{1}{4}$ pint molasses, $\frac{1}{2}$ pint sweet milk, $\frac{1}{2}$ pint raisins, 1 tablespoonful ginger, 1 teaspoonful soda, 2 teaspoonfuls cream tartar, and flour enough to make it a little stiffer than pound cake. Boil two hours; eat with liquid sauce.

Mica Chimneys have been tried for lamps, but the smoke and dust collecting on or between the laminae soon render them opaque. But for this fact, they would be very valuable, as no amount of heat would break them.

To SWEEP CARPETS.—A Correspondent says: Mix corn meal with water to a stiff dough, and sprinkle over the carpet before sweeping. It re-

moves all dust so as to give a beautiful clearness to the colors.—We have seen the same "prescription" going the rounds of the papers—but it appears nonsensical. Unless mixed so dry and compact as to remain in lumps, the meal would sweep into the carpet, and literally bedaub it; while if not wet enough to moisten the fabric, how could it brighten the colors? Coarse tea leaves, swept along while moist, would remove the dust and lint, without soiling the carpet.—Ed. *American Agriculturist*.

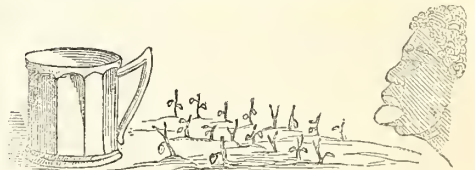
BOYS & GIRLS' COLUMNS.

Answers to Problems and Puzzles in May No. (page 151). No. 37. *Illustrated Rebus.*—"Man W ants butt little h ear below nor W ants T hat little l on G :." or, Man wants but little here below, Nor wants that little long. No. 38. *Problem.*—Answer: Three small yards were made, one enclosing three, another five, and the remaining one, seven sheep; and a fence was then built around the whole three enclosures.—No. 39. *Arithmetical Problem.* Answer: A. dug 27.18 rods; B. 22.48 rods; C. 40.34 rods.—*Note.* By an error in the type the answer to the clock problem (No. 26) on page 151, was given as April 15th; it should read April 16th.

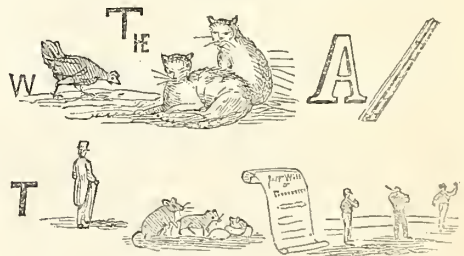
The following have sent in correct answers to recent puzzles and questions; the numbers indicate the problems answered by each. George Elcock, 23, 36; Wm. E. Hower, 36; Augustus Reifsteck, 35; W. Geo. Waring, 36; George Sellick, 36; Willie H. Paine, 35; Frank A. Baker, 36; Luey R. Weeks, 35, 36; L. O. Gay, 36; C. Hoagland Jr., 36; H. Bowers, 36; Jersey Blue, 36; G. C. Landers, 36; Howard S. Ingersoll, 35, 36; P. M. Doolittle, 35; Wiley McCaughey, 36; Daniel S. Carver, 36; Jno. M. S., 35; Horace M. Decble, 37; W. H. Adams, 35; E. F. M., 37; Mary A. Purdy, 37; A. G. Trilinhast, 37, 38; Pwiford S. Noble, 37; Isaac McGay, Jr., 37, 38; E. Arston, 37, 38; Maggie Whitesell, 37; Elma Maria Taber, 37; James Williamson, 37; J. McCulloch, 39; G. W. Kitterman, 38; Helen V. Wilson, 35, 37; H. B. S., 37; Fred. E. Parker, 37; Robert W. Vasey, 31; J. Leander Purdy, 37, 38; E. Knapp, 37; Wist C. Willhams, 37; Samuel W. Fleming, 38; D. G. Jones, 37, 38, 39; Frank A. Baker, 38; J. D. M., 37, 38; Henry H. Osgood, 36, 37, 38, 39; "O. K.," 37; Charles H. Moore, 37; George McKelly, 37; Isaac D. Tharp, 38; Sue R. Coles, 37; "Hoosier Alice," 37, 38; George F. Weekes, 37; N. E. Anderson, 37; W. M. Bowdfsh, 37, 38; Stephen S. Swisher, 37; Manie E. Hagerty, 37; J. J. Howe, 37; Mary L. Wint, 37; D. S. Carver, 37; E. C. Long, 37; F. C. Smith, 37; Mollie Darling, 37, 38; C. Hoagland, 37.

New Puzzles to be Answered.

No. 40. *Illustrated Rebus.*—A true and pithy saying.



No. 41. *Illustrated Rebus.*—A very familiar proverb.



No. 42. *Mathematical Problem.*—Two men were equal partners in the purchase of 160 acres of land; the difference in quality was such that 60 acres on one side was equal to 80 acres on the other side. How many acres should each man have, allowing the quality of their respective shares to differ in the above ratio?

No. 43. *Riddle.* The answer should be full of sense.

I'm full of brains, yet never had a mind;
I'm higher than the greatest of mankind,
I daily lose my head for honor's sake;
Though often in a nap, no sleep I take.
At ease I rest upon the seat of power,
And to the ladies add a perfect tower;
Yet who can tell (for pride must have a fall)
How long my form shall be discerned at all.

Boys' and Girls' Garden—No. 3.



ONLY A BUNCH OF ROSES.

Engraved for the American Agriculturist.

Roses are very common. You might find plenty of such during this month in your garden, or blossoming wild along the hedge rows, free for all who choose to pluck them. Now notice now the little girl in the picture prizes them; how carefully she waters them. She values them because they are beautiful, without thinking whether they be scarce or plentiful. If some skillful artist had designed such flowers, everybody would be eager to possess them; the inventor's name and fame would fill the papers. Are they less to be admired because they cost little, and is the Creator, of such beauty to be less praised, because he gives them freely? He is rather to be adored because he has made beautiful things so common. The little girl has, no doubt, lately removed to the country, and the roses are new to her. In the crowded streets of the city she seldom saw a flower; she was too poor to buy them. Now she is rich—not in money, but in happiness, which is more than wealth. Do you often think how easy it is to be thus rich? Every boy and girl living in the country possesses what no money can buy in the city. There is pleasant food for the eye and the mind, as well as for the body, free to all. A single look across the green fields is worth more than the finest display seen in the streets of the largest city. It contains more beautiful, and more wonderful things to those who know how to observe them. How much better to use the means of enjoyment so freely bestowed, than to toil and sigh for the less satisfying pleasures invented by man, and to be had only for money. It will greatly increase the pleasure of examining such objects, if you have them under your own especial care. Every girl and boy should plant at least a few seeds and watch them as they grow day by day. You will find much help to properly observing them, by attentively studying the notes on "The Boys' and Girls' Garden" in another column. This will also teach you to be observing in other matters, and thus form one of the most useful habits. We desire that these pages, specially devoted to the young,

shall be to them not only a source of pleasure, but of improvement also. It is only a small part of our education that is received at school.—The engraving is interesting as the copy of a painting by G. H. Boughton, an American artist, now in England, and contributed by him to the sale for the benefit of the Lancashire sufferers.

We Believe in Fortune Telling.

"Do you believe in fortune telling?" asks a young correspondent of the *Agriculturist*. Yes, certainly, and practise it too. Would you like a few trials of our skill? Well, then, give attention. When a boy with black eyes and hair always tells the truth, he will be believed and respected as long as he lives, and as people would prefer to keep him alive, he will stand a good chance to arrive at old age. A girl with brown hair and blue eyes who obeys her parents, is good tempered and industrious, will have many admirers, particularly among sensible men, and she will therefore be in the way of getting a good husband. If a small boy with white hair and grey eyes will learn all he can from books and observation, will practise what he learns, think for himself, and work with energy, he may become both wealthy and wise. If a girl with rosy cheeks and curly hair will avoid late hours, tight dresses, too many nice things to eat, will take plenty of exercise in the open air, and keep good-natured, she will probably be a good looking and happy lady, and if she obtains a good education, she will be a fit wife for a Governor or President. In all these cases the hair and eyes are of no great importance, but the other requisites must be strictly observed to have the good fortune come out right. There! that kind of fortune telling is worth more than all the gipseys, seventh sons, wise women, astrologers and soothsayers could tell you from the time of the Witch of Endor, down to the year 2000. If you have any doubts on the subject, try following our directions, and see if we be not true fortune tellers.

How does the little garden get on? Most of you, doubtless, have the plants well up by this time, and have compared their early growth with the account given in our last chapter. You have seen that there was already a little plant, or *embryo*, contained in the seed, and that this expanded and grew from the food which was provided for it beforehand. This small supply of food was soon used up, but not before the plant had made a few roots by which it could draw sustenance from the soil. Let us consider what your plants are doing: They are, like all other plants, engaged in taking up materials from the earth and air, and working them into their own substance—they are growing. Is it not wonderful that the little plant can build up fresh green leaves and, by and by, beautiful flowers out of the crude and shapeless matter supplied from the earth and air! The plant receives most of its nourishment by the root, which goes on branching and spreading underground in search of it. If we take up a plant carefully, Flax for instance, we shall see (fig. 10.) how the root is forked and divided up into little fibres. All that the plant takes up from the soil is dissolved in water, and the roots are made to expose great surface in order to take it up rapidly. The principal business of the root is to absorb moisture. All of the plants we have selected for our illustrations are *annuals*. That is they live but one year and, with the exception of the Four O'clock, all make these fibrous or branching roots. We have seen that the seed leaves or cotyledons in some cases serve two purposes—in the Melon, (or cucumber,) and Flax, they first hold the food for the young plant and afterward serve as ordinary leaves. In *biennial* plants, or those which live two years, the roots are made to do two different things. The first year, they absorb crude food from the soil, and after this has been prepared in the leaves, it goes back again to the roots where it is stored up for use the next year. The root in this case becomes very thick and fleshy as is seen in the beet, turnip, and carrot, which are all biennial roots. The first year they store up food and the second year they expend it in making flowers and seed. Where the root lasts through several years, as in our trees and shrubs, it is *perennial*. This is enough about the root for the present, though we may have to return to it again another time. Let us now look at the stem which, while the root has been growing and spreading below ground, has been lengthening above ground and doing its work, which is to hold up the leaves and allow them to spread to the light and air. The first growth from the seed was the elongation of the little stem or *radicle* which in the Flax, Morning glory, etc., lifted the seed leaves above the surface. A little bud soon appeared between them, which was lifted up by the lengthening of the stem, and, in the Flax, (fig. 10.) two leaves unfolded; above these the stem lengthened again and two more leaves opened, and so on. The increase in height of

the plant being produced by a continued lengthening of the stem, bearing pairs of leaves at intervals. We see that the growth of the plant since it started from the seed is but a repetition of its early growth. We had at the first the *embryo*, which was a little stem and a pair of leaves, and the plant has done nothing since but make little joints of stem and produce pairs of leaves. It will be noticed that the Flax and Four O'clock produce a pair of *opposite* leaves at each joint of the stem, while the Morning glory, (fig. 11.) bears only one leaf at each joint; such leaves are said to be *alternate*. The stems of our plants present considerable difference: while the Flax and others stand upright, the Melon will soon lie flat upon the ground and the Morning Glory will wind itself around a stick or some other support. Still, with all these differences, it is easy to distinguish the stem, and it is really the same thing and answers the same purpose, whether it is the weak stem of the Morning Glory that dies down with the Winter, or the woody stem of the apple or other tree that lasts for many years.—Now let us look a little at the leaf. This is a most important part of the plant, for here the crude liquids taken up by the roots are exposed to the light and air and fitted to be used in the growth of the plant. In the leaves much water is evaporated, and the breathing



FLAX.—Fig. 10.

of the plant is going on, and they are made to expose as much surface as possible. If we look at a Morning glory leaf, (fig. 12) we find first a leaf-stalk or *petiole*, and then the broad part or limb of the leaf. A strong rib—the *mid-rib*—runs directly through it from the petiole to the point, and from this numerous *veins* branch off on each side, so that the leaf when held up to the light, is seen to be a frame work of fibres, filled in with a green pulp. We find leaves having a great variety of shapes; some of them have *petioles*, but this is not essential. In the Flax there is no petiole, the blade sets directly on the stem, is *sessile* as it is called. The leaf of the Morning glory is *heart-shaped*. That of the Flax and Oat are *linear*. Many other terms are used to express the shapes of leaves, which need not be learned at present. The Tomato leaf (fig. 11) will be found very much cut up, and is what is called a *compound leaf*. These parts of the leaf are called *leaflets*. If you notice other leaves, you will find a great variety in this division, from the deeply cut leaf of the Tomato, to leaves that merely have their edges notched like a saw, as in the cherry. In the Sweet Pea, (fig. 14.) the petiole bears two divisions or leaflets, and the end of the petiole bears a little appendage, as in the lower leaf in the figure, which is sometimes developed as a leaflet, as shown in the second leaf, but when the plant gets older, it appears as a tendril, represented in the upper leaf, by which the plant clings to brush or other support. Where the petiole of the Sweet Pea leaf joins the stem are a couple of little appendages called *stipules*—upon the garden pea these are very large. The stipules as well as the petiole are not always present. The leaf of the Oat, (fig. 13.) will upon examination be found to present a different appearance from the other. At first sight you will be puzzled to make out its different parts, but on close examination it will be seen that the *petiole* here is broad and clasps around the stem, forming a kind of sheath. Upon holding the blade of the leaf up to the light it will be seen that the veins are very different from those of the other leaves; instead of forming a net work they all run straight from one end to the other. It was mentioned in the last lesson that the embryo of

with netted veins, while monocotyledonous plants have no netted veins, but they are parallel, running lengthwise as in the Oat, or from a mid-rib straight out to the margin of the leaf. Of course we can not give all the varieties which leaves present, but they will be found to be constructed on essentially the same plan. Now if you have looked at the plants attentively you will have observed two things which it is well to bear in mind: 1st. That the same part may take on a great many different shapes and still perform its work. This has been illustrated in the different forms of the stem and leaf. 2d. That a part may be wholly or partly diverted from its ordinary use and made to serve another purpose. We have seen that the seed leaves may serve to hold food;

Business Notices.

Eighty Cents a Line of space.

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Pyle's Saleratus, Pyle's Cream Tartar, Pyle's O. K. Soap.

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The Markets.

AMERICAN AGRICULTURIST OFFICE. New-York, Wednesday Morning, May 20, 1863.

Table with 3 columns: RECEIPTS, SALES, and various commodities like Flour, Wheat, Corn, Rye, Barley, Oats.

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CURRENT WHOLESALE PRICES.

Table with multiple columns showing prices for various goods like Flour, Wheat, Corn, Rye, Barley, Oats, Beans, Cotton, etc., for different dates (April 18, May 20).

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS—(Invariably cash before insertion):

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Fig. 11—TOMATO LEAF.

leaflets. If you notice other leaves, you will find a great variety in this division, from the deeply cut leaf of the Tomato, to leaves that merely have their edges notched like a saw, as in the cherry. In the Sweet Pea, (fig. 14.) the petiole bears two divisions or leaflets, and the end of the petiole bears a little appendage, as in the lower leaf in the figure, which is sometimes developed as a leaflet, as shown in the second leaf, but when the plant gets older, it appears as a tendril, represented in the upper leaf, by which the plant clings to brush or other support. Where the petiole of the Sweet Pea leaf joins the stem are a couple of little appendages called stipules—upon the garden pea these are very large. The stipules as well as the petiole are not always present. The leaf of the Oat, (fig. 13.) will upon examination be found to present a different appearance from the other. At first sight you will be puzzled to make out its different parts, but on close examination it will be seen that the petiole here is broad and clasps around the stem, forming a kind of sheath. Upon holding the blade of the leaf up to the light it will be seen that the veins are very different from those of the other leaves; instead of forming a net work they all run straight from one end to the other. It was mentioned in the last lesson that the embryo of



Fig. 14—SWEET PEA.

that the root, as the beet, etc., may also store up food, and that a part of the leaf may be modified, as in the pea, into a tendril to help the plant to climb. All the parts of the plant concerned in making its growth, are either root, stem or leaf, and having seen how these vary in those we have mentioned, you will now take great interest in looking at other plants, and in seeing what an infinite number of shapes can be given to these three parts.

HOW ARE OUR DRESSES TO BE MADE?—A contemporary answers the foregoing question in the following lively manner:—"By a sewing machine, of course. We trust that the day is over in which needle drudgery sets a feeble opposition to the musical click of the Wheeler & Wilson machine. A lady who says she does not know how to use a sewing machine, is looked upon with as much distrust as a lady who says she don't like babies! Side by side, in every home, we see the piano and the sewing machine. Of course, people have a right to their preferences, but give us the merry little musician whose crystal eye and silver tongue not only fill the ear with melody, but set the pulses of life and health throbbing anew in the weary hearts of a million women. Is it not better than all the pianos ever tuned? Some of the newest improvements to the Wheeler & Wilson machine, are the Binder, Braider and Corder, all of which ladies find indispensable. The Braider is particularly appropriate to the present mania for decorating everything with braid. "I do not know what we should do without the Wheeler & Wilson Braider," said the director of one of our fashionable mantilla establishments, when we inquired how those tasteful labyrinths of braid were laid on, and his words are echoed in every home in the land.—Really, we scarcely know which blessing to wish our young lady friends—a Wheeler & Wilson machine or a husband! We rather incline to the former, for they can exist minus the matrimonial alliance, but can't do without a sewing machine. What do you say, girls?"

From the New-York Evangelist.

EMBROIDERED DRESSES.—The fashion of having embroidery on cloaks, ladies' dresses, and, in fact, garments of almost every description, is rapidly on the increase in this country—imported, as are other fashions, from Paris. Fortunately for the ladies, the crisis has not caught them unprepared, and left them with no other means of ornamenting their articles of dress but the tedious and tiresome one by hand. There is at least one of our popular sewing machines (GROVER & BAKER'S) which is adapted to both sewing and embroidery—the latter as well and as rapidly as it sews the plainest sewing.



Fig. 12—MORNING GLORY.

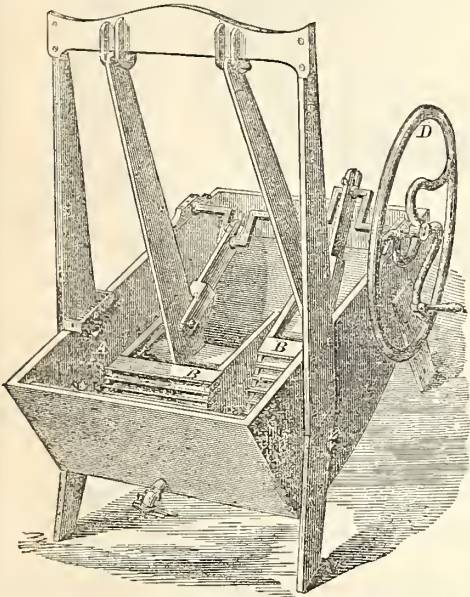
Fig. 13—OAT.

Oat was peculiar in having but one cotyledon, and we now see that the leaves are very different from those plants in which the embryo has two cotyledons. It is generally the case, that dicotyledonous plants have leaves

"THE HUMAN FACE DIVINE," and How to Read it. The meaning of a Long Nose, a Short Nose, and a Pig Nose. The Mouth, and what it says. The Chin, Lips loving, and Lips hating, and the Lips of a Scold. EYES; light and dark. HAIR, coarse or fine. SKIN, rough or smooth. Each line, wrinkle, and mark has its meaning. And the whole is explained in *The Phrenological Journal*, and *LIFE ILLUSTRATED*. Price \$1 a year—if ordered before 1st July—if after that date, \$1.50. Subscriptions may begin now. Sample Nos. 10 cts. Inclose the amount, and address
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INSOLUBLE CEMENT,

Supplied in packages from 2 ounces to 100 pounds. It is a Liquid, and as easily applied as Common Paste. It adheres Oily Substances firmly and completely.

Can be procured at wholesale in all large cities, and at retail throughout the country.

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- 1st. That they will actually freeze cream in four minutes.
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Where there are no Cauvassers, the Express charges will
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Are essentially different from and greatly superior to all
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Please call and examine them and compare them with those
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Heavy Mouldings, Carved Legs, etc., \$175 and \$200. Rose-
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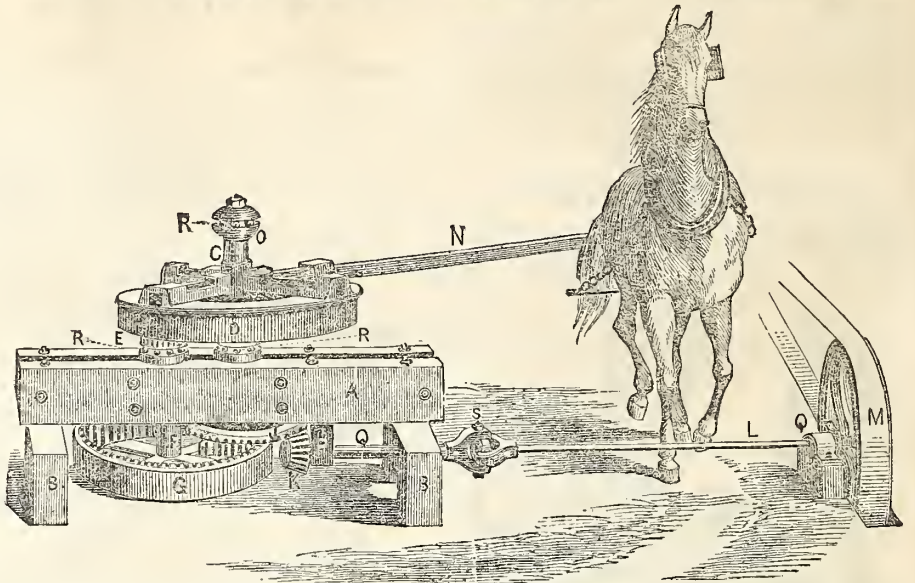
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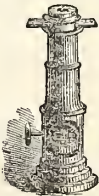
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Have taken the HIGHEST PREMIUMS WHEREVER EXHIBITED!

They may be driven by horse, water, or steam power,
do their work as well as the best flat stone mills in mill-
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THEY ARE GUARANTEED TO GIVE SATISFACTION, OR
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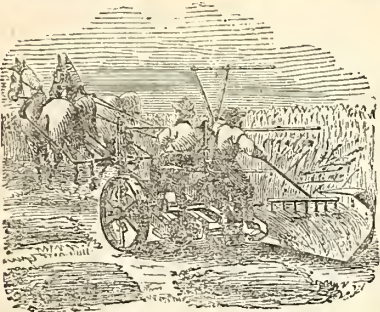
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RUSSIA OR BASS MATS, SELECTED EX-
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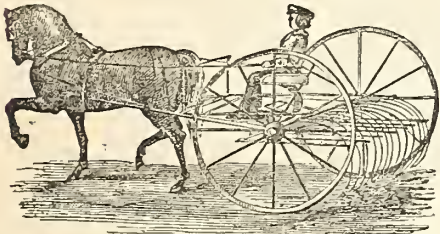
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A large number of these Elevators have been used during the past season, and from its capacity to elevate hay, we challenge the world to produce its equal in lightness, strength, and efficiency to manage.

"Unloading hay at the barn by horse power is such a simple operation that it seems wonderful how a sensible farmer can continue the excessive hard labor of lifting it, a fork full at a time, in the stifling heat of the barn of a July afternoon."

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To secure a Machine order early.

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Also Peruvian Guano, Bone Dust, and all other approved fertilizers.

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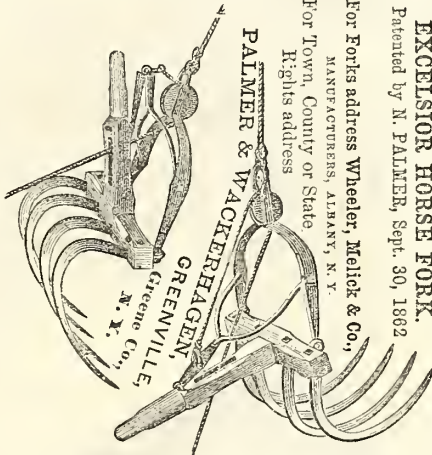
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WE CALL ATTENTION TO THE

EXCELSIOR

HORSE PITCHFORK.

FOR UNLOADING HAY, GRAIN, &C.



Excelsior HORSE FORK.
Patented by N. PALMER, Sept. 30, 1862
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For Town, County or State
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PALMER & WACKERHAGEN,
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REISSUED MARCH 3, 1863.

This Fork was awarded the First Premium, at the N. Y. State Fair, Oct. 1862, and is universally acknowledged to be the best in use. It is a Simple, Compact, and strong implement, light and easy to handle.—Will hold as much as a horse can elevate, and frequently two are employed. A boy can use it, unloading a ton of hay in five or six minutes. In view of the scarcity and high price of labor, no farmer can afford to do without it. It will save more than its cost in a season,—sometimes in a single day.

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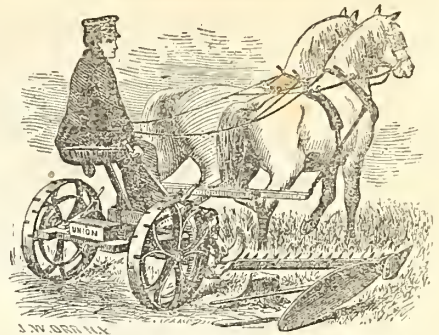
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We are manufacturing a Genuine Article of FINE, MEDICINAL, and COARSE BONE DUST, or RAW BONE SUPERPHOSPHATE OF LIME, manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

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TO FARMERS.

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MANUFACTURED BY THE LODI MANUFACTURING CO.

The large sale of this manure, and constantly increasing demand has induced the Company to arrange for its manufacture on an extensive scale.

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For Buckwheat, Turnips and Winter Grain, no manure can be found of equal value for the amount invested.

It is put in new Barrels, 200 lbs. in each. One and a half barrels will manure an acre.

Price, free of cartage, \$4.50 per Barrel.

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A real guano containing from seventy to eighty per cent of Phosphate of Lime, to which has been added by a chemical process, a large percentage of Actual Ammonia so fixed that it can not evaporate, making it equal if not superior to any other fertilizer.

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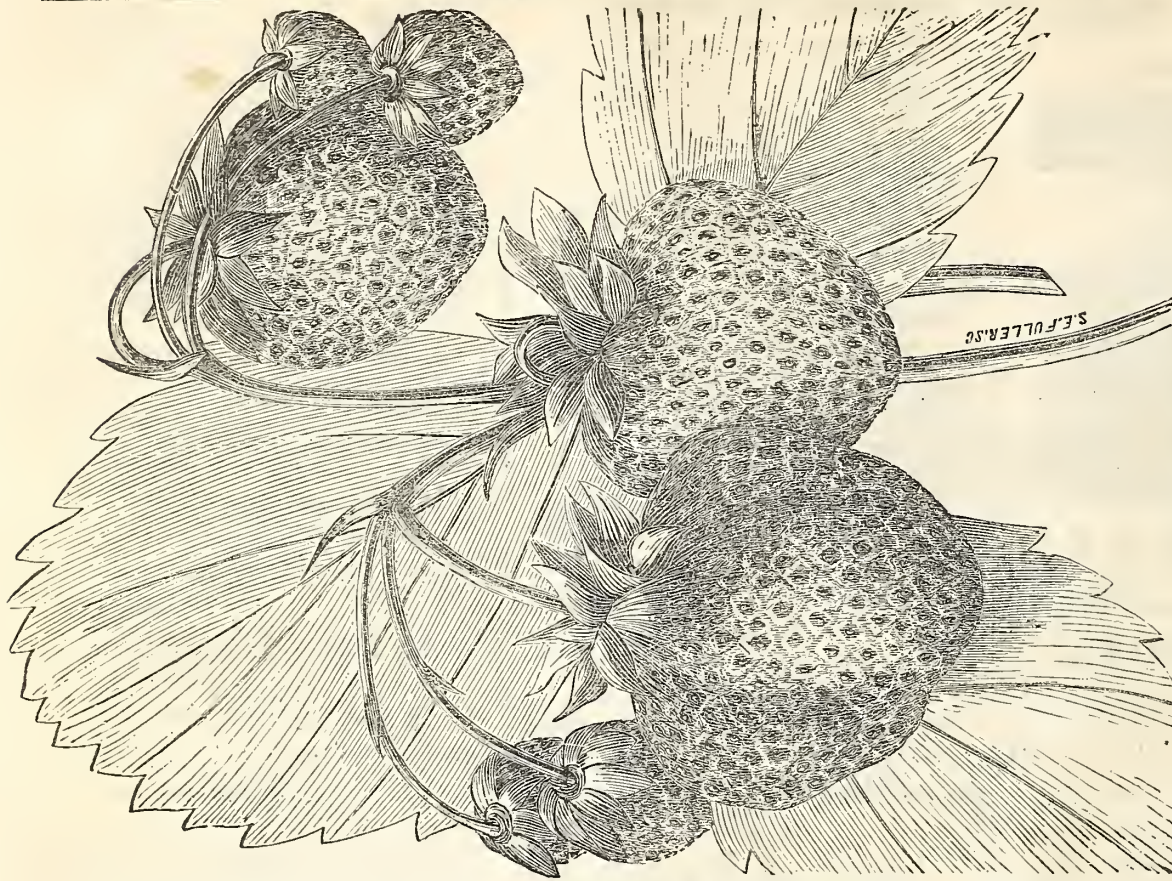
HOYT'S AMMONIATED BONE SUPERPHOSPHATE OF LIME. A Substitute for Peruvian Guano. Sold at wholesale and retail by **GRIFFING, BROTHER & CO.,**
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Presently a Journal of News and Literature, The Tribune has political convictions, which are well characterized by the Republican in its hearty adhesion to the great truth that "God has made of one blood all nations of men," and in its noble efforts for the pursuit of "life, liberty, and the pursuit of happiness." Republican in its stoutest, earnest, and uncompromising advocacy of the great Republic, to grasp the empire of the New World and try for his own aggrandizement. Republican in its antagonism to the aristocrats and despots of the Old World, who fondly bask in the luxuries of their European courts, and upon whom their American counterpart, the overthrow and ruin of the Model Republic—Republican in its hope and trust, its confidence and reliance, its rights and equal laws through which Liberty and Union shall henceforth and forever.

The Tribune devotes its attention in these, to Education, Temperance, Agriculture, Inventions, and whatever else may minister to the good and well-being of mankind; but for the present its energies and its columns are mainly devoted to the incorporation and elevation of the colored race into its social correspondence accompany every considerable army and report every important incident of that great struggle which we trust will terminate in the conclusive triumph of the National arms and in the restoration of Peace and Liberty to our distracted, bleeding country. We believe that the more accurate view of the progress and character of this momentous conflict be obtained through the regular perusal of this paper, we earnestly solicit the co-operation of all friends of the National cause, which we regard and uphold as the only and the only means of success in extending its circulation.



COL. ELLSWORTH.

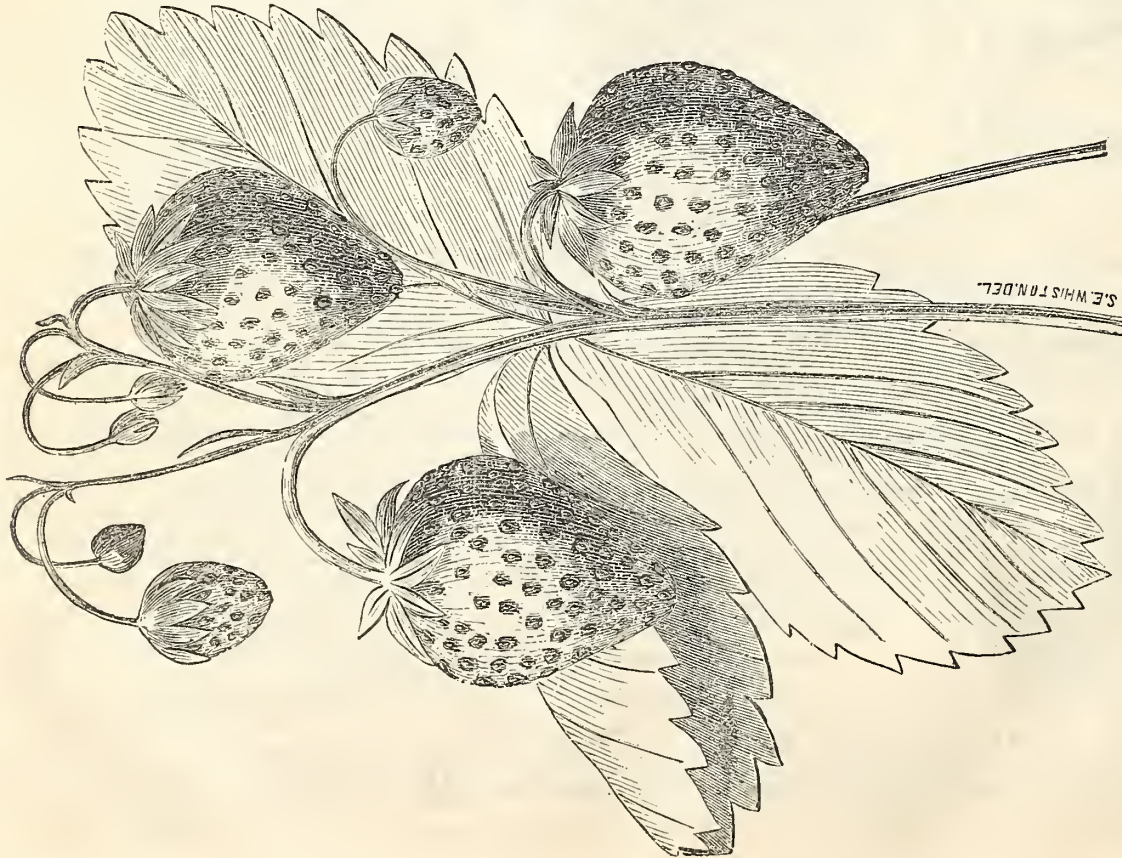
THE NEW-YORK TRIBUNE.—See also next Page.

To any person who sends us a club of fifty or over THE DAILY TRIBUNE will be sent without charge. THE WEEKLY TRIBUNE is sent to Clergymen for \$1.25. At Post-Offices where full Clubs can not be formed, either for THE SEMI-WEEKLY or WEEKLY TRIBUNE, subscribers to the two editions can unite at Club prices, should the total number of subscribers come within our rule. When drafts can be procured it is much safer than to remit Bank Bills. Write name, Post-Office, and State plainly. Subscribers who send money by Express, must prepay the Express charges, else it will be deducted from the remittance.

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MONITOR.

[ADVERTISEMENT.]

THE TRIBUNE PRIZE STRAWBERRIES.

How they Originated—How they Look and Taste—Why they are Given to the Subscribers of The Tribune—When and to Whom they will be Distributed.

The cuts herewith presented represent "THE TRIBUNE Prize Strawberries"—so named because we purchased them, at a very large price, to bestow *exclusively* upon the subscribers of either edition of THE TRIBUNE for 1863, intending to send one of each kind to every subscriber who expresses a wish to that effect at the time of subscribing. This will be equal to a prize of \$1 50 to each subscriber, as that is the price charged by nurserymen for similar plants. Indeed, neither of these prize strawberries could be obtained at any price whatever, as we have secured every plant that can be produced in the year 1863, exclusively, as prizes to our subscribers. We have incurred the large outlay necessary for this purpose, because we have an earnest desire to see the propagation of improved fruit greatly extended, and because we believe that every one who receives these plants and grows the fruit will hold THE TRIBUNE in kindly re-

membrance for enabling him to enjoy such a good gift of a kind Providence, and will thereafter feel an increased desire to improve all the list of fruits. It is thus that health and happiness will be increased.

As these plants have all to be grown from the few plants that we bought of Mr. Fuller in the Autumn of 1862, he will not be able to send them to subscribers until after the 1st of September, 1863, when they will be carefully packed in oiled silk or paper, and forwarded, through the mail, at our expense, or by express at expense of the receiver. The three plants will be sent to each person who sends to us a year's subscription for either the Daily, Semi-Weekly, or Weekly TRIBUNE, indicating at the time of subscribing that he desires the Strawberries, and the distribution will be made in the order the subscribers' names and requests for Strawberries are received.

Single subscribers will receive their plants by mail, done up in oiled silk, or other suitable oiled substance.

To Clubs, plants will be sent in packages, to correspond with the number of names in the Club; and where the number will warrant it, they will be sent by express, packed in boxes.

New subscribers who desire strawberry plants should say so at the time they send their money, as we do not intend to send any to those who will not appreciate them. They are too valuable to be wasted. There are parties who would gladly contract for the exclusive right to all

these plants, at 25 cents a piece, and there are many subscribers who would not, as soon as they see and taste the fruit, part with their prize for a \$5 "green back."

HOW THESE NEW STRAWBERRIES WERE PRODUCED.

The following statement is made by Andrew S. Fuller, horticulturist, Brooklyn, the originator of these strawberries. He says:

"It is now between seven and eight years since I commenced sowing seeds of the strawberry for the purpose of producing new and improved varieties. I have always selected seeds from the largest and best that could be obtained, and the results were that I produced some few good varieties each season; yet they were not such as I was willing should go out as my seedlings. Every season I selected the seed with more care than I did the previous one, and found that I made constant improvement. I therefore determined that I would put forth extra exertions and see if a few extra choice varieties could not be produced. In 1859 I obtained the best varieties known, and by fertilizing the flowers one with another, I expected to produce strawberries combining greater excellence than heretofore known. In this I was not disappointed. I produced that year many thousands of seedling plants, and the fruit of many was really excellent, so much so that I was urged not to throw the plants away; but as excellence, and not variety, was my object, I destroyed all but the most promising. I determined from the first that no plant should go out as a seedling of mine unless it combined greater excellence than any other strawberry known. From the selections of that year a competent Committee from the Farmers' Club of the American Institute, who had the matter three years in charge, made a selection of three sorts, ripening early, medium and late, and these I preserved as the final result of my seven years' laborious experiments to procure improvement in strawberries from seeds. These I intended to dispose of in the ordinary way of a nurseryman's business, and should have done so but for the desire of THE TRIBUNE to make a gratuitous distribution of these truly excellent strawberries to its subscribers. I have therefore contracted to furnish them exclusively for that purpose. Not one of them can be bought of me at any price. If I had kept them for sale to individuals the price would have been 50 cents each, or \$5 a dozen."

NAMES AND DESCRIPTIONS OF THE PRIZE STRAWBERRIES.

"The earliest ripening one was named COL. ELLSWORTH, in honor of the martyr who lost his life when Alexandria, Va., was first occupied by the Union army during the present war. It is a very large variety, of a crimson color, conical in shape, and having slight depressions running from calyx to point, resembling the sutures on the peach, with a long neck, and the calyx parts readily from the berry; quality good; flesh firm. Although the largest of the three, it is also the earliest, ripening at the same time as the Jenny Lind and Early Scarlet, and is very productive. The original plant, eighteen months from the time the seeds were sown, produced over 200 perfect berries, averaging from 1 inch to 1½ inches in diameter.

"The next ripening is called the MONITOR. It is very large, of a dark bright scarlet color, approaching a crimson in the sun. Berry very solid and firm, of fine quality; plants very vigorous and productive. This sort will become a great market fruit, the color and shape being very attractive.

"The third, from its color and origin, is called the BROOKLYN SCARLET. Although this variety is inferior in size to the other two, yet it possesses merits that will always make it a great favorite. Its shape is a regular oblong cone, color the most beautiful bright scarlet. Flavor, the very best. We have the unanimous decision of the judges at the great strawberry show last season at No. 41 Park-Row, New-York, on this number, as they awarded it the first premium over all its numerous competitors. The plant is a very strong and vigorous grower, making monstrous stools the first season, from which an enormous amount of fruit stalks are produced. Add to this its lateness, which assists so much in prolonging the season of this delicious fruit, and we have in this strawberry something as near perfection as possible, though not as large as the others. Yet this is not small, and among the sorts most cultivated, ranks medium to large."

The above descriptions by Mr. Fuller, in addition to all that we have already published, must be sufficient to satisfy all minds that we are offering no trifling prize to our subscribers, as an indication of our good will, and certainly with a hope of their continued good will to us.

We have only to add that the cuts are as exact representations as to size, as can be given, and in no respect exaggerations of THE TRIBUNE PRIZE STRAWBERRIES.

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For June, July, and August Only.

A SPLENDID Special Premium.

We know that a good Barometer is a good thing for every family. To the sailor a barometer is almost essential, and the instrument is scarcely less valuable for Farmers. It will pay a large interest on its cost every year, and very often more than pay for itself in the saving of a single crop from damage by storm. We have received many testimonials to this effect, from those who have received barometers through our premium list, and our own experience has often demonstrated the usefulness of the instrument in foreshadowing the coming storm, as well as the approach or continuance of fine weather, when

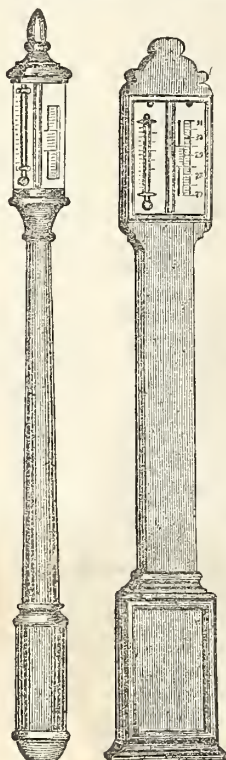


Fig. 1. Fig. 2.

all appearances were in the contrary direction. We have hitherto given as a premium the Aneroid Barometer, because more portable and more readily sent by express or otherwise than the common mercurial barometer. But for the danger of breakage, we should of course prefer any good Mercurial Barometer as being the most nicely accurate and unfailingly permanent. This danger of breakage is now obviated in the invention of Mr. Woodruff, manufactured by Charles Wilder at Peterboro, N. H. The glass tube is well protected, and what is of great importance, and is indeed the distinguishing feature of the invention, is an arrangement by which the turning of a screw secures the mercury perfectly against motion in the tube, which has been the chief cause of breakage in transporting mercurial barometers. This new arrangement is so perfect, that with his improved mode of double boxing, the manufacturer now offers to guarantee the safe carriage of each instrument we may order, and to make good any chance loss. This guarantee places this barometer first, and we recommend it above all others for general use.

The barometers are of different forms and prices, ranging from \$5 to \$20, the price depending upon the style of finish. The tubes and working apparatus of those costing \$8 to \$20 are the same, and are supplied with inclosed thermometer, vernier, etc. Fig. 1. shows the \$8 form. Fig. 2. is the \$12 form, put in a neat or mahogany case, as desired. They are both neatly made, the \$12 size being of course the most ornamental, and the preferable instrument on this account.

We are glad also to announce that we have made a special advertising arrangement with Mr. Wilder (to continue only from June 1st, to August 31st.) by which these good barometers can be supplied as premiums, on terms that will place them within reach of many of our readers.

Here is our offer (the instruments to be sent direct from the manufactory by express, and their good quality and safe delivery warranted by the manufacturer, which guarantee we agree to see made good):—

1st.—The \$8 Barometer (Fig. 1) will be presented (with the guarantee as above) to any person who shall, between June 1st and August 31st, send fourteen subscribers to the American Agriculturist at \$1 a year. (The subscriptions to date January or July 1863.) See next column.

2nd.—The \$12 Barometer (Fig. 2) will be presented (with the above guarantee) to any person who shall,

between June 1st. and August 31st, send twenty subscribers to the Agriculturist at \$1 a year. (The subscriptions to date January or July 1863.

N.B. The subscribers can be sent in at any time between June 1st, and August 31st; but each name for the special premium should be specially noted as for this.

This premium is special, and applies only to subscribers received after June 1st, and before August 31st.

N. B. Any person who desires to get his barometer at once, for use during the haying season, or otherwise, can send the amount (\$14 or \$20) and receive his instrument, and then forward the names before August 31st.

The subscriptions for the above premiums may date January 1st, or July 1st, that is, at the beginning or middle of the volume. Any back numbers will be supplied.

Strawberry Premiums, EXTRA.

Last Summer we distributed 40,000 Strawberry plants as premiums, (10 or more for each new subscriber,) sending them to all parts of the country with remarkable success. The postage on plants will be reduced one-half after July 1, and we propose to send out some more good strawberry-plants, of the very best varieties that we can obtain, as premiums to those who will during the month of June procure and forward subscribers to the present volume of the Agriculturist, at \$1 a year. The Triomphe de Gand will be distributed, in part, if nothing better or more desirable is found. In July, or after seeing the fruit and observing the plants this season, we will announce what kinds will be sent out. The plants will be distributed at the proper planting season, from the last of August to about October 1st; the time of sending will depend upon the season, and upon the locality to which they are to go. Those desiring the strawberry premiums will please name the fact when sending in subscribers, that their names may be put down for that purpose, and they may feel assured that they will be liberally dealt with—at least as well as in the strawberry distribution so acceptable last year.

Grape Vine Premiums.—We have about 2000 Delaware and Concord Grape Vines now planted out and growing finely, all of which we can well use on our own grounds. But as we have made it a point to raise the subscription list to the highest possible point before the middle of the volume, we still offer to send one of these vines in Autumn (safely packed, and carriage prepaid) to any one who will during this month (June) procure a new subscriber for 1863 at \$1. The vines will be sent at the proper time in Autumn, when they will have had two seasons' growth. (We have distributed 5000 vines this Spring, all of which we hope are doing well.)

American Agriculturist.

For the Farm, Garden, and Household. 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; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABOR, with an interesting, instructive department for CHILDREN and YOUTH.

The Editors are all PRACTICAL WORKING MEN. The teachings of the AGRICULTURIST are confined to no State or Territory, but are adapted to all sections of the country—it is for the whole AMERICAN CONTINENT.

A German edition is published, of the same size and price as the English, and containing all of its reading matter, and also its numerous illustrative engravings.

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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 it is received.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD, 41 Park-Row, New York City.

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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

ORANGE JUDD, A.M.,
EDITOR AND PROPRIETOR.
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NEW-YORK, JULY, 1863.

NEW SERIES—No. 198.

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Suggestions and Notes for the Month.

Summer reigns. The beautiful days of June, like lovely maidens, scattered roses in the path as the advancing season journeyed from its Southern home, and now July places the regal harvest crown upon its head. Oriental splendor never equalled the gorgeoussness of its court. Field and forest are waving triumphal banners, and earth refulgent with golden sunshine is a fit palace for the glorious monarch. But with the blaze of royalty comes also something of its oppressiveness. The air trembles with the waves of the sultry tide, and nature would fain seek friendly shelter from the noon-day glare. It is unwise for man to neglect the teachings of animal instinct, and while beast and bird hide themselves in the forest until the fierceness of the sunshine is abated, he too should rest from his labors. Want of time need be no excuse for imprudent exposure and exhausting labor, when, as often occurs the heat rises to above 90°. Let the labors of the harvest commence with the early dawn, be suspended during the oppressive mid-day, resumed as the sun declines, and continue while the light remains, and more can be accomplished with greater ease, and with no danger of sun stroke or exhaustion. Men should be merciful to themselves as well as to their cattle, and they will find it no less profitable.

The amount and influence of heat derived by the earth from the sun, form an interesting topic of thought for a noon-day rest, and as many cultivators will look to the *Agriculturist* for instructive entertainment on such occasions, we will note a few facts on the subject. The average amount of heat received from this source year by year, has been quite accurately determined by scientific observations. Youmans states that it has been found by careful measurement, that the quantity of solar heat which falls upon a square foot of the earth's surface in a year, would be sufficient to melt 5,400 lbs. of

ice; and as a cubic foot of ice weighs 54 lbs., the heat thus annually received, would melt a column of it 100 feet high; or in other words, if the globe were encased in ice 100 feet thick, the heat from the sun would cause it to disappear in a single year. It is true this heat is unequally distributed, for the earth moves in such a position with reference to the sun, that the rays of the latter strike less directly and consequently with less intensity upon different parts of the surface. Were this not the case, climate would be the same in all latitudes. All countries would produce the same animals and vegetables, and races of men would in time be almost wholly assimilated. But the design of the the Creator was diversity as well as harmony, and by the present arrangement we have the luxuriant vegetation, luscious fruits, mammoth animals, and fiery but unenduring men of the tropics; the useful trees, grains, and animals, and enterprising races of the temperate zones, and the stunted growth of far northern life; each fulfilling the conditions of its own sphere, and each capable of administering to the general good. It is left to the industry of man to make the stores of these different climates subservient to his own needs, and thus a constant stimulus is given to his energies. The wheat now falling before the reaper in the great West, will feed the operators in European workshops, and in return bring their wares to the door of the cultivator. Thus, though climate causes diversity, provision is made also for the brotherhood of the race, and the great law of harmony is complete. Happy will it be for the world when its working shall be developed according to the design of the Great Lawgiver.

Work for the Farm, Household, etc.

It too frequently occurs that haying and harvesting, which cannot be delayed without loss, require attention before the hoed crops have been thoroughly worked. The backwardness of the season will be likely to intensify this state of things the present year, and it should be provided against. Make thorough work in the corn field, even if it be necessary to employ extra help at high cost. Weeds left now will grow rapidly, and not only seriously diminish the yield of grain, but ripen their seed, and cause much hard work to subdue them another season. It is essential that the soil be left loose and mellow, that the roots may find their way through it easily, and that plenty of air and moisture may be supplied, which are especially needed in hot weather. A well tilled field will continue to grow during a drouth that would greatly injure corn standing on a compact, unbroken soil.

Endeavor to engage plenty of help before the busy time commences. The iron muscles of the mower and reaper are more profitable and more easily managed than human laborers. The horse pitchfork will be equivalent to one

or more extra hands. At no time of the year is more care needed to prevent loss of health by over-work, and true economy requires that whenever possible, enough help should be secured to prevent a danger from this source.

Barns and Sheds if not already in order to receive crops, should be attended to now. Have ladders or other conveniences at hand for ascending mows and stacks. Read suggestions under this head in last month's calendar. Protect such buildings with lightning-rods, and also keep them well insured against loss by fire.

Bees.—Important directions for their management are given on another page, under "Apiary."

Buckwheat.—Sow where corn has failed, and on new, or pasture land to be devoted to winter grain. A few acres with this crop may add largely to the profits of the year. The grain will be excellent ground with oats for feeding stock in the Fall, or will find a ready market when manufactured into flour. Read "*Buckwheat versus Summer Fallow*," on page 203.

Butter-making in hot weather requires extra care. The milk room should if possible be kept at a temperature not above 60°, by the use of ice or by cold spring water running through the room. If cellars are used for dairying purposes, keep them clean and sweet by frequent white-washing, and ventilate freely. Allow nothing having strong odor to remain in the vicinity. The barrel for sour milk, whey, etc., to be fed to swine, should never be allowed in the milk room. In sending butter to market, keep it shaded from the sun; freshly cut grass, slightly moistened, is a good material in which to pack the tubs. Keep all utensils perfectly clean and sweet, with the tinned ware scoured bright.

Cabbages may be cultivated with profit as food for stock and poultry, or for market when accessible. Transplant to ground from which early potatoes are taken this month, and sow seed now to have plenty of young plants in readiness when they are wanted for late.

Cattle for fattening next Fall should have a good start by being allowed full pasture during summer. There should be free access to water. If pasture for milch cows be short, feed night and morning with cut grass, clover, or millet, corn, etc., from the ground devoted to that purpose. Calves will thrive well upon a good growth of clover with little other feed.

Cheese is more easily managed than butter during the extreme hot season, and often more profitable. Read suggestions given on page 206.

Draining.—Observe where water stands during summer, and prepare for draining as soon as practicable. The low marshy portions of some farms contain its most valuable land, if properly reclaimed. Dry weather is best for draining if there be time and help sufficient to attend to it. Surplus capital can at any time be

profitably invested in this paying improvement.

Fences.—Keep in order, especially on farm lines, by the roadside and adjoining grain fields and meadows. A broken rail replaced may save great damage to a field of wheat, corn, or oats.

Grain.—Harvest wheat and rye just as the grain is passing well out of the milk. See page 201.

Grass and Clover Seed.—Save enough of the best growth, when it is free from weeds, for a full supply. Pull out all foreign plants, and harvest before sufficiently ripe to loose by shelling out. There is great room for improvement in grass, by selection of the earliest and best seed each successive year.

Hay.—Cut when it contains the most nourishment. Read "Hints for Haying Time" on page 202. Secure all under cover when practicable. If stacks must be made, keep them from the ground by laying upon timber and rails, and erect temporary movable roofs, or thatch with straw. Better stack grain than hay, if there be sheds for only one.

Hedge Rows, and scattered bushes may be subdued by repeated cuttings in hot weather. Allow none to disfigure the farm and give shelter to weeds, mice, and other nuisances.

Hoeing should be continued as long as practicable. Employ horse labor when possible. Cultivate lightly, in order not to destroy the roots.

Manure Making should receive constant attention. Read article on page 202.

Meadows too closely cut often receive much damage by exposure of the roots to the burning sun, especially upon light soil. A liberal top-dressing of fine barn yard manure will prevent this, and stimulate the new growth for abundant fall feed, or for a second mowing. Remove all stones and other obstructions which cause so much annoyance while gathering the crop. Keep out all stock until the grass is again strongly re-established.

Oats.—Cut as directed for wheat and rye, cure the straw thoroughly and store under cover. If properly secured, the straw is valuable for feeding.

Pastures suffer very severely if fed too closely during hot weather, so that the roots are burned by the sunshine. Keep no more stock than can be well fed, and at the same time allow the grass lands to remain in good condition. A mulching of straw upon failing spots would often be of great service; but reseeding is the only remedy where the grass has been supplanted by weeds. A crop of buckwheat will aid in subduing these, and will prepare the ground for seeding with rye in the Fall.

Poultry should be kept from the grain fields until after harvest; then they will glean enough to bring them into fine condition for laying, or for the table.

Potatoes.—Dig and market early varieties as soon as practicable, while they command good prices. The ground may then be devoted to turnips and late cabbages. Hoeing of later sorts should be finished before they blossom. High hilling is not advisable. It induces the formation of new tubers along the part of the stock covered, and prevents the growth of those already formed. It is better to plant rather deep at first, and then leave the surface nearly or quite flat. If the rot appear when the tubers are ripening, dig and dispose of them at once, that they may be used before decaying.

Seed Wheat, Rye, etc.—Read article on page 201.

Sheep.—Keep them in good condition by allowing full pasture, and providing for access to water. Give them salt weekly. Watch against foot rot.

Sorghum, Millet, or Corn may still be sown for feeding late in the season, or to be cured for fodder. This will enable many to provide against a deficiency of feed for winter.

Swine.—Keep them in a clover pasture or orchard, and feed moderately with grain until crops are harvested; then give them the range of the wheat and rye fields, where they will be well prepared for fall fattening. Give green peas with the vines, corn stalks, clover or other succulent food with milk and grain to those confined in pens. Keep their apartments well cleaned, and secure all the manure.

Tools.—See that all needed for haying and harvest are provided, and in good order. Examine mowing machines before using, and have every bolt and nut tight, the knives sharp, and all bearings well oiled. When not in use, keep all implements under cover.

Turnips.—Sow strap-leaf and other quick growing varieties among corn, after early potatoes, and on vacant ground. A dressing of good superphosphate will hasten the growth.

Weeds.—Allow none to go to seed. Those cut when nearly ripe should be burned, otherwise the seed may mature before the stalk dries, and if added to the manure heap be ready to spring up with the crops next year.

Orchard and Nursery.

Notwithstanding the bountiful crops of last year, there is a prospect that in many localities there will be plenty of fruit this year. The manure applied to the orchard in Spring is now showing its effects in a vigorous growth of wood, and in the rapidly swelling fruit. The orchard should be kept in such a condition that it will never need severe pruning, but whatever cutting is to be done should be attended to the present month. We give on another page some general hints about the pruning and treatment of the orchard.

Budding.—This will commence this month. Plums are usually the earliest stock to be worked. As soon as well formed buds can be had, and the bark of the stock parts freely, the operation may be performed. The process is fully described in the July *Agriculturist* for 1862. Though it takes some time to describe it, the operation is really a very simple one, and after a few trials it will be found that it can be done quite rapidly. Insert the bud as near the ground as possible. Use every precaution to guard against mixing or confusion of sorts. Recollect that merely budding or grafting a tree will not give good fruit unless the buds or grafts are taken from a good sort. Label distinctly at the time of budding. The stocks budded last season should be rounded off close to the new branch from the bud, and all suckers kept down.

Cherries.—In picking these for use or for market, employ only careful hands. Much damage is often done to the trees in gathering the fruit. Use a tall step ladder and draw the branches towards you with a wooden hook, easily made for the purpose.

Grafts.—Examine the grafts set this year and replace or renew the wax if it has been displaced. Vigorous shoots often start from the stock near the graft, which rob the graft of nourishment if they are not removed. Cut off all such.

Insects.—The war against these must still be carried on. Actual destruction is always a sure remedy. The tadpole-like slug which appears on the pear trees may be made to retreat by dusting with lime or ashes. These may be applied to quite tall trees by the use of a bag of some open fabric, tied to a long pole. One of our largest fruit cultivators tells us that he is troubled with no insects. His grounds are full of birds, and he is willing to give them a dessert of nice fruit after their dinner of insects. Spare the birds, and make them feel at home.

Layering.—Shrubs and vines to be propagated by this process may mostly be layered this month.

Manure and Mulch.—Bearing trees will appreciate a supply of either liquid or solid manure. During dry weather see that a good mule is kept around trees planted this year; it retains moisture.

Thin out the fruit on trees disposed to overbear. This advice is difficult for beginners, but all experienced fruit growers know that much finer fruit is produced by thinning out freely. Dwarf trees often set fruit the first year; they should not be allowed to bear more than a single specimen or two, to test the variety, and it would be better for the tree, to take all off, and let the tree make wood only.

Weeds.—These are to be kept out of the nursery as thoroughly as from the kitchen or flower-garden. The plow, cultivator and hoe are the remedies.

Kitchen Garden.

The professional gardener does not need to be told that much of his success will depend upon the tillage given this month. But the farmer who holds field crops as of the first importance, is apt at this season to neglect the garden. Haying and harvesting engross all his attention, and the garden, begun with the best intentions, is often neglected at the very time when it needs the most care. Every odd hour should be occupied with hoeing in the garden. Much can be done here with the hoe when heavy dews prevent early morning labor in the fields, and at nightfall when the main work of the day is over. The boys should be taught to take a pride in the garden, and where there are several boys, each should have charge of a portion.

Asparagus.—Cutting should have ceased last month. The tops should be allowed to grow, and the bed will be all the better if a good coating of manure is applied. Keep down the weeds. Look out for the asparagus beetle described on page 212.

Beans.—These may still be planted for a late crop, for salting or pickling. The Refugee is considered one of the best varieties for this purpose. Limas need to be forwarded as rapidly as possible by frequent hoeings and liquid manure. When not disposed to wind upon the poles at first; twine them around carefully. When a vine reaches the height of 5 or 6 feet, pinch off the end of the main stem, and bend back all long side branches.

Beets.—Keep well hoed, and thin out to 8 or 10 inches. As the early sorts come into use, reserve the earliest and finest specimens for seed. Sowings may still be made, and if the weather is not unusually dry, a fair late crop may be expected. If necessary, transplant to fill vacancies in the rows.

Cabbages and Cauliflowers.—Finish transplanting for the late crop. If the weather is dry, extra care should be taken according to direction given last month, on page 175. Look out for caterpillars. When they are small, they remain close together, and a whole brood can be destroyed by breaking off a single leaf; if left until they become scattered, they must be removed singly. Hoe often and thoroughly, and give, to cauliflowers especially, an occasional dose of liquid manure. The early cabbages are now fit to be gathered. The stumps may be left to produce sprouts for greens, or be cleared away to make room for some other late crop.

Celery.—Plant out in well prepared trenches, shading if the weather is very hot. The growth should be forwarded by abundant watering. If the drainage is good, water may be used very freely. Keep free from weeds.

Carrots.—Hoe until the growth of tops prevents.

Corn.—The sweet varieties may be planted early this month, for late use and for drying. Plant in an extra row or two at least, to dry for the soldiers.

Cucumbers.—Plant for pickles in well prepared ground, the first of the month. Hoe those already up, and water if the weather is very dry. Recollect that there is nothing more acceptable to your friends in camp and hospital than good pickles.

Egg Plants.—These are slow growers at first. When they get well established, hurry them up by frequent hoeings and by applying manure water.

Endive.—This takes the place of lettuce as a late salad. Sow in the same way as lettuce, for late use.

Herbs.—All the aromatic herbs should be cut while they are in flower, and be either tied in small bunches or spread out thinly and dried in the shade.

Hoe.—The hoe and the rake should be kept busy whenever the ground is not too wet. If dry, hoe the oftener; cool soil condenses moisture from the air.

Insects.—The fight must still be continued according to hints given elsewhere, and in former months.

Lettuce.—In the hot Summer months, this tends to run early to seed. Sow for succession in a partially shaded place. The Silesian is one of the best varieties for Summer. Save the best heads of early sorts of lettuce, and of other plants for seed.

Manure.—Now is the time to push plants. Just before a shower and during "good growing weather," give manure in a liquid form. The home-made guano which has been saved from the poultry house will come in play now. A half bushel of this in a barrel of water, or a liquid made with cow manure, of the color of tea will do wonders in the garden. Use sink slops if you have nothing better. Apply to the roots only.

Melons.—Continue to hoe. Pinch back the vigorous growers, and if you wish choice fruit, let no more remain on the vine than can be ripened. A good part of the fruit is usually cut off by frost.

Onions.—Keep clear of weeds, and thin if the plants are crowded. See note on the maggot in last month's Calendar. Seed may be sown for small bulbs for next Spring's planting and for pickles.

Peas.—Preserve the best for seed, and pick as soon as the pods become dry. Seed may be sown for late crops, but they generally mildew. Deep planting is said to prevent this in a measure, and we have seen it stated that they will not mildew if planted at the bottom of a trench, but we have had no experience in this method of growing them. When other vegetables are abundant, late peas, though good, are not much missed late in the season.

Potatoes.—The early sorts, and none other should be grown in the garden, will be out of the way by the end of this month, and the ground may be given up to the cabbages which have been planted between the rows, or cleaned off altogether to make room for turnips, Fall spinach, etc.

Rhubarb.—The flower stalks should be cut off unless it is desirable to save seed. Tender stalks may still be pulled from near the center of the plant, but it is better to let the root recover its strength if it has been severely plucked. The stalks may be dried in the manner of apples or what is better, may be preserved in bottles like fruit. A drink called "Rhubarb Wine" may be made from the juice according to a recipe given on page 215.

Seeds.—Early maturing seeds, such as those of cabbage and turnips, should be gathered as soon as the pods begin to turn. The stalks should be cut and the seed allowed to mature in the shade.

Squashes.—Hoe until there is danger of injuring the vines. Keep a sharp look out for insects. Hand-picking early in the morning is a sure remedy. Search for the horer described last month (on page 173). In localities where the season is short, allow each vine to bear but two or three squashes.

Tomatoes.—Pinch off the ends of the rampant branches, and remove all fruit showing signs of decay. Lay brush on the bed for the vines to trail over, or mulch with straw and let them fall down. The potato or tobacco worm, figured and described on page 103, *May Agriculturist*, often makes great havoc with the tomatoes. Search for and crush him.

Transplanting.—Vacancies in most crops can be filled by careful transplanting. Many plants are decidedly benefited by it, and few are injured if the work is carefully done. Missing hills of corn can be filled out from those containing too many plants, and other things not usually transplanted can generally be successfully moved to fill up deficiencies.

Weeds.—If there are any weeds in the garden, it is either too large, or it is neglected. You can raise weeds if you choose, but it will not be because the teachings of the *Agriculturist* have been followed.

Flower Garden and Lawn.

The backwardness of the Spring, and the dryness of the early part of June, have probably retarded many of the flowering plants, so that the present month will present a much greater variety of flowers than usual. Bedding plants may still be put out to fill the places occupied by early flowering bulbs. With skillful management, there need be no lack of attractiveness in the garden from the time frost disappears until it returns in Autumn.

Annuals.—If any of these have failed, lose no time in resowing. Though they may not mature seeds, most of them will yield a late bloom.

Bulbs.—Take up and dry as directed last month.

Carnations should now be in fine bloom. Keep the stalks tied up to stakes, and if the flower bursts irregularly, slit the calyx. Make layers and cuttings.

Climbers.—The herbaceous climbers like Ipomæas, Manrandias, Cobæa, etc., should be provided with strings or wires. Those woody ones which require to be laid down in winter, should not be allowed to interweave themselves into the lattice or trellis in a manner that will render them difficult to remove.

Dahlias.—Stakes, strings, mulch and liquid manure are the elements of success in the culture of these. Read article on training, on page 211. They may still be set with a prospect of late flowers.

Evergreens whether singly or in hedges should be pruned this month. Do not trim up the lower branches unless they are diseased. The great beauty of an evergreen consists in its broad spreading base.

Grass.—The lawn should be mowed as often as there is anything for the scythe or mowing machine to cut. If the grass is cut when very short it may be left to fertilize the lawn. Keep all edgings and the borders of lawns evenly cut. Do not allow any runners from the grass edgings to obstruct upon the borders or walks, or they will make trouble.

Keeping.—Neatness and care should characterize every department. Keep all plants which are in danger of being prostrated by winds, neatly tied to stakes, peg down bedding plants, cut away the dry flower stalks and clusters after the bloom is over, and make frequent use of the rake, to clean up.

Potted Plants that are placed about the grounds, dry out very soon and need frequent watering. They should be turned or moved occasionally to prevent the roots, which grow out through the hole in the bottom, from fastening the pot to the soil.

Rhododendrons.—These are very apt to suffer during the intense heat. Mulch their roots carefully.

Roses.—Keep pillar sorts and climbers well secured. Cut off the flower stems as soon as the bloom is past its prime. Nothing looks more slovenly than to see the ground littered with fallen rose leaves. Cut back the remontants to secure a late bloom. Treat the rose slug to a solution of 1 lb. whale oil soap in 6 gallons of water. The Aquarius will be found a convenient apparatus with which to apply it, but a common tin syringe will answer. Apply to both the under and upper side of the leaves.

Seeds.—Save the seeds of the biennials and perennials now ripening. If not needed in your own grounds they will be acceptable to friends. Label with the greatest care, and keep dry, but not hot.

Verbenas.—Keep them well pegged down. Suitable hooks for the purpose can be cut from shrubs or asparagus shoots, hair pins are sometimes used.

Water newly planted shrubs and trees if they appear to languish. Remove the surface earth, give a copious watering, and then replace the earth.

Weeds.—Use the hoe and rake frequently, and hand-weed near the plants. Begin early; the pulling of large weeds disturbs the roots of plants.

Fruit Garden.

The harvest has already begun here. A crop of nice strawberries has opened the season of fruits.

Blackberries.—Keep the canes well tied up. Where the crop of fruit is heavy the bearing branches will need support. Hoe frequently or keep well mulched.

Currants.—These often bear so heavily as to break down the branches, tie up or stake where this is the case. Gather when first ripened, for jelly. Leave those intended for bottling until fully ripe.

Dwarf Fruits.—Keep the trees planted this Spring well mulched. Summer pinching should be done. See article on page 210. Thin out the fruit from over-loaded trees. Give slugs a dusting of lime or ashes as directed above for the orchard.

Grapes.—Pinch off the bearing shoots leaving at least three or four leaves beyond the bunches. Rub off all superfluous shoots, and thus save fall pinning.

Raspberries.—These will now need daily picking. As soon as the fruiting season is over, cut down the old canes and train up the new growth; remove all superfluous shoots, leaving but two or three of the strongest to each plant. If it is desired to multiply the variety, the superfluous canes may be left to grow to be removed for transplanting in the Fall.

Strawberries.—Where the plants are cultivated in hills, keep the runners closely pinched off. If new plants are wanted, spade manure in between the rows and let the runners grow. They will soon take root and multiply with very great rapidity.

Green and Hot-Houses.

The houses are emptied of all but the tender tropical plants; those which remain need free circulation of air and frequent waterings. Where the sun is too powerful, its force should be broken by coating the glass with whitening or by a muslin screen.

Budding may now be done upon the woody plants whenever the stock is in working condition.

Callas.—Repot them now, and water less freely.

Cuttings.—A stock may be put in for plants of such varieties as are desired for winter blooming.

Earth for Potting.—Prepare a good supply and have it well mixed. The sods from an old pasture stacked up and allowed to decay, make a most excellent material; also black earth from the woods.

Grapes.—Those vines from which fruit has been gathered, should have less water and plenty of air in order that the wood may ripen. Later vines still need to be pinched in and to have the clusters thinned. Water and syringe frequently, and use sulphur if mildew appears.

Insects.—These still continue to increase and the houses will need watching. Whale oil soap and fumigation must be used from time to time.

Potting.—Seedlings should not become too much crowded. Pot before they get weak and drawn up.

Water.—Give freely and use the syringe. In very dry weather, water will be needed both morning and evening. The "aquarius" is convenient for this.

Apiary in July.

Prepared by M. Quinby—by request.

The surplus honey must be looked after this month. Do not let any of the bees lose time for want of boxes now. A good yield may be lost by putting off supplying extra boxes, for only a short time. The greatest yield of white clover is in the early part of the month, it falls somewhat toward the last, and continues a moderate show of flowers until the end of the season. The entire yield from basswood will be given in about two weeks; sometimes commencing as early as the 4th, at others as late as the 18th. Where this timber is abundant, the collections are sometimes wonderful. The flowers are pendant, and wet weather makes less difference with the honey secreted, than with clover. The honey in appearance is equal, if not superior to any other. The flavor is particularly palatable to many, on account of its peculiar aroma. . . . Keep a supply of boxes on hand to replace the full ones as fast as filled. One full box is preferable to two or three half filled. A little management will secure an addition to the number of full ones. A stock will often swarm too much when the boxes are only half filled, and leave too few bees to add any more. When there is no prospect of more being done, take the boxes away and give to some strong colony to finish. A box may be changed half a dozen times on some occasions, if necessary. To get rid of the bees taken off with the boxes, take an empty box, bee tight, put in the boxes on their sides, combs vertical, in such a way that the bees may creep out of all. Throw over them a sheet, that no bees may get in or out. After standing a little time, the bees, in their endeavor to escape, will get on the under side of the sheet, when it may be turned over; by repeating this a few times all may be disposed of

Bees in this way will not sting, unless provoked at first. To save the honey through the hot weather, put it in a dry place, and cool, if possible, to prevent the moth eggs from hatching. Paper or cloth may be pasted over the bottom to keep out insects. There are now more moths, than at any time before during this season, and they will be likely to find more convenient places to deposit their eggs. There will be some small swarms, some old stocks thinned by over-swarming, or queenless ones that will suffer particularly. A little assistance will save some of them from ruin. Sweep out all filth frequently, and destroy all the worms to be found. . . . Towards the last of the swarming season, preserve a few small swarms; you will find some queenless ones that will need them. But few can comprehend how soon a colony will die off, unless there is a queen present to keep up the population. A laying queen is worth much more to introduce, than a brood from which to rear one. In one case bees will be hatched in three weeks, in the other it will take six—time enough to have small colonies destroyed by the moth. When there are no available means to raise a colony strong enough to defend itself, it is best to break it up and secure the honey and wax in advance of the destruction awaiting it. Remember that as the bees get out, the worms get in—in defiance of all patent arrangements to the contrary. . . . Put some old pieces of comb under the swarms, only part full; the moth will be deceived, and lay her eggs there, when the worms are easily destroyed. Set dishes of sweetened water among the hives at night. Many insects besides the bee moth will be drowned. . . . Those using the movable comb hive, will be pleased to learn that a principle has been discovered by which all combs will be built straight. Immediately after the bees are hived, the back end of the hive is raised about 30 degrees, having the frames run from front to rear, the sides of the hive exactly vertical. When the bees have worked their combs across the top, it may be let down level. It takes but a moment to raise one end of the bottom board on blocks of wood, or bricks, and the result is satisfactory. It is believed that if these conditions are complied with, there will not be a failure. . . . All who winter bees in the open air, should be made acquainted with the importance of straw for the hives. It is probably the best available material. It is best before being threshed, and that of wheat or rye is nicest. Select it at harvest time; cut off the heads, tie in bundles, and put away until a spare time to make into hives. Make the walls of the hive two inches in thickness, and of the same proportions inside as the movable comb wood hive. At the approach of cold weather, the contents of the wooden hive—combs, honey, and bees—are transferred into straw, to pass the winter in the best condition.

The Great Strawberry Exhibition — A Monster New Seedling.

We close up the present number in the middle of the great Strawberry Exhibition, and have only room for a brief account. The previous very dry, hot weather, gave too early maturity to some varieties, while the violent driving rain on Wednesday afternoon, and rain also on Thursday morning, interfered with picking. The invasion of Pennsylvania prevented the expected large exhibition from Pittsburg and vicinity. Yet with all these drawbacks, the display was very large, and the samples very superior, showing considerable progress and improvement during the year past. It is conceded on all hands to be the finest show of the kind ever made in this country; and having ourselves seen the best displays in Europe, which were far inferior to this, we are safe in saying that the Strawberry Exhibition at the *Agriculturist* office June 18th, 19th and 20th, was the best one ever held since this delicious fruit was introduced into cultivation. The number of visitors was from 20,000 to 25,000 during the three days.

The show was a great one, not only in the amount of fine specimens presented, but especially in the size and excellence of the fruit. There were scores of plates of fruit, of such size and flavor as would hardly have been dreamed of ten years ago. On one plate were fifteen berries which, put upon the scales, weighed down a full pound avoirdupois! It takes from 120 to 150 good sam-

ples of the staple market berries of this city to weigh one pound. Triomphe de Gand berries, 22 to the pound, were also shown, and several others nearly as large. There were about 200 plates, usually containing one to two quarts each, shown by 26 exhibitors. Omitting notice of many other excellent and improved seedlings until our next number, we will only add, that one of the great centres of attraction was the new, unnamed seedling (No. 10) shown by Mr. Seth Boyden, of Newark, N. J., the well known inventor of the processes of making Malleable Iron, patent leather, etc. It is a product of Peabody's Seedling with the Green Prolific, the latter produced from Kitley's Golliah and Hovey's Seedling. It has therefore a most excellent pedigree. Its form is nearly conical, somewhat necked; deep scarlet color, extending to the core; solid, and of pleasant pine flavor. The size is enormous, the average berries exceeding anything ever before seen in the strawberry line. Both the plant and berry will be described and illustrated hereafter. To save useless letters of inquiry to Mr. Boyden (or ourselves), we will state, that no speculation will be allowed with this new and remarkable strawberry—no "\$5 a dozen when ten thousand purchasers are secured." Not a single plant is for sale on any terms, but it will be multiplied as rapidly as possible, and next year the plants that can be produced in the meantime, will be given away as a donation to the public. Previous to the announcement of the time and manner of distribution, no applications for plants will be answered by Mr. Boyden or others.

PRIZES AWARDED.

- Best 25 varieties, one quart each, \$7, to Wm. F. Heins, Morrisania, N. Y.
- Second do., \$5, A. S. Fuller, Brooklyn, N. Y.
- Best Dish Market Berries (2 qts), \$3, to L. M. Pease, N. Y. Farm School, Mt. Vernon, for Triomphe de Gand.
- Second do., \$2, to S. R. Trembley, Bergen Point, N. J., for Union variety.
- Third do., \$1, to L. M. Pease, for Wilson's Albany.
- Largest Berries (weight and size considered), \$2, to Seth Boyden, Newark, N. J., for the New Seedling.
- Best New Seedling, not before exhibited, \$5, to Seth Boyden, Newark, N. J., for his unnamed, No. 10, the New Seedling.
- Second do., \$2, to J. W. Faulkner, Stamford, Ct.
- Best flavored Strawberry, (1 quart), \$2, to A. S. Fuller, Brooklyn, unnamed Seedling No. 8.
- Best Quart White Strawberries, \$2, to Jno. Drummond, Gardener to Mrs. Jas Strong, Newtown, L. I., Diction Pine.
- Best Pint of Empress Eugenie, \$1, to E. Marshall, Poughkeepsie, N. Y.
- Best Quart Fillmore, \$1, to E. Williams, Mt. Clair, N. J.
- Best Quart of Cutter's Seedling, \$1, to E. Marshall, Poughkeepsie.
- Best Quart of Triomphe de Gand, \$1, to F. W. Devoe, Fordham, N. Y.
- Best Quart Wilson's Albany, \$1, to L. M. Pease, Mt. Vernon, N. Y.
- Best Quart of Hooker's Seedling, \$1, to Francis Brill, Newark, N. J.
- Best Quart Hovey's Seedling, \$1, to E. Williams, Mt. Clair, N. J.
- Best Quart of Jenny Lind, \$1 to John Drummond, Gardener to Mrs. Strong, Newtown, L. I.
- Best Quart Vicomtesse Hericart deThury, \$1, to H. C. Fuller, Godwinville, N. J.

Great American Exhibition of Pumpkins, Squashes, and Ornamental Gourds.

The Second Annual Exhibition of PUMPKINS, SQUASHES, and ORNAMENTAL GOURDS, at the office of the *American Agriculturist*, 41 Park Row, New York City, opening on Wednesday, Nov. 4th, 1863, at which the following Prizes will be paid by the Publisher, upon the official award of competent Committees.

CASH PREMIUMS,

- A—For the Heaviest Pumpkin or Squash.....\$10.00
- B—For the 2nd Heaviest Pumpkin or Squash... 5.00
- C—For the 3rd Heaviest Pumpkin or Squash.... 3.00
- D—For the Best Pumpkin or Squash for cooking. 5.00
- E—For 2nd Best Pumpkin or Squash for cooking. 3.00
- F—For the largest yield on a single Vine..... 10.00
- G—For the 2nd largest yield on a single Vine... 5.00
- H—For the largest and finest collection of Fancy or Ornamental Gourds*..... } 7.00
- I—For the 2nd largest and finest collection of Fancy or Ornamental Gourds*..... } 4.00

*All to be grown by one person and to be accompanied by positive evidence from the grower, and one disinterested person who assists in gathering the specimens.

Note 1.—The specimens receiving the Prizes will remain on the Public Exhibition at the pleasure of the Publisher who offers the prizes. The other specimens will be subject to the order of the exhibitors, or they will be sold at auction or otherwise disposed of, for their benefit.

Note 2.—All Exhibitors must notify us of their intentions by Oct. 15th, and deliver specimens for competition on or before Nov. 2d. Specimens to be delivered free of charge.

Note 3.—The same specimen can compete for only one of the premiums offered above.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Editor Absent.—The June and July numbers of the *Agriculturist* are issued without the direct assistance and supervision of Mr. Judd, who is making his usual Summer tour to observe and study the general farming operations of the country. This year he will happen, often unawares, or *incognito*, among some of our readers at the West, especially in the Prairie States.—We trust the "matter and manner" of these two numbers will, in part at least, show a realization of the Proprietor's idea, viz: to have a sufficient force to carry on the journal in full vigor, even should sickness or death, or other causes chance to deprive it of one or more of its leading editors. The *Agriculturist* has come to be an "institution" not dependent upon the life or efforts of any single man.—Personal letters, may for the time being, remain unanswered. All business matters connected with the paper will be promptly attended to. We hope to exhibit to the Proprietor on his return, a large increase in the subscription lists. The premiums offered are worth working for.
ASSOCIATE EDITORS.

The Premiums Close July 31.

That there may be no disappointment, we repeat that all premiums of every kind, general and special, will close on July 31, excepting only the new Barometer Premium, and the Wringing Machine No. 2; these will continue open to August 31. For special Premiums see page 224. For general Premiums see page 155, June No. It is not probable that we shall offer any premiums in future.

The Strawberry and Grape Premiums

are continued this month, and now is the only time to secure them. See page 224. A clergyman, in Illinois, writes us that the 25 plants received last year for two subscribers, multiplied so that he gave away several lots of 50 plants to his friends, and had more to give away in the same manner, besides a plot as large as he wanted for fruit for his own family. From what we hear, we judge there are millions of improved strawberry plants growing in the country, which sprung from the forty thousand plants sent from the *Agriculturist* Office last year.

Criticisers of Advertisements

will please read last article on page 163 of June *Agriculturist*. They need not read the Tribune and Herald advertisements last month and this.

Farm House Plans.

E. T. Benedict, Cuyahoga Co., O. We hope ere long to give plans for a commodious and economical farm dwelling; meantime we invite subscribers to forward designs for such buildings, suitable for the accommodation of a family of eight or ten persons, the cost not to exceed two thousand dollars, and, as much less as practicable. Especial attention should be given to make the rooms convenient for doing the housework.

Sorgho Mills and Boilers.

—To several inquirers. We can not answer all the questions sent in. The "Clark Sorgho Machine Company" of Cincinnati, make good Mills, and Blymyers, Bates & Day, of Mansfield, O., make the Cook's Evaporator, which, from all accounts, seems to be the favorite boiler. The advertisements of both these parties may be found on another page, and by addressing them, much of the information required can be readily obtained.

Good Hemp Brake.

—E. D. Gaines, Grant Co., Ky. The newly invented brake of Mallory & Sanford, advertised in this number, breaks hemp even more perfectly than flax. The fibre comes out entirely free from woody matter, and without any waste from tow. It can be worked by any ordinary horse power machine.

Barren Grape Vines.

—C. J. Hollingsworth, Herkimer Co., N. Y. If the fruit sets on the vine after blossoming and fails to come to perfection, the difficulty may be in improper location, poor soil, or want of proper pruning. If, however, the blossoms do not develop into fruit, it is undoubtedly owing to a radical defect in the blossoms themselves, probably to the absence of stamens with which to fertilize the pistils. Such plants, called pistillates, are quite common. Several kinds of strawberries have only one set of organs. The only way to secure fruit from such, is to supply them with pollen from other plants having the reproducing organs complete. It is usually done by planting staminate varieties near the barren sorts; the pollen is carried to the plant lacking it, by the wind and by insects.

Value of Goats.—"A subscriber to the *Agriculturist* asks about the value of goats kept for milk, with information as to their desirableness, etc. They have some excellent qualities, but some that are particularly undesirable. They may be kept very cheaply, as they will eat almost any green thing, and many weeds which other animals refuse. We have seen a goat eagerly feeding on brown paper. Their milk is very rich, and considered excellent food for children. But they are also very mischievous if allowed to run at large. Not a flower, plant, or tree is safe from their depredations. If kept at all, it should be in an enclosure where they can do no harm. Then if the pasture be rich, a good goat will probably yield milk enough to be profitable.

Scab in Sheep.—O. L. Walter, Luzerne Co., Pa. This disease is caused by the presence of a minute parasitic insect, which burrows in the skin of the sheep. It is very contagious. Infected animals should be separated from the flock, the scabs scoured off with a stiff brush and soap suds, and afterward dipped in a strong decoction of tobacco mixed with a little spirits turpentine.

To Destroy Sheep Ticks.—John Scott, Niagara Co., N. Y. Immediately after shearing, dip the sheep and lambs in a pretty strong decoction of tobacco. This will destroy the ticks without injuring the flock.

Insuring Sheep against Dogs.—Geo. I. Evans, Jefferson Co., Ohio, writes that since the Legislature of that State refuses to tax dogs, the Trenton Farmer's Club proposes to organize itself into a sort of Insurance Co. for protection of sheep. We suppose it would only extend to members of the club who would be assessed to pay for the sheep destroyed each year.

Proof against Sheep-Killing Dogs.—C. H. Field, Westchester Co., N. Y., writes to the *Agriculturist* that conclusive proof against sheep-killing dogs may often be had, by examining their mouths. Small pieces of wool will be found between their teeth for several days after they have been on a foray. They are cunning enough to wash off marks of blood, but can not pick their teeth so readily.

Ringbone in Horses.—C. D. Wilson, Chautauqua Co., N. Y. This disease is often hereditary. Colts but a few months old have frequently been affected with it. It may be caused by any strain of the ligaments in the region of the pastern joint. There is no complete cure known. Lameness may be removed by rest, and stimulating liniments, or counter irritants, as blistering the skin. Prevention is found in careful usage.

Cure for Scratches.—"Non Equus" contributes to the *Agriculturist* the following remedy for scratches in horses, which he says is infallible: Mix one ounce of verdigris (sub-acetate of copper) with a gill of unsalted lard, and daily anoint the affected parts with a teaspoonful of the ointment. The feet and legs of the animal should be washed with warm soap suds, and wiped dry, before applying this preparation.

Warts on Horses.—Samuel Thompson, Salem Co., N. J., writes to the *Agriculturist* that he has been successful in removing warts from horses without resorting to the knife. He uses a mixture of one part flowers of sulphur to two parts of Alcohol by measure, to be well shaken and applied daily until the wart disappears.

To Keep Rats from Harness.—Samuel Thompson, Salem Co., N. J., recommends to mix a little tar with the oil used on harness, which he says will keep rats from gnawing it.

Gapes in Chickens.—"Inquirer." Prevention is better than cure. Young chickens kept in dry, clean quarters, and fed with cracked corn, the size of the pieces being suited to their age, are seldom affected with this ailment. Many remedies have been published; the favorite one is to dip the feather end of a quill in spirits turpentine, open the mouth of the chicken and twist the feather in its windpipe. This will remove or destroy the small worms which accompany the disease, and sometimes effect a cure.

A Mischievous Bird.—Noah B. Aiken, Lorain Co., O., writes to the *Agriculturist*, that the Barn Wren is a very troublesome bird, throwing out the eggs from the nests of swallows and other birds, and thereby meriting shooting at sight. We are not acquainted with any bird of such habits. It certainly cannot be the common wren, which though resolute in defending its own premises, is not, to our knowledge, an invader of the

rights of others. Can any one give such a description as shall certainly designate this mischievous bird, and give a warrant for its execution?

Sparred Floors for Cattle.—"Farmer." Erie Co., N. Y. We somewhat question the expediency of using them, especially in Winter. The liquid manure will indeed pass away readily, but then the cold winds will also blow up through them, making the stalls chilly and unwholesome. Manure will freeze worse in such stalls than in others. And moreover, a grating makes an unpleasant footing for man or beast.

Red Durham Cattle.—L. W. Goodrich, Piscataquis Co., Me. Certainly, there are imported Durhams whose color is uniformly red, and whose blood is as pure as the white or roan stock.

Protecting Bee-Hives from Ants.—J. Hills, writes to the *Agriculturist* that he effectually protected his hives from black ants, which had previously been very troublesome, by placing the supports of the stand in troughs of water. The insects were unable to swim over, and the hives were left unmolested.

Mignonette for Bees.—Walter Fish, an Apiarian of Clackamas Co., Oregon, seeing it recommended to sow mignonette for bees to make honey of, tried the experiment and found the honey made from the blossoms had a strong odor like that of buckwheat. Mignonette is an annual, worthless, as he says, save for honey, while buckwheat blooms all Summer and then gives a crop of grain. He says white clover is better than either for honey, good for stock, and fine to turn under as a fertilizer.

Non Swarming Hives.—In reply to a communication to the *Agriculturist* on the value of non-swarming hives, by Jasper Hagen, Mr. Quinby writes: "J. H. presumes because he has had some experience with a half dozen hives, two or three years, in one place, that all other bees in the country will do the same. These non-swarming hives, are not to be depended upon as such. Until we can get one that will, it seems like a waste of time to discuss their profit as compared with the swarmer. I have had no reason to change the opinion given ten years ago on this point, in the 'Mysteries of Bee-Keeping,' pages 37-8 and I have had much subsequent experience on this point. In this locality, I find three in eight will swarm, even when put in the dark room.... In such room, the surplus honey is in bad shape for market. A good non-swarmer is a very desirable article, and one that would give the surplus honey in good shape for market, and could be reliable at all times, or only nine in ten, would, to me at least, be worth hundreds of dollars."

Bottling Insects.—During an insect discussion at the New-York Fruit Growers Meeting, Dr. Trimble protested against the method of wholesale destruction practised by some persons who hang open bottles of sweetened water in fruit trees to entrap insects. His argument was, that "in so doing one destroyed more friends than enemies; we should rather encourage the increase of the clear-winged fly, the lady bug, etc., as these prey upon destructive insects."

Trap for Wire Worms.—A correspondent of the London Gardeners' Chronicle was successful in ridding a grape vine border of wire worms by the following plan; Potatoes were cut in slices half an inch thick, and inserted at short intervals along the border, about two inches below the surface. A small stick was placed to show the locality of each place. The potatoes were regularly inspected every morning for about three weeks, and large numbers of worms were daily found in them. In this way the ground was ultimately cleaned of these destructive pests.

Scale on Apple Trees.—"G.," of St. Paul, Minn., referring to the bark-louse question in the June *Agriculturist*, says he had a tree growing on poor soil which was completely covered with scale. He made a strong lye from wood ashes, and applied it with a stiff wisp broom. The first rain washed it clear of scale, the leaves came out healthy, and it bore its first crop of fruit that year. He has since used lye with like good success, without injuring the trees.

Bean Weevil.—C. R. Thomas, Warwick Co., Ind., and others. We have had no experience with this insect, but suppose that it may be destroyed like the pea-bug, by scalding the seed before planting.

Potato Bug.—S. J. Noble, Dorchester Co., Md., says that the most effectual way to destroy the potato bug "is to take a tin bucket or basin in one hand,

and the potato top in the other; shake the bugs into the bucket or basin and you have got them to burn or bury at your pleasure. I have captured gallons of them in this way." We do not know to which particular bug Mr. N. refers, but his advice is sensible as regards any of the many species which infest the potato. The only way in which we can get rid of insects, aside from the help of birds and parasites, is actual destruction. There are no specifics or particular remedies for each insect. We must study their habits and work for their destruction in the stages of egg, larva, and perfect insect. By destroying the moth, butterfly, or beetle, we prevent their multiplication, but as these are the forms in which insects appear to be most harmless, we mainly direct our efforts toward the larva. Destroy the perfect insect, and the destructive larva will cease.

The Chess Question.—D. Noble, Shawanaw Co., Wis., thinks that we do wrong to decline discussion on this subject. We might fill our pages with arguments on either side of this or any other public fallacy. We are willing to admit even, that the moon is made of green cheese, if we can see an authentic specimen. If he has an example of the transmutation of one grain into another we will not even decide on it ourselves, but submit it to the first botanists of the country, and if they say that the specimen is partly wheat, or any other grain, and partly chess we will give it up. Send the specimens.

Sweet Potato Tops for Fodder.—K. Horner, Wayne Co., Mich., asks if sweet potato tops are suitable food for animals. He has had good success in raising the crop in his locality and finds that cows and hogs are fond of the tops. We have always let the tops remain until the frost killed them, and have had no experience in feeding. The sweet potato belongs to the same family as the jalap, and we should expect to find some cathartic property in the uncooked plants. Mr. H's experience is, that the cattle and hogs eat them without injury. We shall be glad to hear from others who have tried the experiment. Where the potatoes are dug before frost it may be desirable to feed out the tops, if it can be done with safety.

Pond Mud.—James Floyd, Chenango Co., N. Y., wishes to know, whether the cleanings of the canal every spring, will answer for a top-dressing of his meadow? We have often noticed such heaps on the canal bank, covered in Summer with a rank growth of Canada thistles, dock, etc. The best way to manage such mud is to cart it home, spread it in layers from four to six inches thick, and cover each layer with a coat of lime. Let the heap lie a few months, and then shovel it all together. After laying a short time longer, it may be spread on meadows, pastures or anywhere. The lime will kill most of the foul seeds, and decompose the vegetable and animal matter in the mud.

How to make a Manure Heap.—Wm. Polly, Dark Co., O., writes to the *Agriculturist* that he has an old straw heap, trodden by cattle last Winter, a few loads of manure from the horse stable, a few ashes, and that he can obtain plenty of lime. He has also a good shed under which to make the heap, and asks how to proceed. Place a layer of straw a foot thick, then two inches of ashes or lime, next two inches of muck, or rich soil. Add six inches of horse manure, more straw and ashes or lime, then earth and manure as before, and when the pile is complete, cover the whole with two or three inches of muck or earth. Water the heap moderately and every two weeks fork the whole over, until the ingredients are thoroughly mixed. In the mean time add to the pile all the house slops, the contents of the pig-pen and privy. In two months or less there will be a valuable compost heap ready for use next Fall.

Disinfectants.—E. H. Morton, Middlesex Co., N. J. To deodorize offensive substances, such as the contents of privies, sink drains, &c., so as to use the materials afterward for compost, is an important matter. When powdered charcoal is abundant, nothing is better, putting it in layer after layer. But when this is scarce, dried peat or muck will answer nearly as well. If, however, the decaying substances still emit offensive odors, powdered lime may be added. In ordinary cases, coal ashes, tan-bark, saw-dust, or dry soil will absorb refuse liquids and turn them into useful fertilizers. It is essential that the absorbent be well dried.

Out Door Whitewash.—E. J. Hammond, Harford Co., Md. We know no better recipe for preparing whitewash for fences and other wood work exposed to the weather, than the following, which was published in the *Agriculturist* several years since. Mix unslacked lime with about as much water as will be required in use, and add about half a pound of tallow for

each neck of lime. As the lime slakes, the heat will melt the tallow, which is to be thoroughly stirred, the stirring to be repeated while using, if any of the grease rises to the surface. Spoiled lard or other grease may be used in place of tallow.

Sowing Grass with Buckwheat.

A. L. Fowler, Litchfield Co., Conn. It would not be advisable to sow grass seed with buckwheat. The latter would shade the ground too much for the grass to get a good start. Better sow with buckwheat alone, and seed down with rye next Fall. Or, if it be desirable to start the grass at once, try a crop of millet, sowing it rather thinly; this will give the grass as good chance as winter grain, or oats.

Shelter Stacks.—"D. K. W." recommends that where hay must be stacked and fed out without removing it to the barn, the stacks be built in the form of sheds, to give shelter to cattle which are to consume the hay in winter. He says it can readily be done by making a rough frame of timber or rails, on which the hay is to be stored. We consider the plan objectionable, because the enclosure would be liable to become filthy without great care; there would be insufficient ventilation, and the odors arising from below would make the hay unpalatable and unwholesome. If the hay cannot be drawn to the barn or sheds and fed out there, better erect temporary shelters near the stack. No one but a shiftless farmer would think of letting cattle remain without shelter, and lie around the stack all winter. A few uprights of poles, with a roof of rails, and a covering of straw or poor hay would amply repay for the trouble of building, if nothing better could be had.

The Peeler Plow.

To many inquirers. This affair first came up in an offensive manner. Mr. Peeler, said to be a Southern clergyman, pressed it upon manufacturers with the specious plea that the Bishops and clergy of the largest and most influential Church in the country would all act as friends, and indirectly, if not directly, as agents, partly from sympathy with a brother minister, and more especially because he was making immense donations of the (prospective) profits to the educational institutions of that church. But notwithstanding this, we gave the plow a somewhat careful examination, and found it to be a rather rude conglomeration. The main idea was to have a variety of mold-boards, land-sides, points, etc., all to be attached to the same beam, as wanted. The arrangement, if well executed, might answer for light soil, but the attachments were not firm enough to stand the rough usage of heavy or stony land. Deeming it of little practical utility, and disapproving of the effort to turn religion to money-making account in so direct a manner, we passed the thing over in silence, and only make this note now in response to a great number of questions that have accumulated during some months past. Mr. Peeler is probably now among the rebels; happily he carried little with him from Northern manufacturers, who were somewhat taken with his promise of ministerial agency. If any of the Institutions of Learning have received a first instalment upon the splendid subscriptions made by him, we shall be happy to hear of the fact.

Manuring with Brains.

If any of our readers happen in the vicinity of Ellenville, Wawarsing Township, Ulster Co., N. Y., we advise them to visit the farm of Mr. Joseph H. Tuttle, and see what the application of intelligent thought, of "brain manure" as our friend Squire Bunker would say, will do for a farm. They will see stony, hilly land, with wet bogs between the hills, converted into a fertile, paying farm. Draining on the side hills arrests the surplus water, and where only bog grass would grow, and where cattle would mire out of sight, may now be seen luxuriant meadows of Timothy. There is a story in the neighborhood to the effect, that one of these wet spots, restored by draining, and liberally lined and manured, yielded last year about 15 tons of good hay on 2½ acres! Every year's crop will doubtless pay for the cost of the drainage. Mr. T. has been for many years a careful reader of the *Agriculturist*, and has practised upon the hints obtained from its pages—with profit directly to himself, and indirectly, through his example, to his neighbors. He endorses the teachings of the *Agriculturist* almost as a whole, draining and all, but takes exception to our advice in regard to laying stone-drains with side stones and cover. He tried these, and they failed. He now drains wholly by setting the stones on edge in the form of an inverted ∇ , with oobble stones against them to hold them in place. We examined the drains June 9th, and though in the middle of a severe drouth, a stream of pure water flowed from the different drains, showing the necessity of their construction, even on hill sides which would usually be thought the last land to need draining. Mr. Tuttle raises roots for his stock, cuts all the feed, and steams it. He fur-

nishes dumping ground for the scavengers, or night soil gatherers of the village, and pays them liberally for depositing this material upon his farm, where it is mixed with muck, and converted into a valuable home made poultrette. We had not time in our brief chance visit to note down the items of cost, etc. Will Mr. T. give our readers some account of his mode of raising, storing, and feeding roots, straw food, etc. We know from his neighbors, that he makes his farm pay, and others would like the particulars, as to how it is done.

Apparatus for Drying Fruit.

John Kostenbader, Lawrence Co., Indiana, a simple cheap apparatus by which fruit could be dried expeditiously and well, would undoubtedly be very useful, and profitable where the operation is to be conducted on a large scale. Its patentability would depend upon its novelty and superiority over methods at present used.

To Draw a Spike.

Chauncey Lynch, Rutland Co., Vt., writes to the *Agriculturist*, that a tight spike may be withdrawn from the wood, by holding a sledge hammer, or the head of an ax, against one side of the projecting part, and striking upon the opposite side with a hammer. The blow should be an upward one against the under side of the spike head, if practicable.

Cabbage Puller.

M. Scougale, Mich., says in reference to the cabbage puller, figured in the *March Agriculturist*: "I think a hook made from a small sapling is as good as any. The pole should be about 5 feet long, with a limb about 5 or 6 inches from the end. This is more easily made than the other and is just as good."

Accounts with the Farm.

H. Baker, Mercer Co., N. J., suggests that farmers should keep a regular account of everything sold from the farm. He gives the proceeds from six cows for one year as follows: Butter 490 lbs. \$103.08; calves sold \$26.83; Alderney calf raised, \$25. Total \$159.91. Besides the butter sold, the family table was well supplied. If in addition to a record of receipts, there be also kept an account of expenses, the showing will be more valuable. It is desirable to know both profit and loss on all farm operations.

To prevent Chickens from Scratch-

ing.—G. W. Kitterman, Wapello Co., Iowa, writes that all trouble may be prevented by tying a forked stick 4 or 5 inches long upon each leg. "Have the stick long enough, so that there will be more weight on the hind part than on the fore part, and when the chickens go to scratch they will find themselves walking away, if the sticks are heavy enough behind."

Soaking Seeds.

The Chinese seldom sow a crop without having previously soaked their seeds in diluted manure, keeping them there even until they begin to sprout. They hold that this not only gives the plants an early and vigorous start, but preserves the seed from worms or birds. The practical results of Chinese agriculture are too important for us to speak of them with contempt. Would it not be well for us to use some safe steps for our corn, squashes, melons, etc., as a general rule, and not as an exception?

Pruning Trees to Good Form.

Too little attention is usually given to the formation of a good head, in pruning fruit trees. Begin as soon as the tree is planted, and use only the pruning knife. Never allow a tree to become "crothed," as it will be liable to split down. Rather encourage several branches upon different sides to preserve the balance. It is easy to start a branch to fill a vacancy, by cutting back a limb close to a bud at the point where the new one is required.

Summer Queen Apple.

Dr. Ward, of Newark, N. J., spoke highly of this apple at the late Fruit Growers' Meeting. He kept an account of the sales from two trees one season, and they footed up \$60, selling from \$2.00 to \$2.50 per bushel. Being a large showy fruit, and ripening by the middle of August, it commands a ready sale at high prices.

Winter Mulching Peach Trees.

M. Gookins, Fountain Co., Ind., writes to the *Agriculturist*, that for several years past he has each Fall placed around his peach trees a layer of half decayed straw about six inches thick, and extending three feet each way from the trunks. This was done to prevent the swelling of the buds during temporary warm weather toward Spring, by which much fruit is annually destroyed. Recently the peach trees in his neighborhood have been affected by the "Curl," a disease or blight causing the leaves to shrivel and the trees to die; but those which he has mulched as described above, have remained entirely free from this ailment. The cause of the "Curl" is not

well understood, but the prevention here indicated is worth trying elsewhere.

Natural Peach Trees not Health-

iest.—Thos. Roberts Jr., of Monmouth Co., N. J., the heart of the peach growing region, says that his experience, and that of others in the neighborhood, is, that natural peach trees are more subject to the "yellows" than huddled trees. He planted both side by side and the worked trees were every way the healthiest.

Curl on the Peach.

P. A. Beffens, Florence, Ind. The specimens of peach leaves were affected by the Curl, a common disease in both this country and Europe. Some writers ascribe it to the puncture of a minute insect, while others consider it to be due to sudden changes of temperature, and most liable to appear when warm and damp days are succeeded by a comparatively cold spell. We have made several examinations and have never been able to find any insects. It is a subject upon which there seems to be very few accurate observations, and we have never known any remedy to be suggested. The diseased leaves soon fall and are succeeded by a new growth. If this is often repeated the vigor of the trees will be impaired.

Cutting Buckthorn Hedges.

B. Kimball, Kennebec Co., Me. Your hedge set out last Fall with plants fourteen inches high, should have been cut back in the Spring to six inches, so as to form a thick mass at the bottom. Cut hack to ten inches now.

Chinese Chrysanthemums.

—Is it known to every one that these plants can be raised from cuttings about as easily as willows? That they bloom abundantly and continue at it from November to Christmas? That after a short rest, if the tops are cut off, new shoots will start up from the roots and bloom again in houses in March? And then, what a variety of colors and shades! Everybody should grow chrysanthemums.

Crocus—When Planted.

—Media, Wayne Co., Pa. The bulbs should be planted in September or October, at which season they are for sale at seed stores.

Camellia.

"E. F. S.," Canajoharie, N. Y. The Camellia will not hold its buds in a hot, dry room. Try it in a room where there is no fire, and no freezing.

Lemon Tree.

—Mrs. G. B. W., Meadville, Pa. The tree would probably bear in time, but will do so much earlier, and bear better fruit, if budded or grafted. The best way is to send it to some experienced florist.

Mulching Strawberries.

Irene Cole, Ind. Our best fruit growers put on a mulch of long straw in the Fall, opening it over the crowns of the plants in the spring. We have never heard of any injury from mice, resulting from this treatment. Take up Tiger Flowers and Tuberoses after frost kills the leaves.

Books on Fruit.

—David Templeton, Crawford Co., Ill. A good work on Fruit Culture is "Barry's Fruit Garden"; the best descriptive work on Fruits is "Downing's Fruit and Fruit Trees of America." Any one largely interested in Fruit Culture should have both these works. We send them (post paid) at \$1.50 and \$2.

Plants for a Name.

—I. L. Herricks, St. Josepha Co., Mich. The leaves sent here are not the Silver Maple, but the Abele or White Poplar (*Populus alba*). It is a rapidly growing tree and a very showy one from the strong contrast between the green upper surface and white underside of its leaves, but it is a great nuisance on account of the numerous suckers it throws up from the root. Some of the small parks in New-York have the grass quite ruined by the abundance of these suckers. In streets, where the pavements keep them down, this is not so strong an objection.... F. C. Campbell, Pulaski Co., Ind. The plant sent is the American Columbine (*Aquilegia Canadensis*). It is very common, and hence we rarely see it in gardens, yet it is much more graceful than any of the imported species.... Irene Cole, Ind. The specimen is the "Star of Bethlehem" (*Ornithogalum umbellatum*). It is sometimes cultivated in old gardens, but in many of the Eastern states it has become naturalized and grows wild. The true Snow Drop is a very different thing.

Gloves for Chapped Hands.

—Buckskin gloves do very well in dry weather, but are poor things when wet. India-rubber gloves are used to some extent, and have the merit of being waterproof.

Brooklyn Horticultural Association. We regret that the Summer Exhibition of this heretofore enterprising Association must be regarded as a failure. The show of flowers and fruit was not larger than should be looked for in a town of five thousand inhabitants, while it is well known that the public and private Horticultural establishments of Brooklyn are excelled by few if any cities in the Union. There is either a great lack of public spirit on the part of cultivators, or culpable mismanagement by the officers of the Association. Wherever the fault lies, it should be corrected at once. The public taste, no less than the interest of horticulturists, demands that there should be a yearly exhibition of the progress made in this most delightful art. We trust that when the time for the Fall meeting arrives, it will be found that the present difficulties were only temporary, and that the Society may resume the position it was attaining, as one of the most successful institutions of the kind in this country.

Watering Growing Fruit.—E. D. Wisner, Monmouth Co., N. J., writes to the *Agriculturist* that fruit can be greatly improved when near ripening, by frequent and copious watering of the plants, unless there be abundance of rain. Where extra specimens are desired for exhibition or otherwise, they may be stimulated to larger growth by weak liquid manure. The watering should be done late in the afternoon, and mulching with straw, or freshly cut grass, tan bark, or other material, will aid in keeping the ground moist, and prevent baking during hot sunshine.

Apples Preserved in Sand.—John Firth, Center Co., Pa., recently sent to the office of the *Agriculturist*, (express paid,) a box of beautiful apples, whose natural period of ripening is in December and January. They were perfectly sound, and their flavor unimpaired. They are part of six barrels which were kept equally well, not twenty of the whole being unsound. They were picked Sept. 1st and 2nd, kept upon the floor of a room in the house about two weeks, and then packed in barrels with dry sand obtained from an iron foundry, which had been used in casting, and from which all vegetable matter had been burnt out. They were placed so that no two apples came in contact, each being entirely surrounded by the sand. The whole were then stored in the cellar. Mr. Firth thinks the remainder of the fruit will keep in good condition until next September. It would be easy to prepare sand for this purpose by burning, and the experiment is worth further trial.

The Best Turnip for Winter.—Charles A. Foster, Bergen Co., N. J. The Long White French Turnip is the best we know of for winter use on the table, and equal we think to any for feeding out. Its keeping qualities are unsurpassed. The general crop may be sown from June 15th to the middle of July.

Benefits of Frequent Plowing.—John T. Smith, Harrison Co., Ind., in a communication to the *Agriculturist*, says that throughout that section corn is generally backward; but that he has observed those fields planted early and plowed thoroughly through wet as well as dry times, are invariably good. The soil on the Ohio Bottomlands admits of this, and plowing before the ground is dry, prevents its baking and becoming cloddy. The average depth of plowing he says is 9 to 12 inches, and the yield of corn about 80 bushels per acre. Observing cultivators will "put that and that together."

Sulphuric Acid for Stumps.—Ebenezer Walker, Saratoga Co., N. Y. We have seen an item going the rounds of the papers saying that a stump might be quickly rotted by boring a hole in the top and filling it with sulphuric acid (oil of vitrol.) but it would probably be a failure. The acid would cause the parts with which it came into immediate contact, to decay rapidly, but it would not be likely to affect the roots by which the stump is anchored to the ground. A good stump-puller is more certain in its operation.

Soil for White Clover.—Alfred L. Waite, Potter Co., Pa. White clover thrives best on a soil containing a large portion of clay, and abundance of vegetable matter. It is abundant throughout the Northern and Middle States, where it makes the best of pasture, and is of great value for furnishing supplies to bees. The honey made from the blossoms is of the very best quality. Seed of the white clover is usually kept on sale at all the Agricultural warehouses and seed stores.

Honey for Market.—William S. Twining, Greene Co., N. Y. Boxes with glass sides in which the bees have stored honey are the best packages in which to send it to market. The purchaser can see the quality of

the article, and if white and clear, its inviting look gives it a ready sale at good prices.

Tomatoes in Pots.—Mrs. E. M. Wendall, Marquette Co., Wis. Tomatoes grown in pots where their roots have not room to extend freely, are dwarfed in their growth, and forced into earlier bloom and bearing. This method may be practised where a limited supply of extra early fruit is wanted, but it would not be profitable for a general crop.

Fig Trees—Where to Get.—L. C. Derby, Perry Co., Ill. Such extensive nurserymen as Ellwanger & Barry of Rochester, and Parsons & Co., Flushing, N. Y., and several others, raise fig trees for sale.

Keeping Wood Ashes.—D. M. Fisher, Blair Co., Pa. Wood ashes should be kept nearly dry; any water draining off, would cause a loss of potash.

An Excellent and Timely Machine.—We are glad to know that the improved flax brake made by Sanford and Mallory in this city is meeting with public favor, particularly as those parties who have put it to practical use declare it to be superior to any invention heretofore made for the same purpose. The importance of a machine by which the flax straw, now wasted, may be turned to account to supply the deficiency of cotton, can hardly be overestimated. On the article of paper alone there would be saved millions of dollars to publishers and to the community, by the general use of such a machine to work up tangled flax into paper stock. The proprietors are manufacturing small machines to be run by hand, which may be desirable in many localities. As their orders are already ahead of the supply, parties needing one of these machines should make early application. Full particulars are given in their advertisement on another page in this number.

Home Made Brooms.—George T. Weston, Rensselaer Co., N. Y. A better article of brooms can usually be had from those who make a business of the manufacture, and a ready market for broom corn can be found at such establishments. Full directions for making brooms, with ample illustrations, were published in the *Agriculturist*, Vol. xix. page 13, (January No.)

Sewing Machine Humbug.—A. J. Duncan and others. This matter has been referred to in the *Agriculturist*, but a further word of caution is not superfluous, as we notice certain parties are sending out great numbers of circulars to persons unknown to them, asking them to become agents, but requiring them first to send money to pay for a sample machine. Reliable concerns do not transact business in this manner. When they want agents, they take pains to know their men. It is of little use to correspond with such establishments. Let their circulars be turned to account as waste paper.

Sewing Machine.—"Subscriber." The "United States" sewing machine uses a single thread.

How to Make Money.—Irving Sead, Oconto Co., Wis., says this can be done by subscribing for the *American Agriculturist*, and gives the following statement in proof. "Subscribed in October, and received one map worth 25 cents, two extra numbers 20 cents, four papers of seed 20 cents; procured one new subscriber and received grape vine 50 cents; making a total of \$1 15, or 15 cents clear gain in addition to the paper for a year for nothing!" A pretty good showing truly, but not more than the facts will warrant, as thousands more will testify.

Advertising Doctors.—Notwithstanding all we have written on this subject, we receive frequent letters of inquiry about one or another of the hundred Doctors, who advertise themselves as having wonderful skill in curing specific disease—of the lungs, of the eyes, of the ears, and of every other human organ, or part of the body. We can not answer all these letters in detail, but will say, in general, that nearly all, if not all of these medical advertisers are quacks. We do not know of one of them to whose care, or prescriptions, or medicines we would entrust a friend. It is exceedingly easy to get up recommendations, and cases of extraordinary cures. There are certain instruments, or mechanical contrivances, such as artificial limbs, etc., which are properly advertised, where their utility is obvious. But not so with secret remedies, and the professed extraordinary skill of self-styled doctors.

"Head Quarters of the Pantarchy."—A "Friend" sent us sometime since a circular and letter dated as above, which had been directed to him by one "David Hoyle, Chief of the Bureau," and we are

asked to explain it. We have brooded over the said letter and circular a long time, and have at last hit upon the explanation as clear as mud. Here it is: Some abnormally inde-pre-disposed amatourissimus d'argent et d'or, wishing to get money without working for it, has set into most violent operation his twificationed cerebellum aut cerebrum, and hatched out a hexagonal hebdominal mostest incomprehensible "Grand Planetary Governmental Organization, based upon the rapid approach of the Millennium, through the Marriage of Science with Religion, ultimately in Practical Life, etc., etc.," and "in each case a postage stamp must be enclosed, in addition to any contribution for the support of the Bureau."—The explanation is as clear as the "circular," and we don't ask a postage stamp for giving it.

Those Who Have Poor Teeth are to be pitied, whether the defects are the result of imprudence, or are inherited, as is so often the case. Poor teeth are not only the source of pain and annoyance, but where defective "grinders" or sore teeth prevent thorough mastication of food, the stomach is over-taxed, and indigestion and other diseases are pretty sure to follow. The Dentists are doing much to remedy these evils, and they could do more if people generally better understood the nature of the teeth, and the operations upon them. Skillful, honest dentists prefer to meet with intelligent patients. The above was suggested by reading a pamphlet on the subject by Dr. John Allen, of 22 Bond Street, N. Y. City, in which he gives some valuable information. The pamphlet was prepared with special reference to Dr. A's improved process of inserting teeth, but that does not detract from the value of the information given, and as the pamphlet is furnished free to all applicants, we advise those having poor teeth to send for a copy. We repeat what we stated last year, viz., that teeth inserted by the method of Dr. Allen, exceed all others we have ever seen, not only in beauty and natural appearance, but in effectiveness. We know of one set inserted by him that a thousand dollars would not buy.

Thanks to the Ladies who have contributed so many valuable recipes, items, and suggestions for publication in the Household Department. From the large number received, those are selected which are thought to be of the greatest general interest, and none should feel slighted because their communications do not appear. There are yet thousands of hints which might save time and money to many families, if the good house-keepers who read the *Agriculturist* would contribute them for the general benefit. Please choose your own subjects, write plainly and briefly, and receive the thanks of the community and of the Editors.

Stenographic Books.—G. O. Southwick, Tolland Co., Conn. Towndrow's work was formerly considered as good as any stenographic book, but it is now almost entirely superseded by Pitman's Phonography, Graham's Hand-Book of Phonography, published in this City at \$1.50, is a good American work.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed upon our tables since our last report.

FRUITS, etc.—*Strawberries*:—Hovey's Seedling in pots, G. Nichol, Richmond Co., N. Y. . . . Triomphe de Gand, superb specimens, C. S. Pell, N. Y. Orphan Asylum. . . . Burgess' Seedlings, viz., Garibaldi, Gen. Scott and Gen. Lyon; White Pine Apple, Lennig's White and Albion, Wm. F. Heins, Woodstock, N. Y. . . . Gen. Scott, Wm. A. Burgess, Glen Cove, L. I. . . . Chorlton's Prolific, Wm. Chorlton, Staten Island, N. Y. . . . Trollope's Victoria, very fine, Robert Bonner, New-York. . . . Union Seedling, superior, S. R. Trembley, Bergen Point, N. J. . . . Triomphe de Gand, 5½ inches in circumference, J. Corbett, Morrisania, N. Y. . . . Cranberry Pippin Apples, very fine, R. Benner, Astoria, N. Y. . . . Isabella Grapes, well preserved, Samuel Mitchell, Cameron Mills, N. Y. . . . *Cucumbers*: Lord Kenyon's favorite, very fine, Anthony Boyle, gardner to W. P. Wright, Esq., Weehawken, N. J. . . . Walker's Rambler, Mr. Erwood, Deer Park, L. I.

FLOWERS.—Geraniums, Pinks, Pansies, and new Blotched Petunias, O. Judd, Flushing, N. Y. . . . Clematis Sophie, beautiful blooms, R. J. Dodge, McClair, N. Y. . . . Fuchsias, Cinerarias, Amaryllyis, etc., C. S. Pell, N. Y. Orphan Asylum. . . . Cut Flowers, A. S. Fuller, Brooklyn Nurseries, N. Y. . . . Double Apple Blossom on present year's growth of wood, Samuel Havens, Westchester, Co., N. Y. . . . Wax Flowers, beautifully executed, Miss Van Bergh, 1143 Broadway, N. Y.

MISCELLANEOUS.—Flax Cotton, Joshua Short, & Co., Little Falls, N. Y. . . . Maple Sugar, very superior quality. . . . Sample of White Poland Oats, four weeks from planting, very fine, George Lawes, Somerville N. Y. . . . Model of New Washing Machine, Wm. M. Doty, New York,

The Crop Prospects.

We present herewith a copy of the synopsis of the reports, as furnished us by the Agricultural Department at Washington. The plan of presenting the results is very simple and easily understood after a little study. A single figure presents the result of hundreds or even thousands of observations. Thus, for example, in the third column of figures against Iowa, the figure 12 tells us that the reports from fifty or a hundred persons in as many localities in that State, show, that the area of Spring Wheat sown in Iowa this year is two-tenths, or twenty per cent. greater than in 1862; while the figure 11 in the next column indicates that at the date of the reports the appearance of the crop was one-tenth, or ten per cent., better than the average of other years. With this explanation in mind, each figure in the whole table will become significant, and especially the general average at the bottom, for the whole country. The value of these tables will of course mainly depend upon the number of these reports, upon the good judgment and honesty of the reporters, upon the care in compiling them, and upon the promptness in publishing the results obtained.

Beyond all question, the Agricultural Department can confer a great benefit upon the entire country by an extended and properly executed labor of this kind. Millions of persons, farmers, grain dealers, the mercantile community, and indeed the whole country will, during the next three or four months, be anxious to know what are the condition and prospects of the growing crops generally. Farmers want to know whether the crop is to be an average one, or below or above an average, for the prospective prices will be materially affected thereby. If crops are poor, farmers will be less able to buy merchandise and manufactures, and less able to purchase freely, or pay up for past purchases from importers and manufacturers; there will be less grain to export and exchange, and indeed the whole fabric of trade and commerce, and even the National Finances, will be affected. And just the contrary result will be produced by unusually good crops; for, after all, the prosperity of the country depends mainly upon the absolute wealth derived directly from the soil. Hitherto we have been without any positive reliable information, except the reports gathered on the same plan last year by the *Agriculturist* office. We hope the new Department of Agriculture will spare no effort or expense to carry out, on an extended, comprehensive scale, the system of gathering these important statistics. Let them be so carefully collected and collated as to be absolutely reliable, and we can promise both a hearty cooperation, and the grateful appreciation of the entire country—not only of farmers but of all other classes. Comprehensive, accurate, and prompt reports of this kind, collected at the expense of a few thousands, or tens of thousands of dollars, as the case may be, will save many millions.

Of the *Crop Prospects Generally*, aside from what is contained in the Commissioner's report for May, we can not give as much information as would be desirable. The reports from the country at large, gathered from our own correspondence, and from some twelve hundred Exchanges, are very various. The general view is a cheerful one, but there are too many hints of late Spring, rain in some places, and severe drouth in others, to warrant us in saying that the crop prospects are the most favorable up to June 19th. In the immediate vicinity of New

**CROP REPORTS FOR
MAY, 1863.**

*Gathered by the United States
Agricultural Bureau.*

	WINTER WHEAT.		SPRING WHEAT.		RYE.	CORN.		OATS.		POTATES.		SORGUM.		COTTON.		
	Average area sown compared with 1862.	Appearance of crop at this date.	Average area sown compared with 1862.	Appearance of crop at this date.		Average area planted compared with 1862.	Appearance of crop at this date.	Average area sown compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.	
Connecticut.....	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Delaware.....	9	9	8	9	11	11	12	9	12	8	12	9	8	12	15	12
Illinois.....	12	9	20	9	9	10	11	9	10	9	11	10	16	10	79	10
Indiana.....	10	11	10	10	10	10	10	10	9	10	11	10	15	10	20	10
Iowa.....	17	10	12	11	12	10	12	11	13	11	10	10	14	11	—	—
Kansas.....	18	12	6	11	15	10	10	11	10	10	12	12	13	10	83	10
Kentucky.....	9	11	—	—	9	9	8	10	8	9	9	10	15	10	27	12
Maine.....	—	—	11	10	10	10	9	10	9	10	11	10	—	—	—	—
Maryland.....	10	10	—	—	10	10	10	8	9	5	11	10	16	10	20	10
Massachusetts.....	10	9	11	10	11	10	10	9	9	10	10	10	—	—	—	—
Michigan.....	11	10	10	10	10	10	10	10	11	10	11	10	25	10	50	10
Minnesota.....	13	11	12	11	10	10	13	10	13	10	11	10	19	10	30	10
Missouri.....	12	10	10	8	11	11	11	10	9	8	10	10	11	10	10	10
New Hampshire.....	10	8	11	10	10	10	9	10	12	10	11	10	—	—	—	—
New Jersey.....	11	11	10	10	10	10	11	10	9	10	10	10	12	10	—	—
New York.....	11	10	10	10	10	9	10	10	11	10	11	10	11	11	—	—
Ohio.....	9	8	10	10	10	9	11	10	10	9	11	10	14	10	15	10
Pennsylvania.....	10	10	8	10	9	9	11	9	10	10	11	9	23	9	60	10
Rhode Island.....	10	10	10	10	10	10	10	10	9	10	10	10	—	—	—	—
Vermont.....	11	9	10	10	10	10	10	11	9	11	9	10	—	—	—	—
Wisconsin.....	12	10	12	11	11	10	11	10	12	11	11	10	28	10	—	—
Nebraska Territory.....	15	8	11	8	8	10	8	10	10	8	10	10	9	11	—	—
General Average.....	11	9½	10	10	10½	10	10½	9½	10½	9½	11	10	15½	10½	37	10½

The above table presents a very short abstract of the returns to the Agricultural Department, of the amount and condition of the crops in May, 1863. A fuller report, embracing other matter, will shortly be issued and sent to our correspondents and the press generally.—This table can readily be understood by all. The number 10 represents an average of the crops, both as to their amount compared with the crops of 1862, and their appearance in May, 1863. A number above or below 10, represents as many tenths as it is above or below it. Thus 8 is two-tenths below an average, and 14 is four-tenths above it.—The table is prepared by first taking an average from the returns of each County, and from these an average of each State, as published in the table. ISAAC NEWTON, Commissioner.

WASHINGTON, D. C., June 15, 1863.

York, the long absence of rain has materially damaged the hay crop, and lessened the growth of most other crops. Favorable weather hereafter may bring forward the cereals, for the rains we have just had, can not restore the stunted grass. The general reports are favorable for fruit. Our own personal observation, extending a hundred miles into Southern New-York, is that a comparatively small amount of fruit has set this year. The trees were everywhere full of blossoms, but a large proportion of them blasted. A similar state of things is reported from some other localities, while in others there has been abundance of rain, and not too much.

The Reports from Europe are almost as varied as from this country. Drouth has prevailed in many parts of Great Britain and the Continent, so much so as to tone down the exuberant feelings manifested about the first of May. The news by the last steamer is more cheerful than that received during the previous three weeks.

Millet Seed Injurious to Horses.

In the April *Agriculturist* "Basket Items," you say, that if Hungarian grass is fed with the straw it is generally thought to be safe. It is so far from safe, so really unsafe, I must write a word. Last Fall three horses were killed by it at one time from only once feeding. While waiting for a threshing machine to be set, an armful of it was given to them, and before another night three were dead and others made sick. I came very near losing a nice mare by feeding it one Winter. Four years ago almost every neighbor of mine used it for horses, now I know of not one that dare feed it. I could name a dozen horses in this vicinity killed, or nearly so, by using it. We never thresh it except for seed for sowing. Most here think that it is the seed that injures, and that when cut before the seed fills it is safe. Is it not the hull of the seed that irritates the coats of the stomach and intestines and thus causes disease? W.M. B. REED.

[REMARKS.—So many have reported cases

similar to the above, that it would seem almost certain that for some reason, millet (Hungarian grass) seed can not be safely fed to horses. At any rate the safe plan on which all appear to be agreed is, to cut the grass for fodder before the seed is ripened, when it is to be fed to horses. For sheep or other stock, for all we have heard to the contrary, it appears to be desirable food.]

Reasons for Tillage.

Does any one inquire the reason why we plow, and harrow, and dig and hoe? A very sensible inquiry. We do these things partly in order to bring the ground into a proper mechanical condition for receiving seeds, and for growing plants. By the long continued falling of rains, the soil becomes compact and hard. So, also, the covering of a heavy body of snow in Winter brings the ground into a sodden and firmer state. This is the case especially on clayey soils. Ruu the plow, or work the spade through these compacted masses of earth, and it will render them porous, easy to till with the hoe, and prepared to receive whatever seeds we may wish to grow.

Then, again, tillage benefits the soil chemically. It opens the pores, so that it imbibes those fertilizing elements which the air contains. The atmosphere is a storehouse of carbonic acid and ammonia, but the earth can not be enriched by them largely, until its bosom is opened by cultivation. The soil, too, contains mineral and animal substances in a state of partial decomposition, which need the agency of the atmosphere to resolve them into good food for growing plants. Jethro Tull was no mere theorist.

So in reference to needful moisture. When the soil is well disintegrated, and the air enabled to circulate freely among its particles, there will be deposited a greater amount of water than in stiff, unbroken ground. And this moisture will be present just in proportion to the depth and thoroughness of the tillage. Hence it comes to pass that subsoiled lands seldom, if ever, suffer in the severest drouths. The air descending to the roots of plants, moisture fol-



The Harvest Field.

lows with it, carrying along ammonia to feed them with food and give them greater vigor. It is sometimes objected that very deep plowing injures a crop, by bringing up to the surface hard cold clay, which is hurtful to vegetation. Very true. Such plowing is hurtful, and we do not recommend it. The true method is to deepen the soil gradually, setting the plow point only an inch or two deeper every year. This will accomplish the end in a short time, and do no harm. The true method of subsoiling is to run the common plow first, then follow its track with the subsoiler, breaking up the lower stratum, but not lifting it out of its place. Or, as one says, "let it travel under the surface soil, as a mole might pass along without turning it over." And so in trenching land for gardening, the true way is, not to throw the bottom soil on the top in any considerable quantity, but to break up the lower stratum, mixing manure with it if convenient, and then returning it to its original place, cover it with surface soil.

Doubtless, many a farm which its owner considers nearly worn out, might be rendered fertile by deep plowing. The surface has been scratched over for many years, and this is indeed exhausted; yet underneath this, lie rich stores of productiveness as yet untouched. Not a few northern farmers have gone southward within ten years past, and bought up at a low price worn out land, and by good, honest plowing and subsequent tillage, have realized good crops for several years, and that too, without enriching with additional manure.

In England, six and seven inches in depth is considered fair and reasonable plowing, and subsoil work goes down eighteen and twenty inches. With us, the average depth does not exceed four or five inches, and subsoiling does not get deeper generally than twelve to fifteen inches. There is room for improvement here; and in due time we believe it will be made.

Harvest time, though a season of severe toil, is everywhere welcomed. Most other operations on the farm have reference to the somewhat distant future, when a return for labor shall be realized; but now, results are to be gathered. Each sheaf of ripened grain represents hours spent in plowing, seeding, and cultivating; and the swollen kernels remind the husbandman of the beaded drops of sweat with which he has often moistened the field. To the imaginative mind there are few more suggestive pictures than fields of grain white to the harvest. Each waving stalk is a rod of power, more potent than the magician's wand. It bears the elements without which commerce must stand still, manufactures perish, even war cease its fearful thunders, society become disorganized, and man utterly fail. But He who cares for man, has smiled upon the fields, and again they return a joyous thank-offering of plenty. But want of space forbids to pursue the pleasant fancies which this topic calls forth. Let us note a few practical suggestions pertinent to the season. And first with reference to the proper time of harvesting grain. Experiments have repeatedly proved that the weight and quality are both improved by cutting when the berry is just out of the milk, or as soon as it is hard enough to bear moderate pressure of the thumb-nail without breaking. This is usually about ten days before full maturity. A correspondent of the *Agriculturist* several years since experimented on a crop of fifty acres of wheat. The bulk of it was cut as here recommended, and weighed 62½ lbs. to the bushel. The remainder, gathered when fully ripe, gave only 58 pounds per bushel. On the whole amount of 1,200 bushels, there was a gain of 5,400 lbs., or about 90 bushels in bulk, and the quality of the flour was superior.

In addition to the difference in weight of the grain, there is no little loss by the shelling out of the kernels, when they are fully ripened. We have seen fields bear a large crop with no other seeding than that received from what had been scattered during the previous harvest. A still further saving can be made by going over the field with a horse-rake after the ground is cleared of sheaves. What is gathered, if not sufficiently clear for making flour, will serve a good purpose to grind into feed for swine and other stock. When, as at present, every pound of food is needed, and will command a high price, all should be turned to the best account.

There should also be an eye to the wants of the following year. In almost every lot of grain, on account of better soil, more favorable exposure, more thorough drainage, or other causes, some parts will give earlier maturity and a better yield than others. If pains were taken each year to mark such places and save the grain from them for seed, the result would be seen in a general improvement at harvest. The "Pedigree Wheat," which has become celebrated in England for its superiority, was produced by carefully following up this process for years. The cultivator, Mr. Hallett, took pains to select the best heads each season, and a marked improvement was made annually. So much pains as this can scarcely be expected during the present busy time, but the best part of the field can easily be marked off, and left to mature its seed. Before harvesting, the weeds should be pulled out, and when the grain is fully ripe, it should be gathered, and stored by itself, to be threshed with the flail, and used for seed. It would pay well in many instances to buy a patch from a neighboring wheat field, if it should be superior to any grown at home. The old rule "Take time by the forelock," so excellent to be followed in all farming operations, applies with especial force to the matter of securing good seed.

Hints for Haying Time.

In the great hay growing states, much of the crop will be gathered during the present month. It is noticeable that haying time has advanced during the last twenty years, it being now one to three weeks earlier than formerly. This has resulted, not from any change in the seasons, but from the growing conviction that a better article of fodder is secured by cutting grass before the seed has ripened. The *Agriculturist* has always sustained this view, and attention is again called to it from its intrinsic importance, and because a few yet remain who follow the old ways. It is generally understood that to secure the highest flavor and strength of medicinal herbs, they should be gathered when in flower, or just passing out of bloom; and accordingly careful housekeepers lay in their stock of boneset, motherwort, catnip, etc., at that period. When the seeds of plants commence to form, the nutritive portions are largely taken from the stem and leaves to aid in the development of this more important part—that which is to secure the continuance of the species. A further change also takes place in the composition of the stem, as maturity of the seed advances. A stronger stalk is needed to support the increased weight of the seed-bearing head, and accordingly, the sugar and starch are converted into woody fibre, which gives the required stiffness, but affords very little nourishing material for the use of animals. Grass forms no exception to this rule in the ripening of plants. Every one will readily notice the greater strength and harshness of a stalk of timothy when the seed is fully ripe. Animals are excellent judges in this matter; they will invariably prefer hay cut before the blooming season is entirely past, to that left to ripen its seed.

Much hard work and vexation will be saved by having all necessary implements in order before the labor commences. No thrifty farmer having ten or twenty acres of meadow will think of mowing by hand. If there be not work enough to warrant the purchase of a machine, arrange with a neighbor who owns one to have the work done. The horse-pitchfork will also be found indispensable after one season's trial. And once more we urge the desirableness of hay-caps. By their use many loads of hay may be saved from spoiling, and the whole crop be benefited by protection from dew while curing in the cock. A word or two on this latter point. In perhaps the majority of instances, hay is injured by too much exposure to the sun. In the haste to dry out moisture, a large amount of the sweetness of the hay is also lost. Grass cut after the dew is off in the morning (which can be done with the machine, but not well by hand) in fair weather, will be ready to put into small cocks before night. Cover it with the caps and leave it there two days, more or less according to the weather and convenience; then on a clear forenoon open the cocks for an airing of an hour or two, and they will usually be ready to draw to the barn. It is desirable to have several places for storing the hay, that not more than a load or two need be bulked at one time. It should not be packed tight, and ample provision should be made for ventilation. If there be any doubt as to the sufficient dryness of hay which it is desirable to put under cover, sprinkle over it three or four quarts of salt per ton, and spread a layer of dry, bright straw between each layer of hay made by an ordinary forkful. This will absorb a large part of the escaping moisture, preventing molding, and the imparted

flavor of the hay will make the straw itself palatable to stock. This plan of mixing straw with hay, while the hay is damp and green, is economical, as we know from successful experience.

How to Sharpen a Scythe.

"Mower" writes to the *American Agriculturist*: "To properly grind and whet a scythe, requires some little practical skill, in the attainment of which the beginner may be assisted by a few hints. The cutting edge of a scythe or similar instrument, when examined by a microscope, shows numerous fine projecting points or a series of minute wedges which are to be driven into the substance operated on, to separate the adjoining parts. In order that they may enter the more readily, these points should incline in the direction of the stroke given with the blade of the instrument. In cutting with the scythe, the edge strikes the grass at an angle of about forty five degrees, and hence the grinding should be done so as to have the points set in that direction to the blade. This is done by keeping the blade firmly upon the stone, with the point drawn toward the body of the holder, at the above mentioned angle with the edge of the stone. Commence to grind at the heel and move it steadily along as the work progresses, until the point is reached, then grind the other side in the same manner. Never rub the scythe back and forth upon the stone as though endeavoring to whet it. The revolution of the stone will wear away the steel much better than rubbing it in this manner, by which the edge is likely to be made rounding, and to be set irregularly. It is preferable to hold the scythe so that the stone will revolve toward the edge. In this way the holder can see when the edge is reached, and the particles ground off are carried away clean. In the opposite method of grinding there is danger of making a "feather" edge which will readily crumble off, and leave the scythe almost or quite as dull as before. The blade should be ground equally on both sides. In whetting a scythe, lay the rifle or whetstone flat against the side of the blade, and give a light quick stroke downward and forward, in the direction of the edge, so that the scratches it makes, shall keep the points set in the same direction as given them by grinding. By following these simple suggestions, a scythe may be made to hold its edge twice as long as when the rifle is drawn along the edge almost at random. A few strokes carefully given, will enable the workman to keep the right direction and whet rapidly."

Steam in the Hay Field.

To the Editor of the *American Agriculturist*:

Steam would be a capital thing in the hay field, no doubt, if it could be applied in the right place. There's a grand chance for some Yankee to invent a steam mower, raker, and pitcher, when this war is over and inventors have time to think of something besides guns and shells, and other man-killing traps. But I want to enter my protest against trying to make human engines work by steam in haying time, or for that matter, at any other time. A great many people yet have the notion that in haying time, whiskey, or cider brandy, or some other kind of steam as they call it, is particularly necessary. They can chop, or plow, or hoe, or do any other farm work without such help, but when haying and harvest commence, the jug must be

regularly filled and emptied. I don't know why they don't fire up their horses as well as themselves, especially since mowing machines have come into fashion, and animals have the hardest part of the work to do. For my part I think one needs it just as much as the other, and no more. It always appeared to me that a July sun was hot enough, without a man's pouring liquid fire down his insides. I know that after a dram a man will feel a little more like work for an hour or so, but its only doing so much overwork, and the hour afterward he will do underwork enough to more than balance it, and feel much more exhausted than if he had gone on at a steady gait without the extra steam. Alcohol don't strengthen the body, it only excites it for a short time, and makes it work faster and harder than its natural power would allow, and this over-exertion must be made up for by more rest afterward. If any one doubts this let him try it on his horse. Give whiskey with his oats, and see how he will make things go for a while, and how soon he will be used up afterward. Men would not do this for fear of injuring their animals; for my part I think man the most valuable animal on the farm, and what is not fit for a horse is not fit for him.

JONATHAN.

[We fully agree with Jonathan, regarding the use of alcoholic drinks in the hay (or any other) field, but would at the same time caution against the excessive use of ice-water. Immoderate water drinking is quite as much the result of habit as of necessity. During the violent exercise of the hay field water is needed to replace that lost by perspiration; as a general thing too much is taken. A beverage of water, vinegar, sugar or molasses, and ginger, is much used in some localities, and is found to satisfy thirst better, and less liable to produce unpleasant consequences than large quantities of ice-water.—ED.]

Manure Making in Summer.

This is generally overlooked, in the press of field work which engrosses the attention of the cultivator during the Summer. Yet there are occasional hours which can be profitably employed in this work. Except where the natural fertility of the soil is for the present sufficient to meet all the wants of growing crops, other things being equal, the prosperity of the farmer will be found to maintain a remarkable ratio to their attention to enriching his land. We believe that on hundreds of farms it would well repay the cost, to employ an extra hand for the express purpose of collecting and preparing manures. The sources from which materials are to be drawn of course vary in different localities, but the principal ones are among the following: 1st, the barnyard. Where cattle are yarded at night, their droppings, if left uncared for, as is usually the case, lose a large part of their value, by drying out under the hot summer sun. Evaporation carries off much of the ammonia, one of the most valuable ingredients, and it is wafted along by the air to be distributed in infinitesimal portions over the surrounding country. The careful manager will provide muck, sods, soil, or other absorbent to mix with excrements every few days, either by shoveling over in heaps, or by plowing up the yard, which is more expeditious though less favorable to the cleanness of the yard, where milking is usually done.

Along the roadside and too often by the fence-lines, are numberless weeds which have drawn part of their support from the soil, and gather-

ed the remainder from the air and moisture. They are stored with fertilizing material, and if cut and worked over by the pigs in the pen, or made into a heap with muck and lime added, will swell the store of grain and grass-making substances. The slops and refuse from an ordinary family, if properly economized, will furnish nearly or quite good manure enough to nourish the vegetables they consume. Usually these are worse than wasted by being thrown into some corner, where weeds grow rampant on the valuable deposit. Then there are the privies, the contents of which, if utilized by mixing with muck, or common soil, might add vigor to the growth of garden and field, but which commonly make their locality only a nuisance. Many swamps which are inaccessible at other seasons, can now be entered, to draw from them the accumulation of vegetable matter which has been gathering for many years. This only needs properly working over, to take a new form in grass, grain, fruit, vegetables, in short any desirable product on the farm. Cheap hands, such as could not profitably work at cultivating, can be hired to dig muck and throw it into heaps, to be acted on by the elements, and afterward used to increase the compost heap. All these sources should be turned to account during the Summer, even if extra help be required to accomplish it. If the *Agriculturist* should do no more than induce cultivators to turn their attention to the available supplies of manure and their proper application to crops, it would accomplish enough to many times repay its cost to the community.

Buckwheat versus Summer Fallow.

Summer fallowing, that is, plowing land in Summer and allowing it to lie unoccupied until sowing with winter grain, is practised by many for the alleged reason that it *rests* the land, and gives it heart for the next crop. It is enough to say on this point that land does not *tire* of producing. It needs only plant-making material enough in its substance, to continue to yield abundant and increasing crops. It is not required that an amount of manure be restored to the soil equal to the amount of produce removed, for a large portion of the substance of plants is derived from air and water. For this reason there is positive gain in allowing growth upon a field, if all the vegetable matter produced be returned to the soil. Summer fallowing is therefore, in one respect, prejudicial to the fertility of land. It may, however, secure other important advantages. It makes the soil mellow, and brings it into good condition for the reception of the fall-sown grain, and if properly performed, secures the destruction of many weeds, by exposing their roots to summer heat. But these ends can be equally well attained while raising a profitable crop of buckwheat. Provision should of course be made to feed the crop, if the grain is to be harvested. A moderate dressing of manure will be sufficient on land already in good heart. If there be not enough barn-yard manure, apply a good dressing of bone-dust or Peruvian guano. Plow early in July, which will eradicate most of the weeds, harrow thoroughly, and sow about three pecks of seed per acre. In a favorable season, the rapid growth of buckwheat will smother nearly all the weeds that have survived the preparation of the ground. In Autumn the crop may be harvested in ample time to prepare the soil for wheat or rye, the sods will all be well rotted, and the land in as good condition

after plowing as though it had *rested* during the Summer, while in an ordinary season, there will be 20 to 25 bushels of buckwheat per acre on the credit side of the account. This grain will also well fill the vacancy which may have been left by a corn crop failing through unfavorable weather or other causes in Spring. Buckwheat is always marketable. During the present and prospective high prices of oats, it will not come amiss for grinding and feeding to stock, and a liberal quantity for consumption in the house is always a welcome addition to the staple winter provisions.

For the American Agriculturist.

Shall the Clover be Plowed Under?

There it lies, a splendid field of clover, in full blossom, musical with the voices of myriad bees, and perfuming the morning air with its fragrance. It is altogether too handsome to be put under the dirt. You might go miles to find so fair a sight, even in a flower garden. And then if it were not, what thrifty farmer can afford to manure his field at such a cost? There is not less than three tons of cured hay to the acre, worth at least ten dollars the ton standing, to say nothing of the after feed which must be sacrificed to manure. Can a man afford to give thirty dollars an acre for manure? Mr. Pennywise hesitates, and thinks it is paying too dear for that whistle. He can get his manure cheaper. But can he? Let us look at it a little. What has the clover actually cost him? The seed, say one dollar per acre, the extra labor of sowing, and the interest upon the value of the land. As the seed was sown with oats or barley, or some other grain crop, we do not count the labor of getting it in. It has not cost him five dollars an acre, even if the land is worth sixty dollars. In the green state there are probably eight or ten tons of vegetable matter, equivalent to a heavy manuring with stable manure, that would cost thirty dollars per acre, reckoning the manure at two dollars a cord, and the carting at common prices.

The clover is just where you want it, and if turned in, will be more evenly distributed than any stable manure can be by the most laborious process. There is hardly an inch square of the whole sod that will not feel the effects of the decomposing matter. There is no expense for carting, for spreading, or harrowing. Then it is to be considered that it is not simply so much vegetable matter added to the soil, but added to it in a succulent state, in which it will be rapidly decomposed and changed into plant food. Green crops, turned under in the early Summer, affect the soil with which they come in contact in some way that we do not fully understand. Possibly the acids released act upon the mineral portions of the soil, and form new compounds that are immediately available for the food of plants. This seems to be necessary to account for the beneficial effects of plowing in at this season, rather than in the Fall, when the fibre of the grass is harder or partially dried. Experience shows that the crop has by far the best effect when it is turned under in the green state, and in warm weather. It goes through a very rapid fermentation, and in some manner changes the character of a good deal of soil with which it comes in contact.

If a farmer had all the manure he wanted, and his fields all lay close to the barn-yard, it might not be economical to turn in green crops, and especially clover which is so valuable for fodder both green and cured. But few farmers

have as much manure as they can use to good advantage, especially in the older States. Some of the fields lie at a distance from the barn, and the expense of getting the manure on to the ground is greater than the cost of making the manure. And even if manure were plenty, it is a good plan to have a place in the rotation, where a green crop is turned in. It does a good work for the soil, that can be accomplished by no other method so economically. It makes a splendid seed bed, and prepares the ground for winter grain in the best manner.

It seems a great waste to spoil so much good food for beasts, but it is in keeping with the economy of husbandry. It seems a great waste to put eight or ten bushels of potatoes in the soil to get a crop; but they come back again many fold. That which we sow "is not quickened except it die." The seeming losses of the farm are often our largest gains! If we are charmed with the blossoms and the murmur of the bees, better close our eyes and stop our ears, and let the plow do its work. New life and vigor will be imparted to the soil, and there will come up out of the grave of our buried hopes, a glorious resurrection—fields of tasseled corn or golden wheat to make glad the heart of the husbandman. CONNECTICUT.

Sheep as Fertilizers.

John E. Traver, of Dutchess County, N. Y., writes to the *American Agriculturist*: "I keep a flock of thirty sheep which have had the range of an eight acre lot. The soil of this was thin, as it was situated at some distance from the barn-yard, and had received no manure from that source. In the Summer of 1858 the dogs got among my sheep and frightened them so they would not go on the back side of the lot, unless it was to feed for a short time, and they lay wholly on the one side of the field. I planted it with corn after it had lain two years. The side of the lot where the sheep had rested, gave a good yield, and the worms did not trouble it throughout the season. Where the sheep did not lay, but only fed, the worms made sad havoc, and the corn was poor. The oat crop following showed the same difference. On the rye I did not see so much inequality. My opinion is that if we keep more sheep, our crops will not be so much infested with worms.

Tanning Skins of Animals.

"D," of Jackson Co., Ill., writes to the *Agriculturist*: "Old hunters here tan hides and skins of all kinds with *brains*.—A new use for brains, you may say—but a better use than *some brains* have been put to, for a year or two past, at least. If the hair, wool or fur, is to be retained in the skin, it is simply soaked in warm water and the fleshy part rubbed off with a knife, the skin being stretched over a half round block for convenience. It is then soaked a short time in a little water in which the brain of some animal is dissolved; then taken out and pulled and stretched every way until dry. It will then be soft, pliable, and not liable to become hard on being wet and drying again. If I remember rightly, the lime process is adopted to get rid of the hair or wool, after which the skin is very thoroughly washed to get all the lime out of it, and then manipulated with the brain water."

QUESTION FOR THE N. Y. FARMERS' CLUB.—Will wheat *blast* more easily for being drilled?



Fig. 1.—COUCH-GRASS.

Talks About Weeds...II.

In these notes upon weeds we shall not follow any botanical order, but take them mainly with reference to the season. The first one we notice is Couch grass, (*Triticum repens*), fig. 1, which is, in some localities, a most troublesome weed. Where it gets full possession of the ground, it will overrun and occupy it to the exclusion of every thing else. It is also known in different sections as: Quack-grass, Quitch-grass, Twitch-grass, Dog-grass, Wheat-grass, etc. The last-mentioned name is given from its resemblance to wheat, both belonging to the same genus. The stems are about two feet high, and bear a head somewhat like that of wheat, though longer and more slender. Unlike wheat this is a perennial, and one of its most remarkable characters—that which makes it so difficult to eradicate—is its long underground stem, which is commonly mistaken for a root, and runs just below the surface. This underground stem throws out roots from each joint, and has at the same point, a bud or eye from which a stem may spring. It will be seen that every inch or so of this stem is capable of becoming a plant, as shown in fig. 2, which is a rooted layer—a piece of stem with a root and an eye ready to start. This explains the great difficulty in exterminating Couch-grass. If the cultivator is run through a tuft of the plant, it may tear away the above-ground portion, but there will be left below, a large number of fragments of these underground stems, each one of which will make a new plant. From the manner in which the plant multiplies, it will be seen that merely scraping the surface with a hoe will not destroy it; this only causes a dozen plants



Fig. 2.

to spring up where there was one before, and the work will shortly have to be done over again. There must be no half work, for nothing short of actual eradication will get rid of it. Perhaps the best plan is to run a cultivator through the soil and follow it with a fork, and carefully pick out all fragments and lay them in the sun to dry. With this, as with all troublesome weeds, much labor is caused by neglect when the plant first makes its appearance in the fields. A few weeds do not present a formidable appearance, but they are quietly laying the foundation for much after trouble. In some parts of England, a large part of the expense of cultivation is due to the labor devoted to the eradication of the Couch grass. The grass is liked by cattle, and it is raised in some parts of the South for pasturage.

BIND-WEED.—We introduce here a figure of a weed which is exceedingly troublesome in Europe, and which has become established in some places in this country. We have some native plants which are called "bind-weeds," but the name properly belongs to this—the *Convolvulus arvensis*. The plant is very much like a small Morning Glory, to which it is closely related. The stem grows two feet or more high, and twines around other plants. The shape of the leaves is shown in the figure, which is about half the natural size. The roots are perennial, and very long and very difficult to destroy. It soon spreads rapidly, and should be exterminated, at whatever cost of labor, as soon as it makes its appearance. It comes from Europe, but we have a native plant which is a near relative, known as the Wild Morning Glory, and Large or Hedge Bind-Weed. This is much larger than the other, and will run to the height of 8 or 10 feet. The flowers are about as large as those of the common Morning Glory. It

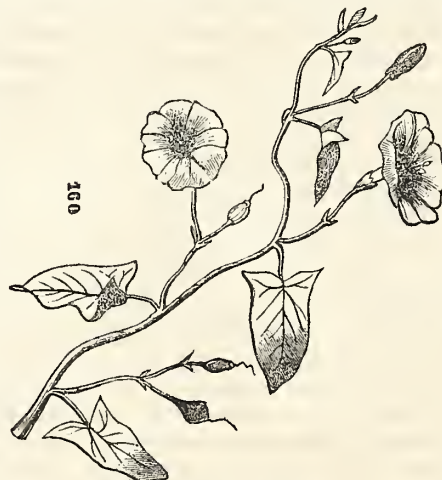


Fig. 3.—BIND-WEED.

grows in low moist places, and sometimes becomes troublesome in cultivated grounds. Frequently repeated hoeing down is the only successful remedy which we have seen suggested.

Sugar from Unripe Cane.

L. F. Hadley, of Chicago, Ill., who has had considerable experience with the Chinese Sugar Cane, says, in a communication to the Prairie Farmer, that the time to make sugar, commences when the cane begins to mature, and ends when the cane is fully ripe, after which it will make good molasses, but not sugar. Several years' trial has convinced him that this is the case, and in illustration he gives the results from cane cut just as the seed was beginning to turn brown,

which granulated finely, while the syrup from the rest of the field, cut when fully ripe, refused to "sugar off." He recommends to cut early, and work it up as fast as possible, but thinks it will make sugar late, if cut before fully ripe.

Testing the Quality of Milk.

The real value of a cow to the dairy farmer is not in the number of quarts of milk she will give, but in the number of pounds of butter she will afford. There is a greater difference in this respect than is generally supposed; some

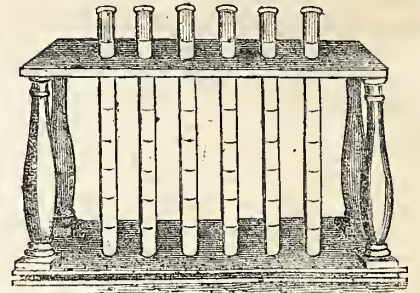
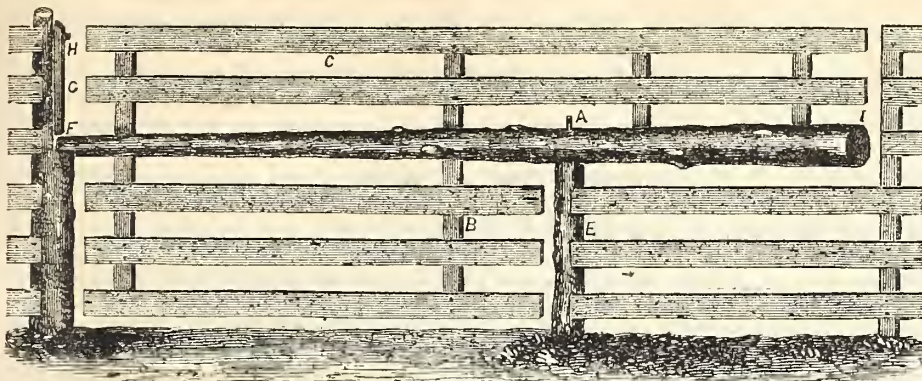


Fig. 1.—LACTOMETER.

cows making twice or even three times as much butter as others. Several methods have been proposed for testing the qualities of milk,—one of these is by the use of the hydrometer. The construction of the instrument will be understood by the engraving, (fig. 2.) A small glass tube, with a bulb at one end, has a wooden float fixed upon it. Shot are placed in the bulb in sufficient quantity to sink it in water to the point marked 100 on the stem. The instrument is then put into pure milk, and the point at which it stands in that, is also marked on the stem, and the place between the two marks divided into 100 degrees. As pure milk is heavier than water, the instrument will be buoyed up more in the one than in the other, and it at first sight would appear to show the value of the milk. But the specific gravity of cream is less than that of milk, and a specimen of milk very rich in cream, would show lighter by the hydrometer than a poorer sample. Though this instrument would be serviceable to the city consumer in detecting adulteration with any considerable amount of water, it will not serve the dairyman to indicate the butter-producing quality of the milk of different cows. The old lactometer, which was invented a half century ago, has not been superseded in practical worth by any recent contrivance. This tests the value of the milk by showing the amount of cream afforded by each sample, and consists, (fig. 1,) of a series of glass tubes of equal size, closed at the bottom; they are about a foot long and one third of an inch in diameter, and graduated by markings on the glass. These are to be filled to an equal height with milk, and after standing for the cream to rise, the comparative value of the milk of different cows can be seen at a glance. An apparatus of this kind is not only useful as showing the difference in cows, but also in testing the butter-producing value of different kinds of feed. These tubes are cheap, and may be bought at most of the agricultural warehouses.



Fig. 2.



The Balance Gate.

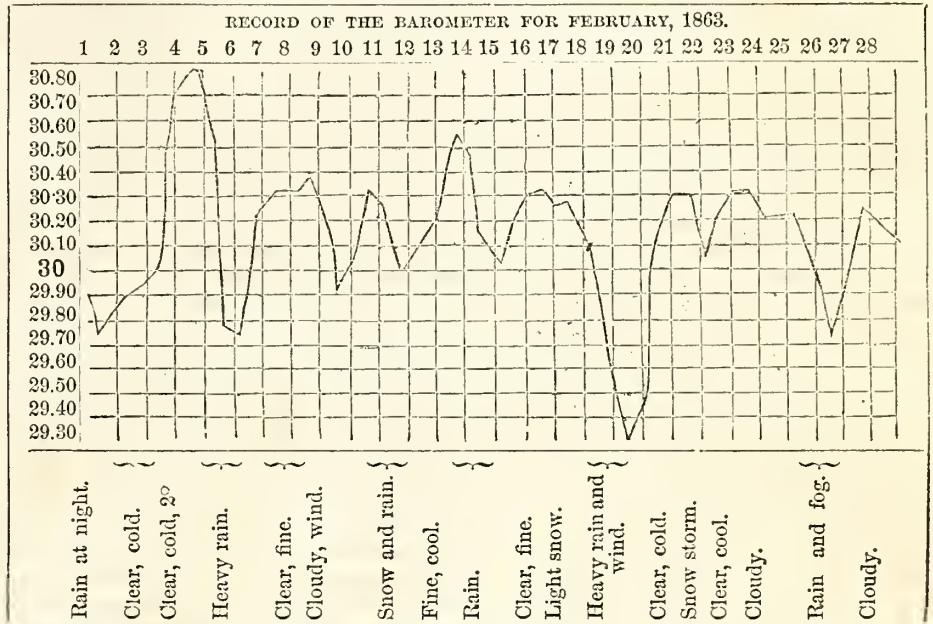
The farm gate illustrated above, the description of which was communicated to the *Agriculturist*, by N. Hinc, Atlantic County, N. J., possesses some excellent features. It is a modification of the well-known, old-fashioned balance gate. The construction will be readily understood by reference to the illustration. The beam or pole *A*, of suitable length, turns on the post *E*, being held in place by a 2-inch pin extending through the beam. The uprights, *B*, 2x3 inches, pass through mortises in the middle of the beam, and are pinned fast. The slats, *C*, are of boards of any desired width, securely fastened to the uprights with wrought nails clinched. When the gate is closed, the smaller end of the beam rests in a slot or mortise in the post at *F*, or a strip of plank with a suitable notch for the purpose may be pinned to the post. A narrow strip, *G*, hanging from a pin at *H*, rests over the end of the beam, to hold it in place; this is turned aside when the gate is to be opened. The gate may be balanced by placing weights upon the short end of the beam, at *I*, so that a very small amount of force will turn it. It opens in either direction, can be easily lifted over snow drifts, and what is of great importance, the weight of the gate can not draw the supporting post out of perpendicular.

The Barometer as a Weather Indicator.

Careful observations through many years and in different countries, have established the fact that a change in the weather is generally foretold by the barometer. Recently some persons have endeavored to throw doubt upon the value of this instrument as an indicator of the weather, but until we can see their written observations and a record of the state of the weather at each observation, we shall continue to believe with the majority of meteorologists—especially as our own experience coincides with theirs. That the barometer, properly understood and observed, will in the great majority of cases, foretell a storm, we are confident—not from a few observations, but from watching it for several years, and in different climates. One thing which has brought the instrument into disrepute is the practice, followed by many makers, of marking upon their scales “fair,” “change,” “rain,” etc. Persons finding that the mercury seldom indicates the weather according to these markings, have given up the instrument as altogether unreliable. The value of the barometer (unlike the thermometer) does not consist in showing where the mercury stands, but in showing the change which takes place in its height from one time to another. It is the *rise and fall* of the mercury which is to be observed, and the extent of this varies in different sea-

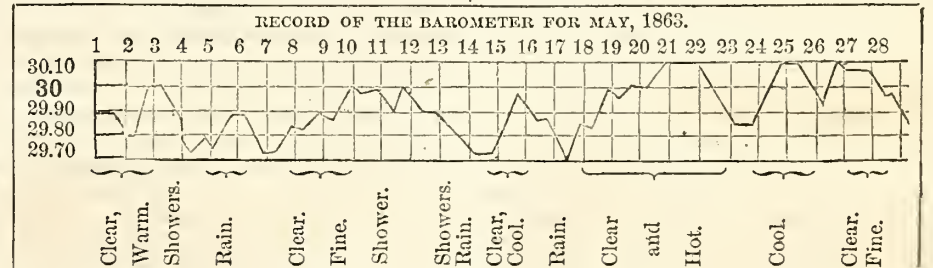
sons, and in different localities. To derive any benefit from the barometer, it should be observed at fixed periods—(7 A. M. and 2 and 9 P. M., are the usual ones)—and the observations recorded. It may be stated, as a general rule, that if the column remains for a long time at one particular height, we may expect a continuance of the present weather, be it good or bad: if the mercury suddenly falls, a sudden change of weather, but of short duration, may be looked for: a gradual sinking of the mercury, for one

notes upon the state of the weather are given, in condensed form, at the bottom of the diagrams. During the month of February, the fall of rain and melted snow amounted to 7.04 inches. The mercury in the barometer, on the 5th, rose to the highest point reached in 30 years. As a fall nearly always succeeds a rapid rise, upon seeing the mercury going up so rapidly, we confidently looked for the fall and rain, which came plentifully on the 6th. It will be noted that every considerable depression of the mercury, was accompanied by rain. It fell suddenly on the 19th, and reached the lowest point for the month. A heavy rain occurred at the same time, commencing with N. E. wind on the 18th, and ending on the 20th. The variation from the extreme rise to the lowest fall was an inch and-a-half, which is greater than the average. Farmers well know that May was a *dry* month. There was less than half an inch of variation in the barometer up to the 30th, and less than four inches of rain, the most of which fell in the first half of the month. The track is the most even one for a whole year, though several rain falls occurred, some of which were not very clearly indicated by the barometer. The mercury began to fall on the 28th, and con-



or more days, foretells a long continued storm, and during a storm, a rise in the column shows the approach of fair weather. To show the correspondence between the height of the mercury in the barometer, and the state of the weather, we present two diagrams, which are actual transcripts of the records kept at the office of the *Agriculturist*. This manner of recording matters lia-

continued to sink until the 31st. We had fine showers the 30th and 31st. Our engraved record for May only includes 28 days to correspond with the month of February. It is only where the barometer is frequently watched, that its use is manifest. We conceive that it would be both interesting and profitable for the farmer's son, to keep an accurate record, not only of the ba-



ble to fluctuation, was described on page 44, February No., and presents the barometric variations to the eye in a striking manner. In each diagram the perpendicular lines indicate the days of the month, while the horizontal ones mark the height of the mercury; each line represents ten-hundredths of an inch. The

rometer, but of the thermometer, and the state of the weather also. It is a matter of great interest, to compare one month with another, and one year with another. Our special premium now puts it within the power of most persons, to secure a reliable instrument on very easy terms. (See page 224 of this number.)

Notes on Cheese Making.

The more solid part of milk consists mainly of oily matter (butter,) and a substance named caseine, the principal ingredient in cheese. To make a good article of cheese for the table, requires that both the butter and the caseine be retained, and the watery portion or whey be wholly pressed out. Cheese can be made, as every farmer's wife knows, of sour milk from which all the cream has been removed, or from buttermilk. The solid part or caseine is easily separated from the whey by heating, and it is often prepared in this manner under the name of "pot-cheese," or "cottage cheese." In order, however, to make even this palatable, it is necessary to work in with it a portion of butter. Much of the cheese sent to market has been made from skimmed milk, and its toughness and want of flavor are in proportion to the amount of cream which has been removed from the milk. Some specimens might almost be replaced with India rubber, or gutta percha. It follows that to manufacture the best cheese, the cows should have good feed from which to elaborate rich milk. As butter readily receives any foreign flavor, pastures should be free from weeds, many of which impart an unpleasant taste to the milk and its products. All things considered, timothy and clover, either white or red, are the best staples from which to manufacture cheese or butter.

In making cheese it is desirable to add some substance to the milk to curdle it, or separate the solid portions from the whey, *before* the oily part or cream shall have risen, as it can never again be mingled with the caseine so intimately as it exists in the fresh milk. Various acids will effect this; the only one now used is that found in the fourth stomach of the calf, which consists of the gastric juice secreted by the coats of the stomach. Much of the excellence of the cheese depends upon the proper preparation of this article. It should be from a perfectly healthy calf, from one to six weeks old—about four weeks is thought to be the best age. When the animal is first killed, the stomach is opened and emptied of its contents, but not scraped or rinsed, as this would remove some of the gastric juice. It should be well salted and dried on a stick bent to its shape, in which form it may be kept in a dry place for a year or more. To prepare it for use, an ordinary sized rennet is placed in a gallon of soft water warmed to about ninety degrees, in which it is churned or rubbed occasionally for twenty four hours. After the rennet is removed, it may be dried, salted, and used again. To the rennet liquor is added as much salt as it will dissolve; it is then strained, and kept in tight vessels in a cool place to be used as wanted. A gill of this liquor will curdle thirteen to fourteen gallons of milk.

It is desirable in making cheese to have the milk all drawn from the cows at a single milking, but when this is not convenient, the evening and morning milkings may be used together. When this is done, set the evening milk in pans in a cool place, in the morning skim off the cream and add twice its quantity of hot water to raise the temperature to about 100° Fahrenheit, and stir until the whole is well mixed. Then add it, with the milk from which it was taken, to the morning milk, stir the whole together, and proceed as with a single milking. It greatly diminishes the labor of cheese making, and aids in securing a good article, to employ an apparatus specially con-

trived for heating the milk. There are several such, which consist mainly of a milk vat with double bottom and sides, the space between to be filled with water, to which heat is to be applied, thus avoiding danger from scorching, which would spoil the flavor of the cheese. The milk being ready, heat is applied to raise the temperature to about 90° Fahrenheit, when the rennet liquor is to be introduced and stirred until thoroughly mixed. In from forty to fifty minutes a firm curd should be formed. The separated whey is now to be drawn off with a faucet to within about an inch of the bottom of the tub, after which the curd is cut through perpendicularly and horizontally, with a wide bladed knife made for the purpose, into pieces about half an inch square. It is then to be removed to the strainer, which is usually placed in a basket, and set over a tub to allow the whey to drain out. After draining, it is returned to the vat, the whey first drawn added to it, and the temperature raised to about 100° Fahrenheit, to cook it before salting and pressing. It should be continually stirred until this process is finished, which is known by the curd becoming elastic, and breaking toughly with a sort of creaking noise. The whey is then drawn off, the curd allowed to cool, and salt added at the rate of one pound to thirty pounds of curd, to be worked into it thoroughly by hand. When the mass is fully cooled, it is to be pressed. The curd is placed in a clean linen strainer, confined by a hoop of proper size, and the press gradually applied to it, the pressure to be continued from three to six hours, according to the size of the cheese. It should then be turned again and pressed heavily for twenty four hours or more, when it is ready to be bandaged and laid upon the shelf. The bandage is simply a piece of heavy white cotton drawn around the circumference, and lapping over the top and bottom some two inches; it is kept in place by stitching with coarse thread. The cheese should then be laid upon a shelf broad enough to sustain its whole circumference, rubbed over with common butter, or that article mixed with whey butter, with a little cayenne pepper added to repel flies; turn daily until ripened. The temperature of the room where cheeses are first stored, should be kept up to about 80°. Of course the method here detailed admits of considerable variation, but these directions carefully observed, together with *cleanliness in all the operations*, will secure an article which will always find a ready market at good prices. *

The Cow-Milker Again.

This instrument which received such a large share of attention at the International Exhibition in London, and which it is said realized for its proprietor a very handsome sum by the sale of rights, did not entirely escape criticism from practical men. The editor of the Scottish Quarterly Journal, not content with merely inspecting the Yankee invention, and witnessing its operation when worked by others, made several trials of the apparatus, using it with his own hands and thus speaks of it: "At first we experienced some difficulty in using it. It is not as easy as might be supposed, to fit the finger-pieces on the teats air-tight; and when they are so fitted on, a restive animal is liable to throw the whole out of gear. We attempted the milking of three cows on the first trial. From one which was milking from 5 to 5½ quarts at a meal, we obtained 4½ quarts; another, which has very uneven teats, we could not milk

at all; and from the third, which was only milking 2½ quarts at a meal, we were only able to obtain a little more than a quart. All our subsequent trials have been attended with similar results. The conclusions to which we have arrived in reference to this machine, are:—

1. It will not extract all the milk from cows. If it should be found to answer in every other respect this is no fatal objection to its use, as the strippings could be milked by hand.
2. Cows that have good teats, well set in the udder, can be milked to within half a quart to a quart of their full milk.
3. Cows whose teats are uneven can with difficulty be milked.
4. We doubt very much if any amount of experience and perseverance will overcome the difficulty of milking kicking or restive cows."

For the American Agriculturist.

Improvement of Agricultural Exhibitions.

Agricultural Exhibitions should be something more than mere shows to excite and gratify curiosity. In conducting them, this has been the principal motive apparent to too great an extent, whether or not designed by those having them in charge. Of what practical value is it to a cultivator to look upon a bullock fattened to unwieldy proportions, or a beet or pumpkin grown to monstrosity? Such displays, it is true, call forth expressions of wonder, and are interesting as being out of the ordinary line, but for all practical purposes there would be equal benefit in examining Barnum's woolly horse. At the Exhibition of a County Agricultural Association held last year, and attended by the writer, the most instructive feature was a collection of samples of wheat, accompanied in each instance with a statement of the kind, time of sowing, method of treatment, period of ripening, and yield per acre. There was material enough in that corner for hours of profitable study, and a few knowing ones were busy there taking notes for future use. Without doubt many of their crops the present year will show that a most profitable day was spent at the exhibition. We insist that each article exhibited should be in itself an epitome of some valuable facts for cultivators, and that it should be accompanied with such written notes that the whole story could be readily gathered by the observers. It is comparatively easy to fit up a show specimen according to present methods. Plant a few hills of pumpkins on ground expressly prepared for the occasion. Select the most vigorous vine, leave only the most promising sample of fruit, prune the rampant growth, dose with liquid manure, and ultimately a mouster may be the result. But who thinks this would pay in ordinary practice? And so of other agricultural productions. It may not be so attractive, but it is far more worthy attention to carefully conduct an experiment which, if successful, may be profitably repeated, and exhibit its results, and the details by which they were reached. It is pleasant and harmless amusement now and then to produce and exhibit articles of unusual proportions, but it is beneath the dignity of cultivators to allow such displays to be the chief attractions at their exhibitions. To a large extent the visitors at exhibitions are responsible for the mismanagement now objected to. They attend the annual agricultural gathering more with a view to sight-seeing, than of seeking improvement, and managers feel compelled to cater to their taste in order to raise the requisite funds for the support of the institution. Hence, the stimulus of prizes

for the largest and most showy articles, the patronage of the race course, and the tolerance and introduction of shows entirely foreign to the object of the meeting. It is fully in the province of the managers of Agricultural Associations to institute a reform in these particulars, and to educate the public to a just appreciation of the appropriate work of such Exhibitions, viz.; to show the proceeds of the best culture, and the methods by which all may secure like results. Farmers will gladly spend a few days and dollars if they can gather facts which shall increase their harvests or lighten their labors. It is not intended by these remarks to entirely condemn the present management of Agricultural Exhibitions in this country, but only to call attention to some growing abuses which threaten to bring these almost indispensable institutions into contempt. Taken as a whole, our Annual Exhibitions will compare favorably with those of any other country; it should be our aim not only to make them superior to others, but to raise them to the highest possible standard of excellence. OBSERVER.

Working of the Homestead-Law.

The following extracts from a familiar letter written by a subscriber to the *Agriculturist*, indicate how great a benefit has been conferred by the Homestead Law upon thousands who need only a *start* in life to become the independent possessors of a home and the means of support. Let those who from untoward circumstances find it impracticable or difficult to make their way by other means, find encouragement in the example here shown. The writer says: "I failed up in the mercantile business, had nothing left but a span of horses and some household furniture and a few dollars in money, with which I started for Nebraska to take a homestead under the new law. I arrived here in March with just \$5 left, took a claim, put up a log house, and went to work. I have 160 acres of splendid land which will make me a good farm, which only cost me \$13; and five years' residence on it secures me the title by paying \$2 more at the end of that time. I have got 10 acres of land broken up and a good garden started, and am greatly indebted for the latter to volumes 20 and 21, of the *Agriculturist*, which I bought on the way out where I stopped over night. I have read them thoroughly, and come to the conclusion that I cannot get along without the paper. I have no experience in farming, and when I want information on any point I refer to the paper and am almost sure to find it—consequently I send the dollar for the present year, which I got by working out by the day, and this is the very best investment I can make. I wish some thousands of the hard-worked clerks and mechanics in the city, that have families to support, could know what a chance there is here for them to secure a home and a sure competency. I have been through the mill, and can truly say that I am happier and better contented here in my log house, with the prospect before me of securing an attractive home for myself and children, than I ever was when in successful pursuit of a mercantile business. Here is ample room for thousands—produce of all kinds is high and commands cash at any time. The soil is a light loam with a slight intermixture of sand, the country is healthy, plenty of good water to be had by digging 10 to 12 feet, to say nothing of creeks. My claim is on the great military road from Omaha to the

ly, laden with stores of every description. The middle branch of the Pacific Road (when built) will pass near here, and right here in the valley of the Platte River are thousands of acres waiting for somebody to take them in possession—"to tickle with a hoe, that they may laugh a harvest." Do tell the poor hard-working drudges that barely eke out a scanty subsistence, that here they could be lords of the soil and soon gain an independence.

A Few More Humbugs.

Circulars and Advertisements of various swindling schemes continue to be received at the *Agriculturist* office, from subscribers who have been duly warned by our previous exposures, and are desirous of having others put on their guard. The following are among the latest new operations. A writer in the Chicago Tribune, in a long communication claims to have discovered an infallible method of determining between the middle of October and the middle of February of each year, what will be the success of the wheat crop of the following season. He professes to have tested his theory for thirteen years past, and found it infallible. He modestly claims to predict with certainty only concerning the "territory west of Lake Michigan, and north of forty one degrees, and to some extent South of that line, but would not be so sure, as the effects of those causes disappear as you go south." What becomes of the causes after the effects have disappeared, we are not informed. This individual proposes to impart this information for sixty dollars, or thirty dollars each year for two years, or ten dollars a year for ten years; at the end of that time the key of the guide will be given; but all necessary information will be given before the seeding time of each year, etc." He oracularly says "this year is indicated by those causes to be an extreme one—either very large, or very small. Immediately after seeding time I will state which." Seeding time is past, but we have not yet seen the promised statement. This man may sincerely believe he can do what he professes; we do not, and advise our readers to remain incredulous and save their money.

HEIRS WANTED FOR A LARGE ESTATE.—One of the easiest ways to procure money, is to inherit it, and probably few persons have not at some time dreamed, either awake or asleep, of a fortune left for their enjoyment by some unknown relative. Occasionally such cases have actually occurred, and being duly set forth in the newspapers, have added stimulus to the imaginations of fortune seekers. Sharpers have not left this field unworked, and their circulars glitter with golden hopes for those longing for easily obtained wealth. One professes to keep a register of all unclaimed property in England, to which register, access is allowed for one dollar. Another requests all families of a certain name, say Smith, to communicate with him concerning a large estate to which the Smith family are heirs; of course a small fee is expected if particulars of the said estate are required. In one instance the promised estate was said to have been lying unclaimed in England one hundred and fifty years. There would be about as much probability of heirs in this country realizing from such a property now, as there would of recovering Pharaoh's crown by fishing in the Red Sea. The circulars containing such offers are worth something as material for lamp-lighters, or making over into

new paper; to which use we commend them.

TRANSMUTATION.—Not of wheat into chess, but of copper and zinc into gold, or something that resembles it. A "Dr." sends out circulars from New-York City soliciting agents to sell the "British Metallic Mutual Association Transmutator's Guide." There's something in that name, surely. It is said to be the most complete exposition of ancient Alchemy ever published, "contains important information to bankers, merchants, farmers, mechanics, clerks, laborers—in fact the most important information to every one ever brought to light from the Hidden Storehouse of Nature, being a sure fortune to all who possess a copy of this work, and practise, as laid down in the simple receipts in the Guide." Then for the inevitable one dollar extra, "a person may become a member of the Society and enjoy all rights, benefits, &c." We can tell the reader how to make two dollars in connection with this concern. Just keep your money; it will be clear gain: the "transmutation" consists in transferring cash from the pockets of the credulous to those of a "sharp practitioner." If any choose to invest in the scheme, will they please inform us when they are successful; we desire to be present "when the laugh comes in,"

"American Farmer and Mechanic."

Perhaps an apology is due to our readers for not earlier denouncing this concern outright; we have hinted at it several times, but it was claimed by some that the more recent operators intended to fulfill their promises, and were only temporarily hindered by the "hardness of the times, etc." Two or three numbers were issued last year, with the suspicious claim of being "an old established Journal." Then came out a January number, with large promises of the future, and private circulars to Postmasters and others, offering great inducements. We could not say these promises would not be fulfilled. The reputed publisher could never be found *in* when we called, or sent round, as we did frequently. Complaint after complaint continued to arrive, and we followed up the concern, with no satisfaction. To day (May 29) we went with one of the swindled Postmasters, determined to call to a prompt personal account whosoever we might find in, be he clerk, boy or the "boss" himself. But the shop was shut up—occupied by another business—and to our inquiries through the building, the answers were, "gone down," "gone up," "gone off," etc.—When a responsible agricultural or horticultural paper, with a fair prospect of continuance, is next started hereabouts, we will announce the fact in the *Agriculturist*. Until then, better give a wide berth to these hundred and one new agricultural papers in New-York City, got up by parties who think it easier to make a fortune by gulling farmers, than by honest labor.

Treatment of Kicking Cows.

J. C. of Norfolk, Ct., says in a letter to the *Agriculturist*: "The following treatment, which I have tried for some years, has never failed to stop the evil. Put a strap around the body of the cow just in front of the bag and buckle rather tight. If the cow tries to kick, draw the strap a little tighter. She will never get used to it, and it never does any injury. She will keep on eating as usual, but has no inclination to lift her feet even to walk about." This may answer the purpose; the experiment is easily tried.



A COLLECTION OF AMERICAN FERNS.

Sketched and Engraved for the American Agriculturist.

Our Beautiful Native Plants—Ferns.

For grace and beauty of form, nothing can exceed the ferns of our woodlands. Every one who has walked in the woods with his eyes open, must have noticed these striking forms of vegetation. Some are found in the open fields and by the road-sides; others hang upon the face of the rocks, and others grow in the swamps; all are beautiful, but those of our damp and shaded woods are the most so. Their peculiar habit and graceful outline has made them favorites with the cultivator, and our green-houses frequently contain collections of foreign ferns, many of which are inferior in beauty and interest to our native ones. What can be a finer type of almost tropical luxuriance than the Ostrich Fern? What shows more beauty of finish than the Maiden-hair? What more graceful than the Climbing-fern, or more singular than the Adder's-tongue and the Walking-fern? Our artist has given a sketch which represents the general effect of a group made up of ferns. These differ from the great mass of our vegetation in many peculiarities. One of these is, that they produce no flowers or seeds, but grow from minute bodies, so small that they appear like dust, which are found in little cases; these grow in clusters or dots either upon the back of the leaves, or in a sort of cluster formed by a rolled up leaf. The engraving of the common Polypody (fig. 2) gives an idea of how these fruit dots appear, where they grow upon the back of the leaf, or *frond* as it is called. These are of different shapes, and are frequently covered by a sort of membrane. The separate spore cases are very curious. Fig. 3 represents one of the most common forms magnified. The

right hand figure shows an entire one: a little stalk bears a case which has an elastic ring extending part way around it. When mature, the elasticity of this ring breaks open the case, and the dust-like spores fall out, as shown in the left-hand figure (3). These are individually very minute, and can only be seen, when a larger number are together, and are so light that they may be borne about by the winds to a great distance. The Adder's-tongue and others bear their spore cases on a frond which is rolled up so as to make a sort of spike; this is very simple in the Adder's-tongue, but in others it is much branched and looks altogether different. We can not, in a popular article like this, give all of the peculiarities which characterize the ferns, but recommend our readers to the descriptions and figures given in Gray's Manual. With a little care, these beautiful plants may be made to adorn a shady corner of the garden. They require moisture and drainage, and grow well upon rock work in a sheltered and moist place. A bank of soil two or more feet



Fig. 2.

and grow well upon rock work in a sheltered and moist place. A bank of soil two or more feet

high, mixed with brick-rubbish and old mortar, is suited to the growth of most species, those which grow naturally in moist places being planted at the base of the bank, and others which like a drier soil, above. A mound of this kind covered with ferns will be one of the most attractive objects in the grounds. The damp loving kinds may be grown in a glazed case or under a glass shade, and make a beautiful ornament for the parlor. Some of the ferns of the green-house are beautifully variegated; the Golden and Silver-ferns add beauty of color to their elegance of form. The tree ferns, which are rarely seen in our hot-houses, found in South America, Van Diemen's Land, and other countries, are among the most beautiful and striking vegetable objects.



Fig. 3.

Rock Work.

One of the prettiest things in the lawn or garden is a nice bit of rock work, imitating, as nearly as possible, what we often see in a rocky dell in the forest. We often come upon these things in our rambles in the woods, quite equal to anything in the Ramble in Central Park, and wish we could remove them, rocks, plants and all to our own premises. We stop in our walk to admire the ease of the natural grouping. The grace of the ferns, and the beauty of the flowers make us wonder they have never been transferred to the garden. Many of them have been, and from want of studying their habits

and wants, have died. Few plants accustomed to grow in the deep woods, and in moist places, will live when transplanted to an open border in the garden. The shock is too violent. But if put in the shade, and planted in a good border of vegetable mold from the forest, most of them will live and flourish.

A shelter of evergreens makes one of the best screens for rock work, but the shade of any tree, or the north side of a building will answer, if nothing better can be had. If a spring or fountain is on the grounds, the rock work should be located near it, so that it can receive copious waterings at pleasure. No definite rules can be given for constructing these ornaments. They should not be merely piles of loose stones, or regular in outline. The larger the rocks, the better for this purpose, and the more irregular the better. The spaces between, may be partly filled with stones, and with vegetable mold from the woods. A great variety of plants, will thrive in such a location. Many of the ferns and mosses, of which we have a large number, will do well. Only the larger ferns should be employed, where the work is on a large scale. In transplanting, the more earth we remove with the plants, the more likely they will be to live. The club mosses with their long trailing vines and bright green shoots, are highly ornamental. In selecting the plants it is desirable to secure a succession of blossoms, from the early Spring to late Autumn. The Blood Root, (*Sanguinaria Canadensis*) comes early in April. It loves moist, shady places, and is often found growing in the clefts of rocks. The Wood Anemone blooms about the same time, and is found in the same localities. The Saxifrage, and Rock Geranium, or Herb Robert, are also desirable plants. The Partridge Berry, and Winter Green, or Checkerberry are even more beautiful for their leaves and berries, than for their blossoms. The berries are of a bright red, and hang on through the Winter. The trailing Arbutus, one of our most beautiful flowers, the *Linnaea borealis*, Blue Houstonia, Columbine, and many others will flourish in rock work. Health, pleasure, and instruction will come of this home made ornament.

Gravel Walks on Hill Sides.

Here is one of the hardest things to manage in ornamental gardening. It is easy enough to make them, but to construct them so as not to gully and tear up in heavy rains, is not a little difficult. A few hints are offered: Such walks should, of course, have a solid foundation of stones, and this should be covered with gravel or shale. To enable the walk to shed rain, have it quite well rounded over in the center. The central parts should also be pounded or rolled so smooth and hard that running water can make no impression on it. If the walk is not long or very wide, the water accumulating upon it may be shed off upon the adjoining turf. But to secure this, the channel of the walk must be filled up brimful with gravel. Where the walk is long and wide, and the hill steep, this can not always be done, and provision must therefore be made for carrying off the water in gutters. These may be made of small cobble stones laid neat and smooth, or of bricks. If stones are used, they should not be larger than a goose-egg, and should be fitted in a workmanlike manner. Provision should also be made for turn-outs at proper intervals, which may discharge the water upon the adjoining grass, or into cesspools, or under-ground drains.

In our own experience, we find the above methods to answer tolerably well, yet they are not a perfect protection in violent storms. At such times, the water will fill up and surge over all the gutters and turn-outs, and tear the walks sadly. The only way we know of is to provide these remedies as effectually as may be, and then lay in a stock of patience against storms.

Since writing the above, we have met with the following in one of Loudon's works: He is describing the grounds of an English country seat:—"One practice at Redleaf is, that in every part of the garden, where the slope is considerable, the walks are paved with brick, and have brick or stone-edgings. Some great advantages result from this practice. The walks are never injured by rain, but rather improved by being washed clean. No weeds grow in them; they do not become soft with rain, nor powdery in dry weather. Gravel walks need renovating, trimming and cleaning every year or two, but brick walks if properly laid at first, with a solid foundation and good drainage, will last ten or twelve years without any repair whatever."

Layering Grape Vines.

This operation is very simple. Early in the Summer, take down a last year's cane from the trellis, and after making a trench near the vine, five inches deep and a foot or two long, lay down the cane in it, and cover it up with fine soil. The layer should be fastened down by pegs or by stones. Bring up the extreme end of the cane and tie it to a stake. In the Fall, if all has gone well, the layer will have formed a large bunch of roots at the point buried, when it may be severed from the parent vine, and planted. Lately it has been found that most varieties can be multiplied faster than by this method. The plan is to spade up and enrich the soil all along the side of the vine. Make drills not more than two inches deep, and as long as the branches to be layered. Sprinkle a little sand in these drills. Now, lay down the canes in these shallow drills and peg them fast at every joint. Tie up a foot of the end of each cane to a stake. Such sorts as Rebecca, Logan, Concord, etc., will soon take root at every eye, and will also send up shoots from the same joints. As these shoots grow, a little soil should be drawn over the layers, and the shoots tied up to stakes. By careful management in this way, one can get about as many rooted plants as there are buds on each layered branch.

Grafting the Grape.

"L," St. Louis Co., Mo., writes to the *Agriculturist*, that he "has been very successful in propagating grapes by grafting. Two years since I purchased a Rebecca vine, with a stem a little larger than a darning needle. I trimmed off the wood to two eyes, and although the buds were swelled, I grafted the part cut off on a piece of wild grape root, and planted it in the open air. In a year after it was, and is now much better than the original stock. The Delaware, Rebecca, and some others, with me grow better on other roots than on their own. My method is as follows: Make as much bark meet as is practicable. Where the root is larger than the cion, split the cion, sharpen the root, and cut out a deep gash or wedge in the centre of the root between the two sides, leaving the bark undisturbed. In inserting the cion, bend or press the sides of the root, until the bark of the cion and root meet, then wind with soft twine,

Furrow out the ground with a one horse plow, put fine chip manure about the plants, placing them about eight inches apart in the rows, and cover with common soil. Have the top of the grafts two or three inches above the level of the ground, and cover them out of sight one or two inches. If the season is unusually rainy and cold, place 6 inch boards on each side of the row, roof shape. When the weather is warm and settled, dig down to the buds, and leave them uncovered. If it continues very dry, cover the buds up, and let them find their way out."

Thinning the Leaves of Grapes.

One of the most absurd practices prevalent at this season of the year, is that of pulling off the foliage of grapes, in order (as it is said,) to ripen up the fruit. Those who do this say they can't bear to see the clusters so shaded: they *know* the sunshine would color them. And so they thrust right and left, covering the ground with green leaves. This is a great error. The ripening of fruit depends upon the presence and successful working of well-formed and healthy foliage on vigorous vines. The leaves are the lungs and stomach of the plant. Through them it breathes; by them it digests its food, and prepares nourishment for the fruit and the whole vine. Go to the sides of the forest, and you find the blackberry developing larger, and ripening up finer in partial shade than in the sunny field. Go a little further and you will find the wild grape growing luxuriantly and ripening perfectly where the sun seldom shines; certainly, where it never reaches the clusters, and where no one pulls off the leaves. Some of the handsomest clusters ever picked in our garden hung all Summer in the shade of leaves, and on the north side of the trellis-bar. The leaves had the sunlight all day, but the fruit did not. We have no doubt that one reason why the costly vine-ries of the country show so much half ripened fruit, is because the gardeners so perpetually meddle with the foliage.

Girdling Grape Vines.

This operation consists in taking out a ring or section of bark (say about an inch wide,) on the fruit-bearing canes. The effect of it is to enlarge the fruit above the girdle, and to give it the color of ripeness ten or more days before the usual time. It is an interesting experiment in vegetable physiology. It furnishes splendid specimens of fruit for horticultural exhibitions. But this is all we can say in its favor. The fruit itself is deteriorated for eating purposes, and clusters exhibited as fair specimens of the fruit, give an untrue idea of it.

Thin out Freely.

Two plants half developed are not worth as much as one which has had plenty of room to perfect itself. A much larger and finer crop of beets can be harvested if the plants are thinned to 8 or 12 inches, than if allowed to stand at 3 or 4 inches; and so with other crops—the distance of course varying for each. Not only will a larger yield be realized by thinning judiciously, but the quality of the product will be much better. So in the flower garden, the annuals are commonly sown very thickly, and left to crowd one another in a dense mass. For a few kinds this treatment will answer, but the majority will give greater pleasure if each individual has room to develop its beauty.

Summer Treatment of Fruit Trees.

Much of the work of the pruning knife can be anticipated by a little care during the growing season. Dwarf fruit trees, especially, can be kept in such a condition that they will rarely require much cutting. Buds tending to develop into superfluous branches may be removed altogether, and branches making too vigorous growth of wood may be shortened and induced to form fruit buds. If in the Spring we examine a shoot of a pear tree for instance, we shall find a strong terminal bud with lateral buds at intervals, and that those lateral buds are largest and best developed near the end of the shoot and that those lower down are gradually smaller. In the Spring the terminal bud starts to grow and prolong the stem; a few of the upper side buds produce shoots while the lower ones do not start at all. The buds near the extremities are the strongest and appropriate all the nourishment, while those below are starved. If in the Summer, while this shoot is forming, we pinch off the point of it, the supply of food which would have gone to continue its growth and form the strong upper buds, is directed elsewhere: the lower buds receive nourishment which they would not otherwise have had, and some of them will be likely to form fruit-buds. This pinching off the shoots to induce the formation of fruit-buds, is practised by all good cultivators upon their dwarf trees. They are thrown into bearing much earlier, and are made much more fruitful than when this is neglected. The time at which it is done will be determined by the season; whenever the shoot has made a growth of three to six inches, according to the vigor of the variety, it is pinched off by means of the thumb and finger, at the sixth leaf, counting from below. It often happens that a shoot stopped in this way, pushes again from the upper bud. In this case the second growth should be pinched back to three leaves. Summer pinching should be practised on young trees, to cause them to grow into proper shape. The upper branches of a young nursery tree, which has been cut back often, make such a vigorous growth as to overtop the leader: by pinching back these shoots, in time the tree may be brought into a proper conical shape. By timely pinching, the tree may not only be shaped at will, but be induced to bear fruit several years earlier than it otherwise would, and all cutting out of large branches be obviated.

Treatment of Orchards.

Many a farmer plants an orchard, and conceiving that he has done all that is required of him, takes no further trouble with it until, in the course of years, there is fruit which needs gathering. Perhaps by the time his trees come into bearing, he has been induced to take an agricultural journal, and there learns that trees are pruned to render them more productive. Pleased with the little fruit he already has, he admits the necessity for pruning, and goes forth with knife, saw, and axe, and makes an indiscriminate cutting, and thinks he has pruned his orchard. Next year the trees bear less than the year before and he sets down all pruning as useless, and all agricultural publications as humbugs. It is for the benefit of just such people that this article is written—those who catch at a fragment and think they have the whole. To all who this season begin to give attention to their orchards we say: Never cut a limb unless you see clearly that something is to be

gained by the operation. Look carefully at the tree and decide whether it will be better for any cutting, or if left alone. Do not cut unless the tree will be the better for it. If a limb grows in the center of the tree, where the fruit can not receive the influence of the sun and air, cut it out. If two limbs cross one another so that both will be chafed by the action of the wind, cut off one of them. Does a limb grow in such a direction that the tree will be thrown out of balance and grow lop-sided—off with it. Unless a limb is evidently useless or in some way injurious, it need not be removed. There are two extremes: one is to let the tree grow without any care, and the other is excessive and injudicious pruning—both are to be avoided. If the tree is doing well, let it alone; if disposed to make a too rampant growth of wood, more than can be thoroughly ripened, cut it back; but as a general rule be sparing of the pruning tools. If an orchard has been properly cared for *from the beginning*, the amount of annual pruning required will be very small; no tree ought to get so far out of bounds as to require anything more than the knife. Still there are many who have neglected their orchards, or who come into possession of old and neglected ones, where a severe pruning must be practised. This is the proper month in which to do it. The trees are now in full vigor, and an attempt will be made to heal over any wound made in pruning. If the limb to be removed is large, use a saw, set rather wide, and be careful that the limb in falling does not tear off a portion of the bark and leave a ragged wound. To prevent this, it is well to make an incision with the knife, quite through the bark at the place where the limb is to be sawed off. Do not leave long stubs, but saw close to the base of the limb. It is advantageous to cover the wound with a solution of shellac in alcohol; this may be made of the consistency of paste, and applied to the wound by means of a brush. In going over the orchard, remove all suckers and all those sucker-like limbs which in old trees are apt to spring from the larger branches. Apple trees will, where the Winter is severe, be benefitted by a summer pinching of the vigorous shoots; see article on summer pinching, on the opposite column.

Introduction of Fruit to England.

A book of the olden time published in London, in 1604, gives the following account of the improvement of the stock of fruit in England.

"One Richard Harris, of London, borne in Ireland, Fruiterer to King Henry the eight, fetched out of Fraunce great store of graftes, especially pippins: before which time there was no right pippins in England. He fetched also, out of the Lowe Countries, Cherrie grafts, & Peare grafts, of diuers sorts: Then tooke a peece of ground belonging to the King, in the parrish of Tenham in Kent, being about the quantitie of seauen score acres; whereof he made an Orchard, planting therein all those foraigne grafts. Which Orchard is, and hath been from time to time, the chiefe Mother of all other orchards for those kindes of fruites in Kent, and of diuers other places. And afore that these said grafts were fetched out of Fraunce and the Lowe Countries, although that there was some store of fruite in England, yet there wanted both rare fruit, and lasting fine fruit. The Dutch & French, finding it to be so scarce, especially in these countries neere London, commonly plyed Billings-gate, & diuers other places with such kinde of fruit. But now

(thanks bee to God) diuers Gentlemen and others, taking delight in grafting (being a matter so necessary and beneficial in a Comon-wealth) haue planted many Orchards; fetching their grafts out of that Orchard, which Harris planted called the New-garden. And by reason of the great increase that now is growing in diuers parts of this Land, of such fine & seruiceable fruit, there is no need of any foraigne fruit, but we are able to serue (serue) other places."

Labels on Fruit Trees.

No one who has many fruit trees, should trust to labels for their identification, as they are liable to be defaced or lost altogether. Make a plan of the orchard or fruit garden, and mark the place of each tree, writing down its name. This, if kept where it can be readily referred to, will save a deal of trouble in ascertaining names when the tree comes into bearing. Our special object is to call attention to the trees planted this year. When the trees are labeled in the nursery, the wire by which the tag is attached, is usually bound closely around a limb or the body of the tree. If it was not loosened at the time of planting, it is probable that the growth of the tree has caused the wire to become so tight as to seriously interfere with the health of the tree. We have frequently seen young trees with the copper wire of the label completely imbedded in the bark. The trees should be looked over to see that no injury results from this cause. Where very small wire is used, the expansion of the tree breaks it and the label is lost. Use rather large wire and give plenty of room for growth. Lead wire is preferable to copper; it is very cheap, and will yield to the enlarging growth of the limb.

Summer Pruning of Hedges.

After hedges have reached nearly their intended height, it is necessary to prune them in mid-summer, in order to check their too vigorous growth. Yet this should be done with care. Too harsh use of the shears at this time stunts and often kills plants. Nature must have an outlet somewhere, and if forbidden, she rebels. And then, both as a matter of taste and expediency, it is unwise to give the hedge an absolutely smooth shearing. Better is it to leave some freedom and flow in the outline of plants, than to crop them very close. Better to clip in here and there, checking the strong growths for one year, and leaving the weak a chance to extend themselves a little. This will give the hedges something of the wavy outline of a symmetrical shrub, rather than the stiff appearance of a primly shorn wall. And, not least important, such a hedge will last much longer than one which has been too closely pruned.

The Chinese Wistaria.

To the lovers of flowers our city streets do not present many attractions, yet in the month of May we have walked through many streets to enjoy the Wistaria. It seems to be the favorite climber of the New-York people. It climbs along walls, hangs over balconies, mounts to the roofs, and sometimes to the very chimneys and hangs its great grape-like clusters everywhere. The plant often improperly called *Wisteria* and *Glycine* is named in honor of Dr. Caspar Wistar, a late celebrated physician of Philadelphia. A native species is found in Penn-

sylvania and southward, but it is much inferior in beauty to the Chinese species, so generally cultivated, (*Wistaria Sinensis*). The plant is readily propagated by layers and by cuttings, and is a universal favorite. It is perfectly hardy in the climate of New-York, and would succeed, by laying down in Winter, in much less favorable localities.

A Strawberry Talk.

At the Fruit Growers' Meeting held at the office of the *Agriculturist* on June 5, the merits of the different varieties of strawberries were discussed. The meeting had an especial interest on account of the presence of Mr. J. Knox, of Pa., one of the largest, if not the largest, cultivators of strawberries in the country. Mr. Knox thought there were several varieties of strawberries, possessing great merit, which had been overlooked. He instanced the Fillmore as one of these. He considered it one of the best in his locality, but was well aware that the locality had much to do with the value of a variety. While Hovey's Seedling was highly prized at Boston, it was almost worthless at Pittsburgh. The Fillmore does not need to be frequently renewed, while Wilson's Albany does. The Wilson gives a few large berries at first, but the rest of them are small. The Fillmore gives a greater crop than the Wilson and is of better flavor. He has tested it thoroughly and has this year planted more of it than of any other variety, save Triomphe de Gand. He named as other good sorts: Golden Seedling, Comtesse de Thury and Duc de Brabant. The Triomphe de Gand fully sustains its reputation; taken all in all, we have nothing equal to it. Being asked to give a selection of the best six strawberries, Mr. Knox placed 1st, Triomphe de Gand, medium and late; 2d, Wilson, as desirable for canning or bottling; 3d, Fillmore; 4th, Baltimore Scarlet, early; 5th, Burr's New Pine, one of the best; 6th, Jenny Lind. The strawberry season used to extend over only two or three weeks. At Pittsburgh, they had prolonged it to seven weeks, and he had no doubt that it might be extended to two months. Trollope's Victoria does not bear carriage well, but it is good for home consumption. Kitley's Goliath is very large and late, but rather coarse. Brighton Pine has been said by the Pomological Society to be a poor bearer. Mr. Knox considers it one of his best bearers, and it has a fine spicy flavor. Scott's Seedling is very good; some parties prefer it to all others. There is a great variety of tastes to be consulted, and a cultivator must endeavor to suit all. The Moyamensing is good. We do not want merely good sorts, we want *the best*. A first rate variety takes no more room and costs no more labor in cultivation than a poor one. Mr. Knox intends to plant ten acres of strawberries each year. They are as easy to plant as cabbages.

Doct. I. M. Ward thought that many kinds would succeed well about Pittsburgh, which would not do well in other places. Hovey's Seedling is one of the best in the vicinity of Newark, N. J.

Mr. W. S. Carpenter objected to the Fillmore as it is a pistillate variety. Is testing Cutter's Seedling, and is thus far pleased with it. Among the new foreign varieties the Prince of Wales is a wonderful bearer and good. The Duc de Brabant is a favorite with him. He has tried some of Mr. Fuller's Seedlings for two years, away from the locality where they originated. He thought highly of Col.

Ellsworth. The Brooklyn Scarlet is a splendid berry, being perfectly hardy and very productive, though the berry is not as large as some. Some white berries were of great promise: Lenning's White is perfectly hardy, of large size and good flavor: the White Pine Apple is nearly as good. Jenny Lind is a favorite at the North, being large and of a fine color: Iowa is too sour. Downer's is a wonderful bearer, but too sour. Bartlett is very fine, about as good as the Fillmore, and having perfect flowers, he prefers it to that variety. Empress Eugenie is one of the best, as good as Burr's New Pine. Princess Frederick William was loaded with fruit, early and fine. Scott's Seedling, not productive, insipid but sweet.

Dr. Ward stated that the Brighton Pine was not prolific with him, and had rooted it out on this account. Mr. Knox thought he could not have the true sort as it was a great bearer with him. Solon Robinson had thrown it out, it not being a good bearer.

Mr. Knox said that he never endorsed a strawberry until he had proved it by cultivating it for three years. He looked for progress and thought that perfection had not yet been attained. He might put one variety at the head at this meeting, and at another meeting would consider some other variety as superior. His views were constantly changing as he had more experience, and varied his modes of culture. When a bed begins to run out, after gathering the fruit, he lets the plants make all the runners they will. He then plows them under, adding stable manure, and puts strawberries on the same ground again. He considers a crop of strawberry plants equal in value to one of clover to plow under.

Dr. Ward stated that Mr. Winans had tried every variety known in this vicinity, at Newark, N. J., and had found the Boston Pine and Hovey's Seedling the most profitable sorts.

Mr. Knox thought that the best culture had not been reached in this vicinity, as he could send his berries here from a distance of 300 miles and sell them at 50 cents a quart at wholesale, and asked if we had the best kinds for this locality. Cutter's seedling he considered a fine berry, but not large enough, it is light colored and too soft to bear carriage to market.

Saving Seeds in the Garden.

Our cultivated plants seem to be in a condition of unstable equilibrium: on the one hand they tend to deteriorate, and on the other certain individuals seem disposed to attain to a higher degree of perfection. We do not, as a general thing, understand the causes which produce these results, except that for the most part poor culture produces the former, and good culture the latter effect. Most of our finest varieties of vegetables and flowers have been produced by a judicious selection, and if we would keep any variety in perfection, we must continue to select the best specimens to propagate from. "Like produces like," is a rule sufficiently general to be followed, and high breeding may be practised with plants as well as with animals. If we sow a large quantity of seeds of any variety of plant, a difference, and often a very marked one, will be noticed in the seedlings; such as vigor, early maturity, and superiority of product. In garden culture we pay too little attention to the saving of seeds; hence it is that we hear complaints of sorts running out, and the necessity for a frequent change of seed. It has been our custom, though often

against our inclination, to save the earliest and finest of our cucumbers, melons, tomatoes, etc., for seed. Those who wish to keep their varieties good and even to improve them, will do well to follow this practice. Selection of the most desirable sorts for propagation is the great secret in producing the many improved kinds of vegetables. The variations are produced by hidden causes, and it is left for us to take advantage of them. Both in the vegetable and flower garden, let the seed be saved from those plants which present the most desirable peculiarities, and the chances will be that their good qualities will be perpetuated in the progeny.

Use the Kitchen Slops.

Just now the English agricultural papers are full of articles upon the use of sewage or waste of cities. Bringing this subject down to individuals, we might write a long article on the waste of the house, had not this subject been so frequently presented in the columns of the *Agriculturist*. Again we say allow no fertilizing material to go to waste. The water from the kitchen is rich in elements of fertility. The soap used in washing, pot liquor, salt, etc., are all needed by the garden, and will amply repay for the saving and applying to the plants. On many farms the sink spout discharges into a gutter, and the waste water is allowed to soak away or evaporate, and just along the edges of this gutter will be found a most luxuriant growth of weeds, showing plainly that the ground here is richer than elsewhere. Let the kitchen waste be collected in a sunken hogshead or cistern, and applied in a liquid form to the plants in the garden, or run it to a convenient distance from the house to an excavation which can be readily supplied with muck, which will absorb the liquid, and many dollars' worth of manure now wasted, will be annually saved.

Training Dahlias.

This most showy flower, the chief ornament of the garden during the early Autumn, requires constant care, unless we would have our hopes end in disappointment. Throwing up a vigorous and tender stem, its branches have so little strength that they often break with their own weight, and if not kept securely tied to a stake the main stem will be prostrated by strong winds. For all except the very dwarf kinds, stakes are needed, and some mode of training must be adopted. One method is, to tie the main stalk to a stake and take off the lower branches, to prevent their breaking off of themselves. This causes the plant to grow very tall, and gives but a comparatively small number of flowers. Another style, called the "tub" method, is to cut off the leading stem and allow four or more of the lower branches to grow, each of which is furnished with a stake. This plan secures a large number of flowers, but gives the plant a squatty appearance not in accordance with its natural habit. We have satisfactorily practised a method which combines these two methods of training. The main stalk is supported by a stake in the usual way, and all of the side shoots, except the three lowest ones are kept carefully pinched off; as soon as these lower shoots acquire a sufficient length they are supported by light stakes inclining outward from the plant. Trained in this way the Dahlia in flower presents a most showy appearance. Hoe around the plants frequently, apply liquid manure, and if a dry spell occurs, cover

the ground with some kind of mulch. Much of the success in flowering the Dahlia, depends upon careful tying. Every few days the new growth should be secured to the stakes by a tie of bass bark or a strip of cotton cloth. Care should be taken that the bands are not drawn so tightly as to impede free growth.

A Fine Old Plant.

Plants as well as other things are subject to the changes of fashion. Many of the old favorites of the gardens are neglected merely because they are old, and their places are occupied by others whose chief merit is their novelty. For ourselves, we love to see the flowers which we knew when a boy: they seem to us as old friends. How many of us look back with pleasure to days spent in the garden of our early home. Its treasures may have been only Sweet Williams, Pinks, Pæonies, and such old-fashioned flowers, but they are dearer to us than any of the newer introductions, for they bring pleasant memories of the days of our youth. Such were our thoughts on receiving a bunch of Thrift, from Mr. A. S. Fuller of the Brooklyn Nurseries. He sent it to us, knowing our partiality for old plants, and we have had it engraved, believing that it will be a novelty to most of our readers. The plant is botanically *Armeria vulgaris*. It is a native of Europe, and a perfectly hardy perennial. The leaves make a dense mass of dull green foliage, against which the abundant pink or rose-colored flowers make a fine show. It is well worth cultivating as a bedding plant, but it is particularly valuable for edgings, for which it is much used in England, where it is considered as the next best plant to Box for this purpose. It is readily propagated by division of the roots. There is a white variety.

About Double Flowers.

Every cultivator of flowers has doubtless experienced a difficulty in reproducing double annuals from the seed. The double flowers are in an unnatural condition, and it seems that slight causes induce them to revert to their natural state of single ones. There is much relating to this subject that we do not understand. There are some plants, like the stock gilliflower for instance, the double flowers of which do not produce seeds, but the single flowers have a tendency to produce seeds, the majority



of which give double flowers. In a "good strain" of stocks, as the gardeners term it, the tendency is to produce double flowers, with here and there a single one to continue the kind. The whole thing seems to be in a very precarious condition, which slight and little known causes will modify. Seed saved from the most double Zinnias, will give us a number of single flowers, while the China Aster, which seems to have its double character more fixed, rarely fails to produce double ones. We have before us two letters upon this subject. The first is from Carl Meinurth, of Rockingham Co., N. H., who commenting on the statement made at the bottom of the last column, on page 148 of May *Agriculturist* says: "Seeds from double flowers, which are not constant in reproducing double flowers again, must not be sown before they are one or two years old." To test his theory he suggests that we take a paper of seeds of any double flowers, and sow one half the seeds this year; perhaps one-tenth of the plants will be double and the other single. Next year sow one half of the remaining seeds, and one half of the plants, at least, will be double; finally, the third year sow the rest of the seed and quite probably all the plants will bloom double. He also suggests that the smallest seeds of the Balsam are more likely to produce plants with double flowers, than the full plump seeds.

Another correspondent, "G." gives his plan for procuring seeds that will produce double flowers thus: "Do not allow the plant producing seeds to mature all of them. Pick off one half of the flowers, and let the plant throw all its forces into the remainder. Give the plant itself every possible chance to make a vigorous growth before it forms its flower-buds. An annual flower, like the Aster, is more likely to give double flowers and seeds, if transplanted from a seed-bed, than if grown in the border where they were first sown."

Rake the Garden.

"L. G.," writes to the *Agriculturist*: "My garden is a light sandy loam. When it is spaded in the Spring and raked over, it is perfectly smooth and level. After planting I, like a certain kind of bird, cover up my tracks. As soon as the vegetables begin to appear, I rake over the ground—going backwards, meanwhile, "crab-fashion," leaving no tracks visible—so that many have said to me, "How is it you keep your garden so clean and smooth? If the garden is raked over weekly—not a weed can be seen, the ground is kept from drying up, in fact the loose surface, though perfectly dry, operates as a mulch. To one unaccustomed to this mode of gardening, it is perfectly surprising how much ground can be gone over, and effectually too, in a short time. Wrought iron rakes are better than steel, as the teeth do not suffer from rough usage. I have not taken a hoe into my garden for the last 15 years, as I can make "better time" with the rake, even among corn and potatoes. Certainly in beds of onions, etc., there is nothing equal to the rake; if the rows are not far enough apart for the rake, turn it a little sidewise. Whoever will try the above plan, I think "will irresistibly come to the conclusion" that, running over the garden with a rake (if the soil is light,) once a week, is true economy—much better than to wait till weeds can be seen. Very slight motion of the soil destroys the roots of weeds while they are so tender. While you can not see such a victory at this time as you could if the weeds were knee high,

still it can be enjoyed full as much as though one could see "the slain lie heaps on heaps."

The Striped Bug a Night-Worker.

C. G. Siewers, of Campbell Co., Ohio, in a letter to the *Agriculturist* says: "I never could see how the few striped bugs found in the morning, could do the damage my squash, cucumber, and melon vines were daily suffering. One night last year, I lighted my lantern, and went to examine my vines. Let any subscriber afflicted as I was, do the same.—I found my vines covered with bugs, 50 pair on a leaf being nothing uncommon. With finger and thumb I slaughtered about a thousand in an hour, going over the vines twice; about 12 o'clock at night I visited them again, and found but a few stragglers. Next night I went once more, in the hope of seeing no more bugs, but found that there was no apparent diminution of the enemy. I slaughtered them wholesale every night for two weeks, and then gave up in despair. In an adjoining patch I had a fine lot of late cucumbers coming along—very thrifty, and untouched by the bug, and without thinking of the consequences, I tore up all my squash plants, finding they would never set any fruit, and threw them into the manure heap. The next morning my entire cucumber patch lay wilted and destroyed, looking as if a heavy frost had cut them down; every leaf appeared chewed up. I have not planted any this year."

The Asparagus Beetle.

This insect, which has caused such destruction in Europe, has already become established in some localities in Long Island and New-Jersey, where it promises, if its ravages are not checked, to ultimately destroy the asparagus crop. Fortunately the insect is thus far confined to a few localities. As it can only be exterminated upon its first appearance, we give figures of it in its several stages, in order that it may be at once recognized and promptly dealt with. The beetle is known to entomologists as *Crioceris asparagi*, and has a general resemblance to the striped bug which infests cucumber and melon vines. Fig. 1 is a drawing of the perfect insect magnified, which makes its appearance during the month of May. A line near the figure shows the natural size of the beetle. The eggs are little brown oval bodies, singularly attached in rows upon the slender twig of the plant. Fig. 3, shows the eggs, both of the natural size and enlarged. The eggs shortly hatch and produce grubs or larvae which greedily devour the asparagus shoots.

Upon the first appearance of this dangerous enemy, no pains should be spared to exterminate it. The beetle should be picked by hand and destroyed, and all twigs upon which eggs are deposited should be burned. A brood of young chickens will be of great aid in destroying these and other insects. The hen should be confined in a coop and the chickens allowed to range over the bed.



THE HOUSEHOLD.

Vegetables for our Soldiers.

Perhaps there is no deprivation incident to a soldier's life, greater than being obliged to do without the ordinary vegetables. To be able to appreciate the value of potatoes, turnips, etc., one should be obliged to go without them for a few months. We have been where oranges, bananas, figs, and other tropical fruits were abundant and ridiculously cheap, and would have given them all for a good mess of potatoes. From their bulk and weight it would be impossible to supply a large army with fresh vegetables; but our government does the next best thing, it furnishes an occasional issue of carefully dried vegetables. Col. Eatou, the Commissary at this post, sends to the army one hundred and thirty five thousand pounds a month, of a mixture of dried or dessicated vegetables. We were much interested in a visit to the works of the American Dessicating Company at Brooklyn, L. I. This company furnishes the largest share of that supplied to the soldiers of our army, and has ample machinery and facilities for its operations. The compound sent to the army, consists, in every 100 lbs. of

20 lbs. dried Potatoes.	22 lbs. dried Turnips.
22 lbs. dried Carrots.	10 lbs. dried Cabbage.
10 lbs. dried Onions.	5 lbs. dried Tomatoes.
5 lbs. dried String Beans.	1 lb. dried Parsley.
5 lbs. Rice.	Pepper, etc.

This mixture is packed in cakes of seven lbs. each. It is an excellent article for a vegetable soup, or will make a nice dish of mixed vegetables. The drying is performed by exposing the sliced vegetable upon trays in chambers heated by means of steam pipes. A bushel of potatoes is thus reduced to 10 lbs., and other vegetables, containing a larger amount of water, weigh still less in the dried state. We were particularly impressed with the neatness which was observed in the establishment—much of the work being performed by women. The company has a separate contract for their dessicated potato, of which a large quantity is sent to the army. The potatoes are first cooked, and then granulated and thoroughly dried. They form an excellent article of food, and must be exceedingly welcome in camp. Mixed with sufficient boiling water, a nice dish of mashed potatoes can be prepared in a few minutes.

Drying Fruit and Vegetables.

There will soon be an abundance of the products of the garden and field, a share of which may be dried for Winter use. Now when there is an unusual demand for such things for the use of our brave soldiers in the hospitals, our patriotic women will prepare an increased quantity of these delicacies for the sick and convalescent. Persons connected with the Sanitary Commission inform us that there is no limit to the demand for dried berries, apples, peaches, and other fruits, and dried sweet corn and other vegetables are always acceptable. Where the quantity to be dried is small, it may be done on pans or trays placed in the sun and occasionally put into the stove oven, the doors being open. It is considerable trouble to put out the vessels when the sun shines, and bring them in at night, or on the approach of a shower. Where there are hot-beds, this labor can be saved by using a hot-bed frame and sash. The articles to be dried can be covered with the sash at night, which can be wholly or partly removed during the day. Where a large quantity is to be dried, it will be better to depend entirely upon fire heat. We have used successfully a very simple contrivance, a common wood stove, with the pipe running across the room about two feet from the floor. About a foot above the pipe a rack holds the trays upon which the article to be dried are spread very thinly. The stove being an "air-tight," a very little wood serves to keep the room at a high temperature. The trays most recently filled are placed nearest the stove,

and gradually moved along as the drying progresses, to be succeeded by others. Ventilation is to be secured by letting down the upper sash of a window. The fruit or other material should be spread very thinly at first, and the early stage of the drying should be pushed as rapidly as possible, to prevent souring. When partly dry, the contents of two or more trays may be united, and thus save room. When the fruit, etc., is nearly dry, it absorbs moisture rapidly, and should not be exposed during damp weather. Pack on a dry day. *



An Old-Fashioned Musical Instrument.

The above engraving will not be without interest to many readers of the *Agriculturist*. In thousands of minds it will awaken memories of early days, when the pleasant hum of the wheel was heard in almost every farmer's dwelling, when few young ladies thought themselves fit candidates for matrimony before a bountiful stock of homespun linen had been provided by their own industry for furnishing bed and board. "Ah! those were the days of healthy women, good housekeepers, and happy homes," exclaim those who remember only the golden hours of the past. "In those times, the music was worth something. Its notes brought money to the pocket, as well as pleasure to the ears; piano playing and spinning street yarn furnish but poor substitutes for the useful work that employed our grandmothers." It is no doubt very pleasant to look upon the past, mellowed by the light of years until a poetical tinge covers the picture, but the present is more than a realization of the dreams with which many a weary maiden beguiled the hours of toil imposed by the necessity of providing clothing entirely by hand labor, in addition to the other household duties. The ingenuity of man has disenthralled woman from a large measure of drudgery, and given her the opportunity to become something more than a mere working machine. It is doubtless true that many misimprove the leisure bestowed by the progress of manufactures, but this need not be, nor do we believe that, as a whole, the female sex have deteriorated either morally or physically, since their labors have been lightened by the introduction of machinery. It is certain that the average standard of female education is higher than ever before, and reliable tables of mortality prove that the duration of human life has been lengthened several years during the last century. That is a low view of life which regards as its object only the accumulation of outward possessions. True wealth consists in development of the faculties of the soul, in an eye edu-

cated to appreciate beauty, an ear to enjoy harmony, a refined taste to derive pleasure from art, as well as an intellect to grasp truth, and a hand to achieve onward results. He is not wealthiest who possesses most of this world's goods, but he who knows how to extract most enjoyment from his surroundings; and the resources of happiness are abundant to the root and the leaf which were to nourish the flower of the present. A return to them would be like the cutting of an immature plant, forcing it to repeat the slow labor of preparation for seed bearing, the end of its existence. A striking illustration of this truth is furnished by events now transpiring. One of the "relics of barbarism" a state of society deeply rooted in past ages, and which like a pestiferous weed, yet remained amid surrounding culture, has borne its legitimate fruits, and we are in the midst of a desolating war, itself almost a type of the olden time, when might made right. The fruits of peace are being rapidly destroyed. At the South, the hand spinning wheel, and loom are again furnishing "homespun," and it may yet be necessary for Northern women to revive this almost obsolete art. Thank God, they are not incapable of the task when it shall be necessary, yet who will say that this would be a national benefit?—For many reasons we

revert to the past with pleasure, but never with longing eyes. We remember that the higher glory of the race lies ever forward, and rejoice that so many steps have been taken toward its attainment.

Tim Bunker on Keeping a Wife Comfortable.

"How long have we got to wait for dinner, I should like to know?" said Jake Frink to his wife Polly, one day in hoeing time. "Its tu bad to keep three men waitin' an hour for their grub."

"You've got to wait till the brush is cooked, with which to cook your dinner," said Aunt Polly snappishly. "None but a green-horn would furnish green-wood for his wife to cook with—and green brush at that. You know, Jake Frink, that you have never had a second cord of wood at your door any time since I have lived with you, and that is going on seven and thirty years. All that time green brush has been the chief article of kindling. One might think that your whole farm was a brush pasture teetotally. I should like to have you try cooking with green wood a little while, and see how you would like it."

"Wall Polly, hurry up any way," said Jake, "for we are all mighty hungry, and the corn want's hoeing badly. You see brush is economical, and what I can't sell at the store, I can use at home. It would kind o' rot on the ground if I didnt burn it up."

"Pretty economy it is, to keep your wife in a stew all the while, and hired men a waiting hours every day because green wood won't burn. It is smoke, siss, and fizzle from morning to night, and I no sooner get a blaze agoing, than I have to put ou more green wood, and then there is another sputter. I never see such a house as this is," said Aunt Polly, with great emphasis, and with a face as red as a beet.

Jake is a great sinner, although he thinks he is so good that he does not need to go to meeting and hear Mr. Spooner preach. He would try the

temper of a much more saintly woman than Aunt Polly, and keep her on the rack. He might just as well put red pepper in her eyes, as to keep her kitchen always smoked up with green-brush. Her eyes always look red, and it is nothing under the sun but that smoky kitchen. The draft of the chimney is none of the best, but that would be remedied with well seasoned wood. Now you see that man had christian marriage, but he don't care no more for his wife than for a dumb animal. I guess he would lift a sheep out of the ditch, especially in these times, when wool is a dollar a pound. But he keeps his wife in the ditch about all the while, and never suspects that she is a bit uncomfortable. He thinks he saves something by hurning brush, but it don't pay unless you have a machine to chop it up fine, and keep it under cover until it gets dry. To work it up with the axe into fuel for a stove, it costs more than it is worth. If it lies on the ground in the woods, it rots and makes good manure without any expense. Then if you have it, or any other wood green, there is a matter of uncertainty about meals, which throws the whole work of the farm into confusion, and puts every body out of humor.

But this is only one way in which a wife is kept uncomfortable. It does seem as if some men took less care of their wives than of the dumb cattle in their fields. If the rooms in their houses had been thrown together by chance, they could not have been more inconvenient. A good arrangement of the rooms saves one half the labor. Some times the sleeping room is on the second floor, and there is many a journey up and down stairs during the day for a woman already overburdened with care. Sometimes the store room is in the garret, and other journeys have to be made daily, for supplies for the table. Every thing that she needs for her work should be upon the first floor, and close at hand. There is no unnecessary waste of strength then in filling her place as housekeeper, cook, dairy maid, laundress, wife and mother, for many a farmer's wife is expected to fill all these offices, and to be always cheerful and happy, waiting for the coming of her liege lord, as if she had nothing else to do but to be a wife.

The lot of a farmer's wife, as it generally runs, is rather a hard one, and is made hard very often from the want of attention to little things. If a man needs twenty cords of wood for the year, it costs no more to get it in the Winter, in a time of leisure, and to have it chopped, split and packed under cover, than to get it, a load at a time, and have the torment of a slow fire all the while. This not only makes more labor, but it frets and worries, which is a good deal worse than work. Dry wood is one of the secrets of a comfortable wife. That is what makes Mrs. Bunker so hale and handsome, past sixty. She says she wouldn't know how to keep house without dry wood. I guess she wouldn't for she has never had any thing else.

Deacon Smith is a good man, and means well, but he does not know how to use a wife. His well has hard water, that won't wash, and all the water on washing day has to be brought from the brook, more than forty rods from the house. To be sure he keeps a servant, but it makes a world of work for servant and housekeeper. He might have a cistern that wouldn't cost twenty dollars, and it would save more than that value of labor every year. He has roofing enough to keep it supplied with water all the while. And then the Deacon carries on a large farm and keeps a half dozen hired men, and boards and lodges them all in his own house. Now what a burden this brings upon a woman, when they might be much better accommodated in small farm houses of their own. It is quite as easy to hire a part of the labor needed on the farm, from those married, as from those who have no homes of their own. This leaves a farmer's wife with no family but her own to attend to, which is much more pleasant.

Then I guess a man has to do something to himself as well as to his house, to make every thing go smooth with his wife. She bargained for a man when she got married, and she has a right to be disappointed, if she finds she has nothing but a

working animal always jaded and unfit for social life. I know of some farmers who rarely go any where but to meeting and to market. They feel that they can not afford the time to dress up and go and see their friends and dine, or take a cup of tea. They have so slid out of society that their friends rarely come to see them. They are so hurried with work that they do not make friends very welcome. They seem to have no appreciation of life, but as an opportunity to make money. They prize work for this end, and time that isn't turned into money is lost to them. Their muscles not only become hard, but their hearts grow hard and unsympathizing. They lose their taste for reading, if they ever had it, and very soon fall asleep if they attempt to read, or hear reading. If they are active in the field, they are stupid and dull in the house, like tired animals in their stalls. There is no mental growth, no development of manhood in their lives. This discovery, I think makes a woman more uncomfortable than green wood, and smoky fires. She married a man—a creature of intelligence and affections—and she has the right to the companionship of a man while she remains a faithful wife. No man has a right to prostitute himself to mere money getting, no matter how honestly, or to turn all the energies of his being to muscular exertion. Manhood is the most precious product of his farm, and whatever else suffers, that ought to be kept strong and vigorous. That article has become mighty scarce on Jake Frink's premises, and it is this fact that makes the green-wood so very green, and the smoke so trying to Aunt Polly's eyes. Poor woman! I shouldn't wonder if there was something else in them besides smoke sometimes.

Hookertown, } Yours to command,
June 6th, 1863. } TIMOTHY BUNKER Esq.

For the American Agriculturist.

Bargain-Hunting Poor Economy.

"See what a splendid bargain I made yesterday," said one of my neighbors who was exhibiting her purchases during a recent shopping expedition. "Only two shillings a yard, and they asked two and six at every other store." "But Mrs. W., I thought you had previously bought a Summer dress for your daughter," I mildly suggested. "Yes," was the reply, "she was fitted up, and it cost not a little to do it, I can tell you; but then this was so cheap, I could not bear to leave it. It will come good next Summer." "And very likely be so out of the fashion, that the daughter will not be willing to wear it," thought I, but politeness forbade me to say it. "And here is another real bargain," continued Mrs. W., "I never can get my husband to look out for the boys, and so I have to buy even their boots and shoes. Those boots I got for two dollars, when they were asking two and-a-half every where else." One look at the articles was enough to show even to my unpractised eye, that they were made of a poor quality of split leather, cheap indeed in price, but costly enough in every other respect. The first walk through a wet pasture would soak them like a sponge.

Mrs. W. had committed the two errors which "bargain hunters" usually fall into, and against which I would warn those of that class who may read the *American Agriculturist*. First, she bought what was not needed, because it could be had cheap. The fabric was apparently worth more than the price paid for it, but the money laid out might all have been saved for that season at least, and thus it was really so much out of pocket. Mrs. W. could not be sure that the same goods might not be purchased at a great reduction the following Summer. Fashions change rapidly, often in a single season, and they largely control prices. In any case Franklin's old rule holds good; "What is not wanted, is dear at any price."

The second error of Mrs. W. was in supposing an article cheap, because it was sold at a low price. Occasionally through stress of times, or by dishonest dealing, goods are sold at less than their value. In the first instance it is not according to the highest morality to take advantage of the necessities of

another, and in the second, the purchaser becomes a partner to the dishonesty, although it may be unwittingly. But leaving morality out of the case, in the long run, it will be found unprofitable to purchase the lowest priced articles. If it be groceries, they will probably be adulterated or injured in quality, or of short weight; the latter dishonesty is largely practised in cities, where active competition tempts to unscrupulous means whereby others may be apparently undersold.

Perhaps the place of greatest temptation to bargain hunters is at auction sales. I have frequently seen housekeepers return from a vendue in the country, loaded down with articles which could be of no possible use, purchased because "they went so cheap," to be stored in the lumber room until another vendue should consign them to some equally eager buyer of cheap wares. Let not the masculine readers of this part of the paper flatter themselves that this failing is peculiar to our sex. Are they not often entrapped at mock-auction shops in the City, and do they not frequently buy cheap tools for use on the farm, which cost more in poor execution, loss of time, and frequent repairs, than would twice pay for the best implements in the market? The old rule "Spend not when you may spare, but spare not when you must spend," will be found reliable for both sexes, and I commend it to the consideration of all who may be afflicted with the mania for cheap bargains. M.

How to Trap Rats.

A correspondent "W," writes to the *Agriculturist*: "Last Winter rats made their entry into my dove-cot, and in spite of efforts to destroy or banish them, they soon eat up my carriers, tumblers, fan-tails, and pouters, beginning on about ninety, and leaving seven. I read books and obtained advice from friends with an eager desire to save my favorite birds, but neither various poisons nor baited traps banished or caught a rat for consolation. Now however, I feel free from the cunning creatures, as for the past two weeks I have seen no new traces of their existence, and it is about two weeks since I caught the tenth rat, which now graces my out-house wall, with a nail through his head. Thinking that a rat when frightened was neither cautious nor cunning, I placed a common pressure spring, unbaited trap at the entrance of a rat hole, and hid it with a sprinkling of earth and light feathers. The next morning I had a "large" rat, and had no more birds taken. Eureka! Again I tried my plan, where a new hole appeared, for the floor being of earth, I filled every other hole, and the trapped rat by his struggles had filled the one at which he was caught. I trapped another—another, and again another, and until the tenth, which I trust is the last. In watching the rats prowling about, I noticed they were frequently alarmed, when they hasted into a well known retreat. They emerged carefully, but did not return so. I find therefore that a hidden trap in the path is pretty sure to catch, which a baited trap will not do. I know that this method is not always convenient, but one rat less is a national blessing in these times."

Cooking Vegetables.

A subscriber asks us how to cook Cauliflower. Boil it in water for twenty minutes or until the stalk is perfectly tender, drain and pour drawn butter over it. Some persons boil it in milk and water and think that it improves the flavor. This inquiry reminds us that too little attention is paid to cooking vegetables. The common "boiled pot" of the farm kitchen, where salt meat is cooked with a variety of vegetables, can be improved upon. There are very few vegetables that are not injured, to our taste at least, by being cooked with salt meat. Spinach or beet greens make but an indifferent dish when cooked with meat, but boiled by themselves, and then chopped and dressed with butter, they are delicious. All greens should have the water drained or squeezed out of them before they

are sent to the table. Cauliflower has its delicate flavor entirely destroyed by being cooked with meat. Simply boiling vegetables renders them eatable, but a little care in cooking and dressing them will make a delicious dish. Carrots are seldom seen upon the table, yet there is no vegetable that we prefer to nicely cooked carrots. The root should be cut into small pieces, not larger than a filbert, and then stewed with a little water, so that by the time the carrots are done, there will be but a little left; butter, salt, and a little flour are added to make a gravy, or what is better, cream may be used. Let those who like carrots at all, try this method of cooking them, and they will thank the *American Agriculturist* for the hint.

Preserving Tomatoes.

"L. G.," writes as follows: On page 183 of the June No., you speak of boiling down tomatoes one half. Now, if that is the way you do, Mr. Editor, though for several years I have been a subscriber, (a paying one,) and an admirer of your paper, still I shall never make a special pilgrimage either to "pick a bone" with you, or to eat your tomatoes. Much cooking of this fruit destroys not only its flavor, but leaves a pulaceous mass, hardly recognizable by its taste or appearance. As my wife has a more excellent way—so we think—I will describe it. Put the tomatoes into a large dish; then pour on boiling water so that the rind or peel can be more readily taken off. After which, squeeze a good part of the juice out of the tomato while it is in the hand; then cut into 2 to 4 pieces according to size. Cook for a few minutes until well heated through; bottle, using corks, thick drilling only, cemented on the under side, put on mouth of bottle and pressed down and tied. Then with a spoon dip on the wax (rosin with a little lard) until the top is covered; when cool, set in cellar and exclude the light. Prepared in this way, you will get the real, genuine flavor of the tomatoes when cooked, nearly equal to those just picked from the vines.

Parched Corn Meal.

Among the various uses to which our great American cereal can be put, the "Medical and Surgical Reporter" gives the following: "Any one who has travelled over the western prairies, is undoubtedly familiar with the kind of food named at the head of this article. The mode of preparing it is to parch the corn, reduce it to meal, and add a due proportion of sugar. Provided with this simple article of diet, the Indians, hunters, and trappers of the West will travel hundreds of miles, a very small quantity in bulk sufficing for many days. It is, without, exceedingly palatable, and is usually mixed in water when eaten.—This would be an excellent addition to the rations of our soldiers, taking the place of both flour and coffee. A small quantity of it will go a great way, and its use would economize money, time, bulk, and weight, all considerations of importance—the three last, especially so in rapid army movements." [The preparation described above, forms under the name of *Pinole*, a large share of the rations of the Mexican army, and is much used as an article of food by the Mexican people generally. When travelling in that country, it often was our principal food. We have often wondered why it was not introduced into our army, for the use of detached expeditions; it is very nutritious and requires no cooking; stirred with a sufficient quantity of water to form a kind of gruel, it satisfies both thirst and hunger.—Ed.]

How To Draw Tea.

"L," of St. Louis Co., Mo., writes to the *Agriculturist*: A few years since, the writer took tea with a relative, and was delighted with the quality of the beverage. Upon enquiry, it proved that the article was from the same package used by another friend, whose tea always tasted miserably, and the difference was wholly owing to the methods used in its

preparation. The last named person followed the usual plan of pouring boiling water upon the tea, which causes the most of the aroma to escape with the steam. The other friend adopted the following process, which I have since practised, and would recommend: Pour tepid or cold water enough on the tea to cover it, place it on the stove hearth, top of tea kettle, or any place where it will be warm, but not enough so as to cause the aroma to escape in steam. Let it remain about half an hour, then pour on boiling water and bring to the table.

Hints on Cooking.

Graham Bread.—Communicated to the *Agriculturist* by Frances K. Hurlbut, Fond du Lac Co., Wis. For enough to make two loaves, take three pints of warm water (sweet milk is better) one teaspoonful of salt, a tea-cup two thirds full of good hop yeast, and make a sponge as in fine flour bread. Keep in a warm place, and when light, work in a piece of pulverized soda the size of two peas, and Graham flour to make it just moist enough to cleave to the dish. Let it rise again in the same pan; when very light, sprinkle flour on the moulding board and mould into two loaves: when this rises again, bake from fifty to sixty minutes. The Graham flour requires soda when it is unnecessary for fine flour bread. Add three tablespoonfuls of molasses in making the sponge, if you think it improves the flavor. Persons with weak stomachs should not eat this bread until it is at least 24 hours old.

Chicken Pudding.—Contributed to the *Agriculturist* by N. E. Anderson, Franklin Co., Pa. Beat well 10 eggs, add 1 quart rich milk, $\frac{1}{4}$ lb. melted butter, pepper and salt, stir in as much flour as will make a batter. Take 4 young chickens and cut them up, then put them in a sauce pan, with salt and water, thyme and parsley. Boil these until nearly done, then take them out, and put them in the batter, and bake, and send up the gravy in a separate dish.

Baked Apple Pudding.—Contributed to the *Agriculturist* by G. W. Patterson, Clintow Co., Pa. Pare and core sour apples and fill a deep dish with them, adding a little water; then take flour with a little salt, saleratus, and shortening, (proportions as for soda biscuit,) and stir in buttermilk to the consistence of a thick batter, and spread this over the apples and bake. Serve with sauce to the taste. This makes a very nice, light pudding, good for dyspeptics.

Pound Cake and Fruit Cake.—Contributed to the *Agriculturist*, in answer to Mrs. Fry, by Susan North Barney. Stir 1 lb. of butter and 1 lb. of granulated white sugar until they form a cream. Beat the whites of 1 lb. of eggs (9 large or 10 of common size) until they will remain upon an inverted plate; stir these with the butter and sugar, then add the yolks also previously well beaten. Mix with this 1 lb. of flour, 1 small teaspoonful of saleratus, and flavor with lemon. After stirring the whole well together, pour it into two basins well buttered, and with white paper in the bottom. Two-quart basins with perpendicular sides are best.

Fruit Cake is made in the same way, except that good brown sugar is used instead of white, and there are added 1 lb. figs sliced, 1 lb. currants, $\frac{1}{2}$ lb. citron, and 2½ lbs. of the best kind of raisins. The currants need washing thoroughly, and the seeds should be removed from the raisins. Flavor with nutmeg, cloves, cinnamon, and lemons, as desired.

Frosting.—For a half pound loaf. The whites of 3 eggs, beaten until they will remain upon an inverted plate; to which add pulverized white sugar, a little at a time, until of the desired consistence. After spreading it on the cake, set in a warm oven to dry; when thoroughly dried, spread on another layer and dry as before, until of the required thickness. [We will try to get a "Frosting Recipe" from one of the housekeepers in time for another paper—at least her frosting has a peculiar lustre, as we have seen it.—Ed.]

Use for Broken Cakes.—Contributed to the *Agriculturist* by "L. A. M." Cut the pieces in thin slices, lay in a deep dish, and pour over it a custard made as follows: Beat the yolks of 3 eggs with 2 tablespoonfuls of sugar, add 1 pint of milk and season as liked. Put it in a covered pail, set in a kettle of boiling water: when it has thickened, stir in the whites of the eggs beaten to a froth, then pour out to the cake. Soft molasses ginger cake is very good treated in this way. Several kinds of cake may be used in the same dish.

Sponge Cake.—Contributed to the *Agriculturist*, by Mrs. I. S. Kaler, Lincoln Co., Me. Beat 6 eggs, yolks and whites together, 2 minutes. Add 3 cups white sugar and beat 5 minutes; 2 cups flour with 2 teaspoonfuls cream tartar, beat 2 minutes; 1 cup cold water with 1 teaspoonful soda dissolved in it and beat 1 minute; the grated rind and juice of a lemon; a little salt and 2 more cups of flour, and beat 1 minute. Observe the time exactly, and bake in rather deep cup pans. This will make 3 quite large sheets, and it does not dry quickly as most sponge cakes do. [What if some folks beat twice as slow as others?]

Currant Jelly.—The following method was recently recommended at a meeting of the N. Y. Farmer's Club. Pass the currants between rollers so as to burst each currant, and press out the juice. (Any other method will answer to break the fruit, but this is most convenient.) Place the juice in a perfectly clean copper or brass vessel over the fire, and heat it slowly until it simmers, being careful not to permit it to boil, or much of the aroma of the currant will be lost. Skim the juice until the scum ceases to rise; then pour the hot juice on to loaf sugar broken, and placed in a wooden vessel. Stir it until the sugar is melted by the hot juice, then pour into tumblers or other convenient vessels; when cold, it will be found thickened to a firm bright colored and high flavored jelly.

Rhubarb Wine.—Trim off the leaves and grind and press the stalks in any cider mill. To each gallon of juice add one gallon of water and six pounds of refined sugar, and fill the casks, leaving the bungs out. A moderately cool cellar is the best place to keep it. Fill up occasionally either from juice kept on purpose, or with sweetened water, so that impurities which rise to the surface while fermentation is going on, may be worked off. When sufficiently fermented, which will require from one to two months, bung tightly and let it remain until Winter, when it may be racked off into other casks, or bottled. Some persons refine it before bottling, by putting into each barrel two ounces of isinglass dissolved in a quart of wine.

Sweet Pickled Tomatoes.—Contributed to the *Agriculturist* by Mrs. J. Rice, Lapeer Co., Mich. Take smooth, half ripe tomatoes, scald and peel them, place them in a small-necked jar, keeping them whole. Scald vinegar and sugar together the same as in pickling for peaches, pour it over the tomatoes to cover the fruit, of which the jar must be full. Then set it in a boiler of hot water and let it boil till perfectly heated through, and then cover and seal up. They are nice either with or without spices.

Cheap and Good Prepared Glue.—Contributed to the *Agriculturist* by "L.," St. Louis, Mo. Dissolve common glue in cider vinegar, as thick as may be wanted. As it becomes too thick from time to time, add vinegar. This is as good as any that can be purchased.

Starching Bosoms and Collars.—A "Jersey Farmer's Daughter" sends to the *Agriculturist* the following directions: Pour a pint of boiling water upon two ounces of gum arabic, cover it and let it stand over night; in the morning pour it carefully from the dregs into a clean bottle, cork it and keep it for future use. A tablespoonful of this gum arabic water stirred in a pint of starch made in the usual manner will give to lawns, either white or printed, a look of newness, when nothing else can restore them after they have been washed. To every pint of starch, add a piece of butter, lard, tallow or spermaceti candle the size of a chestnut.



The Self-Important Grasshopper.

"A Grasshopper larger than a load of hay! Monstrous! Why Mr. Artist, have you not made a great blunder?" Not too fast, young friends; our artist is seldom caught napping, and even then he usually dreams something worth thinking about—let him speak for himself. He says the picture tells the old story of a grasshopper who happened to be upon a load of hay, when the horses coming to a soft spot in the meadow, stopped and seemed unable to draw it any further. The insect observing this, chirped out "I see I add too much to the weight upon the wagon, and I will therefore jump off," which he accordingly did. Just then the driver whipped up the horses, and by a great effort they took the load out of the mud, and went on easily. "See," said the grasshopper, "how much I helped them, surely the farmer ought now to be willing to give me pasture the remainder of the Summer." The grasshopper in the picture is drawn of a size to show how large he thought himself. Probably the artist was thinking of something besides grasshoppers when he drew that sketch. Perhaps he had lately seen some pert youngster, who thought himself of more importance than father, mother, and all the rest of the family, who was always ready to give his opinion and advice, and who seemed to think the world could not very well move without him. Such characters are found among both young and old. The picture brings to mind an anecdote of a celebrated minister, who was on one occasion much annoyed by a busy, little, self-important man, who endeavored to draw him into a controversy. "Sir," said the little man, "what sect do you think I belong to?" "Judging from your size, and the noise you make, I should think you belonged to the *in-sects*," replied the clergyman. If on some occasion any of you should begin to put on consequential airs, and some one present should pleasantly address you as Mr. Grasshopper, you will probably be reminded of this picture and its lesson, and be careful not to assume too much importance in presence of those who happen to read the *Agriculturist*; and as their number is so large, it will be safer to always be modest and unassuming, especially as such deportment will make you welcome in any desirable society.

Ponto and the Mink.

A. H. G. contributes the following to the *Agriculturist*:—Ponto was a faithful old dog; one of the good kind that never killed sheep, nor annoyed his neighbors by sneaking around their doors. He was very jealous too about his master's premises. Minks and muskrats found no home around the "Hill side" goose pond. He was led to regard them as his special enemies. One made holes in the dam, and the other destroyed the ducks and goslings. When Ponto barked, we always knew that there was something wrong. One day, however, while all were busily engaged in making hay, his well known call was heard. There was danger of a thunder storm, and no one could be spared to answer it at the time. For more than half an hour we listened to his prolonged bow-wow-wow. This at length ceased, and in a few minutes was changed into a most piteous and smothered howl. All said that the old dog had found something, but no one could go and inquire what it was. Noon came and then at intervals only could we hear his smothered cry. The boys could stand it no longer, and when the dinner hour sounded, Dan, and Henry went down to the pond. Guided by the wailing yelps they soon found Ponto, his head and fore-shoulders buried in a hole. As the boys came down and he heard their footsteps reverberating over

his jaws, but on opening his mouth, his tongue was found bitten through in the center, about an inch from the end. The conclusion at which we arrived was this. He had found the mink that had destroyed so many goslings, and driven him into a hole. The boys knew that it was a mink by the smell. Becoming tired of barking when no one answered, he determined to sit down and watch his prisoner. For this purpose he stretched himself out half way in the hole that he had dug, panting with heat, and his tongue hanging out of his mouth. While in this position, the mink watching his chance, seized him. For the remainder of his life poor Ponto bore the marks of that unhappy day. Often have we distended his jaws with pride to show the scar. He never barked afterward, however, without receiving an answer; nor did he ever fail to do his duty when a mink showed himself on the premises.

A Church-going Dog.

A gentleman on Long Island owned a dog that regularly accompanied the family to church on Sunday, and also to the meeting held on Wednesday evening. If, however, for any reason none of them attended the service, the dog would start by himself, take his place where his master was accustomed to sit, and remain until the benediction was pronounced. This occurred rather frequently one season, and the sexton thinking his room better than his company, one day kicked him out. The dog immediately started for another church about a quarter of a mile distant, took his place inside near the door, and remained a regular attendant at his new place of devotion until his death, which occurred recently. The writer can vouch for the truth of this incident.

The Devoted Sparrow.

An observing correspondent of the *Agriculturist*, "A. H. G.," relates the following incident as throwing some light on the question proposed on page 153, (May No.) as to whether birds return to their old haunts in the Spring. He says: "Last Summer a Hedge Sparrow was observed one morning pecking at the basement window, and apparently trying to get in. His strange actions excited the interest of the house-keeper, and her benevolent heart immediately suggested that he must want food. When, however, crumbs were offered, he refused them with disdain—only ruffling up his feathers like a turkey cock, and hopping away until the window was closed, when he would return. Some minutes after his first appearance, the housekeeper was obliged to go up stairs, where she discovered on the mat in the hall, the ends of two wings and some feathers, very much like those upon the stranger at the window. The mystery was now explained. The cat had caught the poor sparrow's mate and he had followed her crying to the house. Day after day, and hour after hour—until the snow fell—did he appear at the window. He would not be driven away. The housekeeper was obliged to pin a paper over it for a time for his continued pecking made her nervous. From morning until night, he was there—when not at the window, usually on a hush beside it—only going away at intervals for a few minutes to feed, and then returning. When the window was left open, he would come in, and had it not been for the kindly interference of the housekeeper, himself would have shared the fate of his companion. It is only a few weeks since he returned again to his old place at the window. The snows of Winter had only disappeared when he came back. Time has not made him forget his bereavement, nor the place where

it occurred. He still runs along the grating outside and picks each pane of glass as he passes and repasses. There can be no doubt that he sees his own shadow in the glass and thinks that it is his mate. He is still alone. For the past hour I have watched him go and return at intervals of a few minutes, to follow his old habit of picking at the window. From this I am led to think that birds do return to their old haunts yearly; that in many cases they may mate for life; that there are *widowers* among them, for our devoted little friend is of the male kind. However this may be, such affection seems to prove that there is something in a sparrow akin to love.

Boys' and Girls' Garden—No. 4.

Our young friends, having carefully read the preceding chapters, understand quite well how the plant increases in height, and they have watched with interest the building up of story after story, each consisting of a piece of stem and leaf or pair of leaves. But they have noticed that the plant does not continue to increase the main stem to an indefinite height; other stems or branches, appear on the main stem. The branches grow precisely in the way that the main stem did, only instead of being fixed in the ground, they spring from the stem at the point where the leaf joins it. Branches generally appear at the place where the leaf is united to the stem. This point is called the *axil*, and anything that comes in this place is said to be *axillary*. The branch first appears in the axil of the leaf as a bud, which elongates and produces a branch in just the same way as the embryo which was in the seed, grew and formed the original stem. As the branches grow from the axils of the leaves, it follows that plants with alternate leaves will have alternate branches, and one with opposite leaves will have the branches opposite. That this is so can be seen by comparing the manner of branching of the Tomato with that of the Four O'clock. We have thus far described only the root, stem and leaf,—these being all that the plant needs to enable it to grow. But sooner or later the plant produces flowers and seed, by which it can reproduce its kind.

Flowers, which we all love so much, are of such varied form and color that most persons think the study of them must be very difficult. You have already seen how leaves vary from a very simple form; so with flowers; if you examine some simple flower and understand all its different parts, you will have a good idea of the general plan upon which all flowers are made. This plan admits of a wonderful variety, to be sure, but it only adds interest to the study to trace out these variations. The reason why we selected Flax as one of our plants for illustration, is because its flowers are readily understood, and are sufficiently large for the parts to be seen without the use of a magnifying glass. As the Flax runs up to flower the leaves gradually become smaller, and soon little buds appear, each borne on a short stem, and these after a while, open into flowers. Having the flower of the Flax, let us now examine its parts. We have had engravings made to help the description, but it is much better to have the real flower. Beginning at the bottom of the flower we find five little green leaves, much like the upper leaves on the stem; these together form the flower cup or *calyx*, as seen in the unopened flower in fig. 16. Each one of the separate leaves of the calyx is a *sepal*. Just inside of the calyx is the showy part of the flower, the *corolla*. This, like the calyx, has five distinct leaves, or parts, called *petals*, which are much unlike other leaves, being more delicate, and of a different color and shape. The calyx



Fig. 15.



Fig. 16.

and corolla together are the *floral envelopes*; they surround, and in the bud completely envelop the other parts, which being small and not very showy, are not generally noticed, yet they are the most important parts of the

flower. The flower has some other use than to gratify our senses its real purpose is to produce seed, and this is done by the parts we are about to describe. If you look closely at the center of the flower, you will see two rows of little yellow bodies. These can be seen much more distinctly if you pull the calyx and corolla off very carefully. Fig. 17, represents a magnified figure of the flower after the floral envelopes have been removed. We find that there is no outer row of five parts called *stamens*. Fig. 18, shows the appearance of a separate stamen much more enlarged, showing its stalk or *filament* bearing an oval case or box, the *anther*, which, by the time the flower opens, bursts by two slits in its sides, and lets out a very fine powder, the *pollen*. Remove all the stamens, and the *pistil*, fig. 18, will be left exactly in the center of the flower. This consists of a roundish lower portion, the *ovary*, having five slender stalks, the *styles*, each of which bears a little knob or *stigma*. The ovary or lower part of pistil is hollow and contains *ovules*, which are little bodies that will by and by become seeds. If you have a magnifying glass you can see the ovules. Cut a flower open lengthwise with a sharp pen-knife through the center, and you will be very likely to divide the *ovary*. The ovules will be seen as little green pulpy masses. If you can not do this you must be satisfied with the representation given in fig. 15. In this figure the ovary in the center of the flower is cut through so as to show two of the ovules. These ovules would never ripen into seeds if the pollen from the anthers did not fall upon the stigmas. This in some way, which we can not explain, exercises an influence upon the ovules and causes them to grow and finally become seeds. The stamens and pistils being such important parts in the production of seed, are called the *essential organs* of the flower. If the corolla or both this and the calyx were absent, as they sometimes are, the flower could still perfect seed, but neither the stamens nor the pistils alone can produce seed. Now then, let us briefly repeat the parts of the flower: 1st, The Calyx, composed of sepals; 2nd, The Corolla, with its separate petals; 3d, The Stamens consisting of filament and anther; 4th, The Pistil, with its ovary, styles and stigmas. The parts



Fig. 17.

are one within another in the order in which we have named them, and as shown in the picture of the flower cut open in fig. 15. The corolla, stamens and styles, soon fall away, leaving the calyx and ovary. The ovary enlarges and becomes the seed pod, fig. 19, which, when ripened, will be found to contain seeds just like the one that was planted, and which, if put into the ground, would repeat over again the growth and flowering which we have described. There are some other things about the Flax flower which should be noticed: The parts are

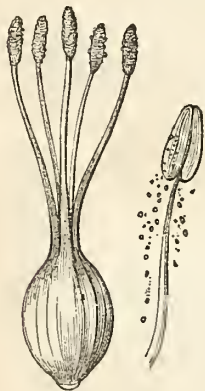


Fig. 18.

nearly all in fives; there are five each of the sepals, petals, stamens, and styles and stigmas, and twice five seeds. Then again, the different parts are regularly placed with relation to one another: the petals are not directly opposite the sepals, but opposite the spaces between them— are alternate with them, so the stamens alternate with the petals, and the styles with the stamens. There is then a

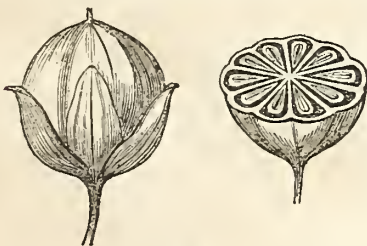


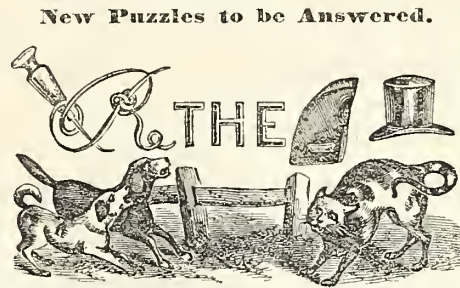
Fig. 19.

regular plan for the Flax flower, a definite number for each set of parts, and these parts are put together in a particular way. If you will study this flower you will have a good idea of the plan upon which flowers are made, and although other flowers will look very different, yet knowing what parts to look for, and what their position should be, you will soon be able to understand their structure. Our other flowers will show some of the most common variations from the structure of the Flax, and we will try and tell you about them next month.

Frightening Herself to Sleep.
The nurse of a little girl used to frighten her when being laid in bed, by telling her that if she did not keep quiet, the rats would come and bite her; and the child dared scarcely stir for fear of the threat. On one occasion she was taken to visit friends in the country, her nurse being left behind. On her return a few days after, she was asked how she managed to get to sleep at night. "Oh," said she, "I sat up in the bed and said 'Rats! rats!' until I was so frightened I trembled all over, and then I covered myself right up, and didn't dare move again, and went right to sleep."

New Puzzles to be Answered.

No. 41. *Illustrated Rebus.* A truth worth remembering.
No. 45. *Curious Sentence.*—Contributed to the *American Agriculturist*, by "W. G. W.," New-York City. A teacher speaks with authority to one of his pupils; calls him by name, directs him to execute a lesson; designates what is to be done, and enjoins him to do it correctly. For this he uses in all, only four plain English words, and they are all sounded precisely alike.
No. 46. *Arithmetical Problem.*—Contributed to the *Agriculturist*, by P. C. Reed, Bond Co., Ill. A. and B. agree to do a piece of work, each to work as many days as the other. A. is to receive \$22 and B. \$28, of every 50. It happened that A. worked but 137½ days, while B. worked 187½ days. They receive for the work \$270; what is each man's share of it?



No. 41. *Illustrated Rebus.* A truth worth remembering.

The following have sent in correct answers: the numbers indicate the problems answered by each.
Wm. J. McManigal, 37; N. S. Barnum, 37; J. M. and F. A. Boyle, 37; "Constant Reader," 37; John Wilson, 38; Ellen F. Cole, 37; S. R. Walkups, 38; H. H. Bayley, 37; Mary E. Greely, 37; E. M. Kellogg, 37, 38; Eleanor Risdon, 37, 38; Jesse H. Carter, 37; John F. Holmes, 37, 38; J. B. Bardwell, 38; Stephen A. Brown, 37; Orlando P. Vaughan, 37; N. E. Melick, 37, 38; Augustus Reipsteck, 37; M. H. Barnard, 37; S. Shepherd, 37, 38; E. S. Lyon, 37; George Wistarkirke, 37; John F. Holmes, 37, 38; W. W. Dickey, 37; S. A. Dickey, 37; Bernet K. Melick, 37; Alice Ross, 37; W. A. Vaughan, 37; Walter A. Carpenter, 37; G. T. Clark, 38; Plutus, 37; John W. Van Deventer, 39; W. H. French, 37; L. O. Gay, 39; C. R. L., 40, 41; S. S. Doolittle, 41; Fred. A. Maltbee, 41, 43; Lydia E. Newberry, 37; Isaac McGay, Jr., 40, 41, 43; Twiford S. Noble, 41, 43; H. M. Johnson, 40, 41; G. W. Venall, 40, 41; John N. Fithian, 42; James Williamson, 41, 43; Henry B. Strong, 42; Lemuel G. Carpenter, 40, 41; Richard Humpback, 40, 41, 43; James Argus, 41; L. O. Gay, 42; Fanny J. Minor, 41, 43; Haller Bayley, 41, 42, 43; Isaac T. McLain, 42; Luey R. Weeks, 41, 42, 43; Robert G. Weeks, 40; George F. Week, 40; Wirt C. Williams, 41, 42; Samuel A. Williamson, 43; G. L. Stevens, 43; W. H. Mendenhall, 42; John P. Ratcliff, 42; J. H. Nicholson, 41; Willie H. Paine, 41, 42, 43; Albert D. Rust, 40, 41, 42, 43; George Bushong, 43; Hoosier Allee, 41, 43; (It is not necessary to send drawings for proposes rebuses); J. A. and J. E. Smith, 41; "Loirgus," 42; John Kostenbader, 42; Cornelius Hoagland, Jr., 41, 42, 43; Oliver Coombs, 41; Willie N. Barnard, 40, 41, 43; Daniel S. Carver, 40, 41; Jesse Wright, 43; Alice P. Talbot, 37, 42; Laura E. Barnes, 40, 41; Wilcox McCaughey, 41, 42; J. M. and P. A. Boyle, 40, 41, 43; Maggie Dale, 41; Albert Stewers, 40, 41; H. H. Stryker, 40, 41, 43; William Wyckoff, 41; O. B. Surface, 41; Maggie H. Hagerly, 41, 43; Isaac D. Thorp, 40, 41, 43; Mary A. E. Nichols, 41, 42, 43; Temperance Carr, 41; A. T. 41, 42, 43; Emily E. Alcott, 40, 41, 43; Bernet Kennedy Melick, 41; George Elenck, 42; Nellie Spink, 41, 43; W. L. H., 41, 42; W. Ward, 40, 41; James Gardiner, 42, 43; W. F. Penningan, 41.

Answers to Problems and Puzzles.

The Markets.
AMERICAN AGRICULTURIST OFFICE.
New-York, Friday Morning, June 18, 1863.

Business Notices.
Eighty Cents a Line of space.
Pure and Economical Articles
FOR FAMILY USE.
Pyle's Cream Tartar,
Pyle's Saleratus,
Pyle's Baking Soda,
Pyle's O. K. Soap.
Housekeepers will find these articles reliable, and the cheapest in the end. Sold by Grocers everywhere.
JAMES PYLE, Manufacturer,
350 Washington-street, corner Franklin, New-York.

MME. DEMOREST'S MIRROR OF FASHIONS.
The magnificent Summer No. ready, 25c. Sold everywhere. Yearly \$1; with valuable Premiums. 473 Broadway. Every Lady should see it.

THE CRAIG MICROSCOPE.
This is the best and cheapest microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters, or 10,000 times, and is so simple that a child can use it. It will be sent by mail, postage paid, on the receipt of \$2.25, or with six beautiful mounted objects for \$3, or with 24 objects for \$5. Address HENRY CRAIG, 180 Centre-st., New-York.
A liberal discount to the trade.
"The CRAIG MICROSCOPES are just what they are claimed to be. Those who wish such an article, will not be disappointed, if they should obtain one of these."—N. Y. Methodist.
MR. HENRY CRAIG,
Dear Sir:—I have received the Microscope which you sent me, and deem it the best for practical purposes, I have ever seen. I like it much better than one which I have been using that cost me \$20: and without hesitancy would recommend it, not only as an instrument well adapted to afford instructive amusement to every family circle—but as being the best I know of for "the use of the practical Naturalist."
Yours truly,
J. BODINE THOMAS.
Williamsport, Pa., May 7th, 1863.

Lands—To All Wanting Farms.
Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from \$15 to \$20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information sent free.

The Markets.

AMERICAN AGRICULTURIST OFFICE. New-York, Friday Morning, June 18, 1863.						
1. TRANSACTIONS AT THE NEW-YORK MARKETS.						
RECEIPTS. Flour. Wheat. Corn. Rye. Barley. Oats.						
25 days this m th	569,000	3,162,000	3,204,000	27,000	58,600	1,610,000
25 days last m th	347,000	540,000	596,000	43,000	51,000	410,000
SALES. Flour. Wheat. Corn. Rye. Barley. Oats.						
25 days this month,	375,000	3,256,000	3,631,000	82,000	82,000	56,000
25 days last month,	349,000	783,000	1,839,000	102,000	91,000	91,000
2. Comparison with same time last year.						
RECEIPTS. Flour. Wheat. Corn. Rye. Barley. Oats.						
25 days 1863.....	569,000	3,162,000	3,204,000	27,000	58,600	1,610,000
28 days 1862.....	594,000	4,280,000	1,920,000	43,900	110,000	413,000
SALES. Flour. Wheat. Corn. Rye. Barley. Oats.						
25 days 1863.....	375,000	3,256,000	3,631,000	82,000	82,000	56,000
28 days 1862.....	697,700	5,337,000	2,612,000	185,500	31,000	31,000
3. Exports from New-York, Jan. 1, to June 17.						
	Flour.	Wheat.	Corn.	Rye.	Oats.	
	Bbls.	Bush.	Bush.	Bush.	Bush.	
1863.....	1,050,048	5,475,508	4,089,591	262,662	108,588	
1862.....	1,261,118	5,912,421	5,946,825	799,166	20,887	
4. Receipts at Albany, from the commencement of Navigation, to June 9.						
	1861.	1862.	1863.			
	May 1.	May 1.	May 1.			
Flour, bbls.....	113,000	185,200	181,300			
Wheat, bushels.....	3,998,300	5,234,100	3,260,400			
Corn, bushels.....	2,824,100	1,977,700	3,978,200			
Barley, bushels.....	99,700	317,100	49,500			
Oats, bushels.....	594,400	542,500	1,667,700			
Rye, bushels.....	68,600	209,900	48,500			

The receipts, sales, and exports of Breadstuffs have been quite heavy during the month, as had been anticipated at resumption of navigation on the canals and rivers of the interior. The export demand was active during most of the month, encouraged by the favorable market reports from England; but, toward the close, buyers were less disposed to operate, unless at prices much under those claimed by holders, in view of the depression in the gold and foreign exchange markets, the rise in rates

on freight, and the great trouble with the stevedores and longshoremen (loaders of ships), who, having made a "strike" for higher wages, refused to work, and did everything in their power to prevent less exacting laborers from filling their places.

FISK & HATCH, No. 38 Wall-st., New-York City. BANKERS AND DEALERS IN All kinds of Government and other Securities.

Saratoga Springs Remedial Institute. THIS INSTITUTION WAS ESTABLISHED TO MEET the wants of a class of Patients who feel the necessity of leaving their homes for medical aid.

SNUG FARM FOR SALE.—70 acres with good House, Barn and Well—light soil, no stones; 3/4 miles from Saratoga Springs—Price \$1,500 including crops, stock and implements. Title unexceptionable.

As medical practitioners we treat all diseases; and Chronic Affections claim our principal attention. While this is not a Water-cure, the invalid will find a good gymnasium, and all the facilities of a well-conducted scientific Hydropathic Establishment.

FOR SALE—3 Large Farms, 5 Timbered lots, Woolen Mill, Water Power and Village Property in La Grange Co., Ind.

The home reputation of a physician should be the basis of public confidence. For a fuller knowledge of the Institute, we refer to our Circular, and the reliable citizens of our village.

155 ACRES partly improved land for sale, rich clay loam, beautiful situation, convenient to Canal, Mills, &c.

The medical profession are invited to acquaint themselves with the Institution. S. S. STRONG, M. D., Saratoga Springs, N. Y.

GRANVILLE (OHIO) FEMALE COLLEGE.—Twenty-ninth year will begin Sept. 10th. The highest educational advantages are afforded in Intellectual, Physical, and Moral Culture; also in Vocal and Instrumental Music, Painting, and Drawing.

AGENTS WANTED EVERYWHERE TO SELL WOODRUFF'S PATENT PORTABLE BAROMETERS. CHARLES WILDER, Peterboro', N. H.

Table with columns for 'CURRENT WHOLESALE PRICES', 'May 20', and 'June 18'. It lists various goods like flour, sugar, coffee, and other commodities with their respective prices.

STRAWBERRY CULTURIST. NEW EDITION. Contains names and synonyms of all the noted strawberry of the world; fully illustrated. Price 10 cents.

TO MEN OF INTEGRITY. Those who have a little money to invest in a business entirely new and novel, as necessary as new, as lucrative as necessary, and respectable as lucrative, would do well to address L. S. W., 87 Park Row, N. Y., Room 6.

FRUIT AND ORNAMENTAL TREES. RARE CHANCES OFFERED.

Portable Printing Offices. For the use of Merchants, Druggists, Nurserymen, and all who wish to do their own Printing. Circular sent free. Specimen Sheets of Type, Cuts, &c., on receipt of two 3c. stamps.

200,000 Choice Fruit Trees, Vines, etc., for sale, of varied size to suit customers.

A DOUBLE NUMBER, full of Engravings. THE PHRENOLOGICAL JOURNAL for July contains Portraits, Characters and Biographies of Lord Brougham, E. H. Dixon, Stonewall Jackson, Ann E. Dickinson—An Illustrated Article on HUMAN NOSES—The Temperaments—A new Facial Angle, with Illustrations, ETHNOLOGY—The Fossil Man—Origin and Future Destiny—Somnambulism—Second Sight—The Scent-Night-Walkers, Clairvoyance—The Royal Courtship, how Conducted—Women of Turkey—Female Life in London—Soul and Body—Man's Religious Nature—Accountability—Fatality, &c. Only 15 cents; or \$1.50 a year. New Volume. FOWLER & WELLS, N. Y.

The subscriber calls attention to his unusually large stock of well grown trees now on hand, and especially to the present stock of the STRANDBO FRUIT APPLE, which is the largest and finest ever offered at these Nurseries.

"SOMNAMBULISM" — Second Sight.—Seeing from the Stomach—Psychic Phenomena—Somnolence—The Senses—The Soul not dependent on the Body—A Fortunate Night-Walk—On a Liberty Pool—Wring Scrimons in Sleep—Clairvoyance—in the July PHRENOLOGICAL JOURNAL, 15c., or \$1.50 a year. FOWLER & WELLS, N. Y.

With twenty years of experience, by careful observation and judicious selections, he believes he is able to judge and furnish what will suit his customers, as well as the varied soils and localities, in which trees may be wanted.

"ROYAL COURTSHIP" — How conducted. THE Women of Turkey—Manners and Customs—Dresses—Veiled Ladies—Love—Courtship—Money—How they Manage in England—Female Life in London—Sewing Women—Their Condition—Clean Teeth—Pine Breath—Etc. In July PHRENOLOGICAL JOURNAL, 15c., \$1.50 a year.

Local or stationed agents will be accepted, but neither traveling nor stationary agency inquiries will receive notice, unless the parties produce satisfactory reference as to their honesty in dealing with customers and employer.

"THE FOSSIL MAN." — ETHNOLOGY.—Human Destiny, Pre-Adamitic Man, Races of the Old World, Origin of Man. Also LADY PHYCIANS, Photography in the Army—Toe Corns and Boot Heels—To Correspondents—High and Low Foreheads—Endless Punishment—Well-balanced Heads—Teaching Negroes—To Make the Hair Grow—in PHRENOLOGICAL JOURNAL for July, 15 cents, \$1.50 a year. FOWLER & WELLS, N. Y.

Address DAVID MILLER, Jr., Cumberland Nurseries, Carlisle, Pa.

"NEW FACIAL ANGLE," and Mode of measurement with Illustrations. Human Skull, Outline of four Skulls, Outlines of three Heads—Shape of Head—Caucasian Brain, Indian Brain—Black Hair, etc. OBSERVATION AND REFLECTION, Instinct and Reason, Detected by his Teeth—The Lost Camel, in July PHRENOLOGICAL JOURNAL, 15c., \$1.50 a year. FOWLER & WELLS, N. Y.

BLOOMINGTON NURSERY. 160 ACRES. FRUIT & ORNAMENTAL. AGENTS WANTED. F. K. PHOENIX.

"HUMAN TEMPERAMENT."—History, Dominions, and Testimonies—Sanguine, Phlegmatic, Choleric—Melancholic, Bilious, Nervous, Vital, Motive, and Mental. THE PSYCHOLOGY OF MAN.—Digestion, Breathing—The Eye—Voice—Of what man is made. How to take his measure—And Man's Destiny, Marriages, Births and Deaths, Interesting Facts in July PHRENOLOGICAL JOURNAL, 15 cents; \$1.50 a year. FOWLER & WELLS, N. Y.

SEEDS.

"NOSES," "NOSES," "NOSES!" — PHYSIOGNOMY ILLUSTRATED.—Noses of the Races—Caucasian, Anglo-Saxon—Ethiopian, Arab—Jew—Greek—Roman, Celestial, etc. including Noses of every size, shape, and character. What is the significance of each. The Straight, Aquiline, Flat, Snub, and Turn-Up Noses. The Executive, Irritable, Defensive, and Aggressive Nose. The Stupid, Tasteless, and Intellectual Nose, with Portraits of Prof. Morton, Julius Caesar, Virgil, Lucretius, Dante's Beatrice, Theodosius the Great, The Emperor Paul, Oliver Cromwell, Gardner, Alexander Wilson, Blucher, Otto the Great, Joan Paul, Hitler, and others. The most complete treatise on the Nose yet published. See Phrenological Journal for July 15c. FOWLER & WELLS.

Buckwheat and all other Seed Grain of best varieties. Turnip, Ruta Baga, Cabbage, etc., of the choicest kinds. A full assortment of Field, Garden and Flower Seeds, Plants, etc. R. H. ALLEN & CO., 139 & 191 Water-st., New-York.

"LORD BROUGHAM." E. H. DIXON, STONE WALL JACKSON, AND ANNA E. DICKINSON, with Portraits, Biographies and Phrenological developments, given in July No. PHRENOLOGICAL JOURNAL, 15c., a No.

Best Flavored Strawberry. Fuller's New Seedling, Crimson Favorite.

"SOUL AND BODY."—Man's Religious Nature—How God Acts on the Soul—Degrees of Talent—Religious Faculties—Dominant Powers—Children not Alike; Why? How far are we accountable? Fatalism Examined—How to serve God—Oratory, Poetry, Genius—A Scientific Analysis of Man's Religious Duties, by a Distinguished Clergyman, in July No. PHRENOLOGICAL JOURNAL, 15c.; or \$1.50 a year. FOWLER & WELLS, N. Y.

Plants of this superior Strawberry, which received the First Prize for flavor at the "Great Strawberry Exhibition," can be furnished in September at \$1 per dozen.—Sent by mail, post-paid, \$1 10 cents. DESCRIPTION.—Flowers perfect, berry large, obtuse cone—bright crimson, vigorous grower, and productive. H. B. LANE, 151 Nassau-St., New-York.

WE will issue on the 1st of August a circular, giving varieties of strawberries that have proved the most valuable this season, with prices of plants, and other information, which will be sent to all applicants free of charge. J. KNOX, Box 153, Pittsburgh, Pa.

STRAWBERRIES.

GRAPE VINES. Planters and Dealers will please send to WM. PERRY & SON, BRIDGEPORT, CONN., for their price list for 1863. CONCORD and DELAWARE Vines of superior quality, at low rates.

N. Y. Live Stock Markets.—The Cattle markets have been well supplied with beeves during the past month, the weekly receipts ranging from 4,600 to 5,400, and averaging 4,800. Trade has been very good and prices remarkably uniform, the variation amounting to only 1/2c per lb.

Veal Calves.—Weekly receipts 1,092 for the past month. Prices higher than for several years past; good fat calves quick at 7 1/2c @ 8c per lb. live weight.

Sheep and Lambs are selling remarkably well, at high prices. The receipts have averaged only 6,797 per week, farmers keeping an unusually large number for breeding, as they find them the most profitable part of stock raising under the present rates.

Five Hogs.—Receipts 10,694 per week; prices 5 1/2c @ 5 3/4c per lb. live weight, corn-fed; and 5c scilled.

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Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion): FOR THE ENGLISH EDITION ONLY. Fifty cents per line of space for each insertion.

Delaware Grapes.

After some years of experiment, the subscribers have adopted a mode by which they can produce plants of this valuable grape with abundant fibrous roots at the following very low rates:

1st Class, \$25 per 100. } 2nd Class, \$15 per 100.
\$300 per 1000. } \$100 per 1000.

Of these one year old, they can furnish 50,000 deliverable in October and November.

Those who wish to plant largely will do well to examine this Stock before purchasing, and to send their orders early as the demand last year exceeded the supply.

Those who wish can also see THREE ACRES of Delaware Vineyard in full growth.

CONCORD and other Grapes furnished by the 100 or 1000.
Address PARSONS & CO.,
Flushing, N. Y.

BAKER'S PATENT FRUIT JARS.

WITH EITHER GLASS OR TIN COVERS.

They are SIMPLE, RELIABLE, and CHEAP, and the ONLY Jar of which there are NO COMPLAINTS.

From the great number of testimonials we might give, we only quote from the "AMERICAN AGRICULTURIST," which says: "They are the BEST OF THE TWENTY ODD KINDS WE HAVE TRIED."

Housekeepers try for yourselves. Do not be persuaded to try others, for it will be to your cost.

For sale by all respectable dealers.

The trade supplied by the

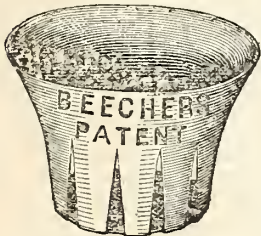
MANUFACTURERS AND PROPRIETORS,
F. L. & J. N. BODINE & CO.,
Successors to POTTER & BODINE,
106 Chestnut-st., Philadelphia, Pa.

TO THE LADIES.

We desire to call your particular attention to MASON'S PATENT SELF SEALING

FRUIT JARS AND CANS.

An experience of six years has proved them the most perfect Jars for preserving fruits and vegetables. Sold by all dealers. Made only by the SHEET METAL SCREW CO.,
214 Pearl st., New-York.



Beecher's Patent BERRY BASKET.
IMPROVED FROM LAST SEASON.

The cheapest in market! For Circulars address A. BEECHER & SONS, Westville, Conn.

Agents, WM. PARRY, (practical fruit raiser), Cinnaminson, N. J.

ROGERS & GEST, 133 Market-st., Philadelphia.
H. B. LANE, 151 Nassau-st., New-York.

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MANHATTAN

LIFE INSURANCE COMPANY,

No. 31 NASSAU-ST.,

(OPPOSITE THE POST OFFICE,) NEW-YORK.

Cash Capital and Accumulation, over.....\$1,400,000
Claims Paid..... 680,000
Dividends to Policy Holders..... 640,900

The dividends are paid in the life-time of the assured, thus aiding them to pay future premiums.

Premiums may be paid annually, semi-annually, or quarterly, when the policy is for life, and the annual premium amounts to \$40 and over. From 49 to 50 per cent, may be paid by notes.

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Enameled Furniture.

All styles and prices. Also Chamber Suites in Walnut and Chestnut. The best assortment in the city. Wholesale and Retail, at 277 Canal-street N. Y. WARREN WARD.

ITALIAN QUEEN BEES. FOR SALE BY
L. L. LANGSTROTH & SON,
Oxford, Butler County, Ohio.

BUTTER, CHEESE, POULTRY, EGGS, AND FARM PRODUCE

OF ALL KINDS

SOLD ON COMMISSION.

Constantly on hand, for sale, Flour, Fish, Salt, Mackerel, Pork, Hams, Lard, Beans, Dried Fruit, Soap, Starch, etc.

COOK & NICHOLS, Successors to ISAAC EMENS, 226 FRONT-ST., NEW-YORK.

Refers to J. De Lamater, Cashier Marine Bank, N. Y. City.
.. Lewis & Brown, No. 12 Front-st., N. Y. City.
.. Isaac Emens, Castle Creek, Broome Co., N. Y.

S. B. CONOVER

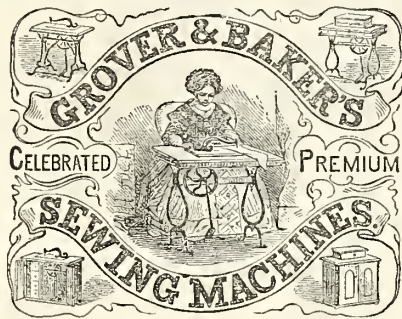
Commission Dealer,

260, 261 & 262 West Washington Market, FOOT OF FULTON-ST.

Particular attention paid to selling all kinds of Fruit and other Farm Produce.
Refers to the Editor of the American Agriculturist.

C. W. IDELL.

COMMISSION DEALER IN CHOICE FRUIT, 70 & 71 West Washington Market. Special care taken of empty packages.



Acknowledged to be Superior to all Others.

495 BROADWAY, NEW-YORK.

"Grover & Baker's is the best."—Am. Agriculturist.

MASON & HAMLIN'S

CABINET ORGANS,

Are essentially different from and greatly superior to all other instruments of their class. Wherever exhibited they have always taken the first premiums, and are recommended as

"THE BEST INSTRUMENTS OF THEIR CLASS" by ZUNDEL, MORGAN, WOLLENHAUPT, WELS, WOLFSHON, MAGRATH, FLINT, HAGAN, MOSENTHAL, SMITZ, and others of the most distinguished organists of New-York. Similarly recommended also by LOWELL MASON, GEORGE JAMES WEBB, THOS. HASTINGS, W. B. BRADBURY, GEO. F. ROOT, SIGISMUND THALBERG, WILLIAM MASON, GUSTAVE SATTER, and others.

Prices of single and double reed instruments \$70 to \$150 each; with six to twelve stops \$225 to \$500 each.

MASON & HAMLIN'S MELODEONS

Are also better than any others. Prices \$50 to \$225 each. Warerooms in New-York, Nos. 5 and 7 Mercer-street. Send for circulars with particulars.

MASON BROTHERS.

\$225 J. P. HALE'S \$225

NEW 7 OCTAVE PIANOS are destined to revolutionize the whole Piano business. For Durability Beauty of Tone, and Touch, as well as in style of finish, they are unequalled; and nothing of the kind has ever before been offered in this country that will compare with them in prices:

\$225—\$250—\$275.

They contain all improvements of value now in use, and are all

Warranted for Five Years.

Please call and examine them and compare them with those of any of the first class makers, or send for a Circular giving all particulars.

J. P. HALE & CO., 478 Broadway, N. Y.

DUTCHER'S LIGHTNING

FLY-KILLER

Supplies a want felt by every good housekeeper. Every sheet will kill a quart were flies are thick. Remember that it is DUTCHER'S that does this, and refuse the base imitations that are offered. The real article is for sale by all respectable Druggists.

TO FARMERS TO DAIRYMEN, TO COUNTRY MERCHANTS.

ALL who have for Sale:

Sorghum Sugar and Syrup,

Furs and Skins,

Fruits, dry and green,

Hops, Tallow,

Cotton, Wool,

Butter, Cheese,

Lard, Beef,

Pork, Hams,

Eggs, Poultry,

Game, Vegetables,

Flour, Grain,

Seeds, Petroleum,

&c., &c.

Can have them well sold at the highest prices in New-York, with full cash returns promptly after their reaching the City, by forwarding them to the Commission House for Country Produce, of

JOSIAH CARPENTER,

32 Jay-street, New-York.

N. B.—The advertiser has had abundant experience in this business, and trusts that he will continue to merit patronage by the most careful attention to the interest of his patrons. The articles are taken charge of on their arrival, and carefully disposed of promptly to good cash customers, and cash returns made immediately to the owner. (The highest charge made for receiving and selling is five per cent, fruits and vegetables excepted.)

A New York Weekly Price Current is issued by J. Carpenter, which is sent free to all his patrons. A specimen copy sent free to any desiring it. A trial will prove the above facts. For abundant references as to responsibility, integrity, &c., see the "Price Current."

Cash advanced on consignments of Produce.

SEND FOR

A FREE COPY

OF

PRICES CURRENT,

AND ALL OTHER PARTICULARS,

TO

JOSIAH CARPENTER,

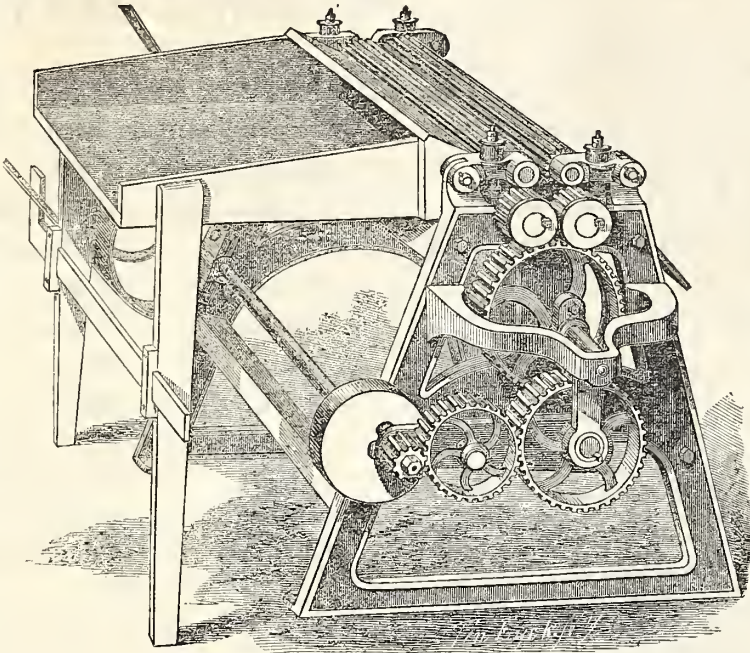
32 Jay-st., New-York.

PRODUCE OF ALL KINDS BOUGHT.

SANFORD & MALLORY'S PORTABLE FLAX AND HEMP DRESSER.

Date of Patents, Sept. 16, 1862, and April 28, 1863.

Over Fifty of these Machines have been in practical use during the past season, and so great is the demand for the coming Fall that we have adopted the following plan, viz.: That we will only make to order. Many have already sent in their orders for



Machines to be delivered next Fall. Those who desire to use our Machine in dressing the crop of the present season, would do well to send their orders without delay, as all Machines are delivered according to date of order.

Made and Sold by
MALLORY & SANFORD,
HARLEM RAILROAD BUILDING,
Room No. 26, in White-st., near Centre.

Our terms are Cash on delivery of shipper's receipt or bill of lading, and persons ordering can send draft on New-York, or Treasury Notes, to some person here whom they know, or by Express, to be delivered to us on our delivery of bill of lading for shipment of Machine. Price at our Factory, at Paterson, New-Jersey, for

No. 1 Machine, (capable of dressing 2,500 lbs. of Flax Straw in ten hours,) \$355.
No. 2, \$255. No. 3, Hand Machine, \$155.

FIRST.—A machine capable of dressing 2,500 pounds of flax straw in ten hours, can be sold at the factory, ready for shipment, at \$355; and the second size capable of dressing 1,500 pounds of straw at, \$255. A third size, capable of dressing from 600 to 800 pounds of straw per day, at \$155. The smallest size weighs about 300 pounds and can be run by hand.

SECOND.—The yield of flax fibre by the use of this machine, in proportion to the weight of flax straw dressed, EXCEEDS BY AT LEAST ONE-FOURTH that obtained by any other machine or process.

THIRD.—The fibre, dressed by this machine, is much more valuable than that dressed in any other way, on account of the greater yield over the hackle.

FOURTH.—This machine is so simple in its construction and operation, that the liability to derangement is very slight.

FIFTH.—This machine does not require in its use any peculiar skill. It can be operated by boys or girls, and does not involve any risk to the hands or arms of the operatives, while the ordinary machines require the use of skilled labor, and as experience has proved, are always attended with risk to the operatives.

SIXTH.—This machine can be driven by any of the horse powers in use, and as it can be operated by ordinary farm labor, it enables the farmer to dress and prepare for market, at little expense, the flax raised by himself, thus opening to him a new and profitable occupation.

SEVENTH.—This machine is small, the largest size occupying only about four feet square, and weighing not over 1,100 pounds.

As there is a demand for larger machines for hemp, the proprietors are building such, capable of dressing two and-a-half tons of hemp straw per day.

The amount of flax fibre produced in the United States in the year 1850 was 7,806,509 pounds. Had the straw from which this amount of fibre was taken, been dressed by the Sanford & Mallory Machine, the yield would have been not less than 10,469,078 pounds. The increased product or the flax saved, at present prices, would be worth \$650,542.

When it is remembered that in many of the Western States an immense quantity of flax is raised for the seed alone, the straw being destroyed or wasted as of no value, it will readily be seen that the introduction among farmers and manufacturers of a cheap and effective machine, capable of converting what would otherwise go to waste, into an arti-

cle of great value, can not fail to produce the most important results.

It is well known that flax can be successfully cultivated in all the Northern States. If in addition to the value of the seed—sufficient of itself to pay the entire cost of cultivation—the straw can be made a source of large profit, a wide field of successful industry will be opened.

That the statements here put forward as to the efficiency and value of the Sanford & Mallory Machine, and especially as to the great saving effected by it over any other machine or process known, are rather below than beyond the fact, will abundantly appear from the subjoined reports and letters from practical flax-workers and dealers. Nothing need be added to their direct and positive testimony.

Over fifty of these machines for flax and hemp have been in successful use during the past season, in different parts of the country, and the demand for them is now large—consequently, orders for them should be made early, as the coming crop of flax and hemp will soon be ready for dressing.

The demand for flax during the past year and-a-half has quite doubled its price, and it is now used for many purposes to which it was never before applied, and for which it is found to be superior to cotton and other materials before in use. Whatever, therefore, may be the future product of cotton, the demand for flax will not diminish, but, on the contrary, increase with its new and useful applications. It is now largely mixed with woolen goods of almost every description; is used for paper, wadding, batting, belting, druggists, delaines, calicoes, stockings, felt hats, and carpeting. Should the experiments for cottonizing flax, for which Congress has made a large appropriation, succeed, the already large demand for it would not only be enormously enhanced, but made practically unlimited.

Take a given quantity of Flax Straw, either over or under retted, and pass it once through this Machine and it will invariably have lost four-fifths of the shive or woody part, without the least fibre of tow. The Machine requires two men, or boys, to tend it, and runs from eighteen to twenty hundred lbs. of straw in ten hours. There is no risk whatever to life or limb of the operator.

A dry or wet day makes no difference with this Machine, with reference to its result in the saving of Fibre.

The Machine can be seen in operation any day at room No. 26, Harlem R. R. Building, corner of White and Center Streets, New-York City, or at Mr. Harvey Wilcox's Flax Mill in Union Village, Washington County, N. Y.

This Machine with one-horse power will also run from four to six hundred lbs. of Hemp stalks per hour leaving the fibre perfectly clean and straight, with not one ounce of tow to the ton.

Those desiring Machines this Fall should order at once, as we shall supply according to the date of orders.

TESTIMONIALS.

JOHNSONVILLE, N. Y., April 27th, 1863.

MESSRS. MALLORY & SANFORD:

GENTLEMEN.—I have been using two of your Patent Flax machines since the 1st of January last. I have given them a thorough test with the old brake. They will save from three to six pounds of dressed flax to the hundred pounds of flax straw (according to the quality of straw used) more than the old brake, and will break from one and one-fourth to one and one-half tons of straw per day of ten hours—do the work better than any other machine I ever saw. It takes out nine-tenths of the shive or woody matter in passing through the machine once; consequently it requires less scutching than if broken with the old brake, which does its work very imperfectly—breaking some of the fibres and taking out no shive. My men tell me they would rather rough-dress two handfuls after your brake than one after the old. The fibre from your brake is left perfectly whole and straight, which is better for the manufacturers, as it will hatchel more to the hundred pounds than after the old mode of breaking. I have had a quantity hatched that was dressed after each brake—taken from the same lot of flax, and the yield was five pounds per hundred more after your brake than after the old. The fine tow is equally good with that after the old brake, while the coarse is worth one third more per ton. I think that if the machine is properly used it is not liable to breakage.

Yours truly,
WM. H. BUCKLEY

BELFAST, IRELAND, May 1st, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—It gives me much pleasure to report that the five Sanford & Mallory Flax Brakes which I have been operating in the different flax districts of Ireland have given entire satisfaction to all who have seen and used them. The saving over all other machines in use is large, on some kinds of straw, being as great as one-third. This taken with the saving in labor will give an advantage in favor of the brake of from £3 to £5, or \$15 to \$25 per day, beside increasing the value of the fibre by softening and giving it better spinning quality. In conclusion, I would say that the machine has been approved of and recommended by the leading manufacturers of Ireland, and also by the Chemico-Agricultural Society of Ulster.

Yours truly,
EDGAR FOWKS.

SPRINGFIELD, Clark County, Ohio, May 5th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have tried one of your brakes, and I have run through thirty-one hundred pounds in ten and one-fourth hours, which was well broken, and every way satisfactory. I am, gentlemen, yours respectfully,

E. MEEK.

UNION VILLAGE, N. Y., May 15th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have used two of your Patent Flax Brakes for the past eight months, and take this opportunity of saying that they exceed any brake I ever saw. They take out from sixty to seventy per cent of the shive or woody matter, leaving the fibre whole, and in perfect ribbons. They will save from five to eight pounds of dressed flax to every hundred pounds of flax straw over any brake I ever used. We can break from one to one and one-half tons per day of ten hours with each brake, and there is no danger of life or limb.

Yours with respect,
HARVY WILCOX.

BLOOMINGTON, McClean Co., Illinois, May 2d, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—This is to certify that I have run your Patent Flax and Hemp Brake more or less since the 1st of December, 1862; have broke western tangled straw, and I find that it works complete as it removes at least sixty-five per cent of the shive, and so loosens the rest that they can very readily be shook out, and the stock has a soft oily feel which is worth more than when it has a harsh wiry feel, which is invariably the case with the old machine. I do not hesitate to recommend it to any one as the best machine ever used for breaking flax straw, whether straight or tangled, rotted or unrotted, as my experience has proved it so to my perfect satisfaction.

Yours truly,
F. A. HAVENS.

STITTSVILLE, N. Y., April 18th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have used one of your Patent Brakes for the past four months. I am highly pleased with it, so much so that I would not be willing to part with it on any conditions, provided I could not obtain another in its place. I feel that it is a very safe machine for the person who operates it; whereas the old brake is not safe, as many persons will testify who have lost an arm by them. I am satisfied that I get more flax and less tow by using the new brake, while both flax and tow are worth more in market than that in the old brakes, and certainly the new brake does not require near as much power to run them as the old one, which with many would be quite an object. My brother tells me that he has ordered another brake through your agent, to be used by us, as we are about to unite ourselves in the flax business the coming season. We will want it by the first of August next.

Yours truly,
WM. B. LINK.

GREENWICH, N. Y., April 23d, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—You ask our opinion in regard to your flax machine. We must say we are well pleased with it. The machine has been in almost constant use since we received it from you something like six months since, and it, we think, works better now than when we first started it. We advise all our customers to buy your brake in preference to those we formerly made at our machine shop. Wishing you success in this great invention, we are truly yours,

EDDY, DYER & CO.

Descriptive Circulars sent free on application to
MALLORY & SANFORD,
Corner White and Center-Sts., New-York City.



Beardsley's Premium Hay ELEVATOR.

Manufactured and sold by GRIFFING BROTHER & CO., 60 Courtlandt-st., New-York.

A large number of these Elevators have been used during the past season, and from its capacity to elevate hay, we challenge the world to produce its equal in lightness, strength, and efficiency to manage.

"Unloading hay at the barn by horse power is such a simple operation that it seems wonderful how a sensible farmer can confine the excessive hard labor of lifting it, a fork full at a time, in the stifling heat of the barn of a July afternoon."

Harvesting Machines, etc.

Mowing and Reaping Machines.

Horse Rakes, REVOLVING AND SPRING TOOTH ON WHEELS.

Horse Hay Forks.

Hay Rakes, Pitchforks, etc., etc.

Grain Cradles.

Horticultural Implements.

Agricultural Implements.

A full assortment of the best and latest improved kinds of each of the above.

Also Peruvian Guano, Bone Dust, and all other approved fertilizers.

Allen's Improved Cylinder Plow.

R. H. ALLEN & Co., 189 & 191 Water-st., New-York.

DAVIS' IMPROVED MOWER.

The best and cheapest in use. Price \$80 and \$85, for a two-horse mower.

Rundell's Patent Horse Hay Fork.

The latest improvement. For County or State rights apply to HAINES & FELL, 27 Courtlandt-St., New-York. Agents wanted to sell the above.

THE GREAT AMERICAN PUMP! FIVE Year's Success in all parts of the world! Prices unchanged! The best pump for cisterns, wells, tanks, etc. Raises from all depths, forces to all distances, throws 75 feet by hose. Simple, Cheap, Durable. Drawings and prices sent free. JAMES M. EDNEY, No. 474 Broadway, N. Y.

COMBINED HAND-TRUCK AND BAG-HOLDER. It should be in every mill, warehouse, and barn. Price only \$5. One truck and patent for a county \$30. A township and a truck \$10. Patent for all the States, except Pennsylvania, for sale. Circulars free. J. R. HOFFER, Mount Joy, Pa.

INGERSOLL'S IMPROVED

HORSE AND HAND POWER

HAY AND COTTON PRESSES.

These machines have been tested in the most thorough manner throughout this and foreign countries to the number of over 1200.

The HORSE POWER is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information, with cuts, prices, &c., or call and examine personally.

Orders promptly attended to, by addressing INGERSOLL & DOUGHERTY, Greenpoint, Kings Co., L. I.

TWINES FOR VINES.

Twines for tying VEGETABLES and FLOWERS, Wool Twine and Tobacco Twine, Wrapping and Fancy Twines, CARPET WARP. H. A. HARVEY, Rope and Cordage Warehouse, 84 Maiden Lane, New-York.

RUSSIA OR BASS MATS, SELECTED EXPRESSLY for budding and tying; GUNNY BAGS, TWINES, HAY ROPES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer, 218 Front-st., New-York.

TEETH

UPON ALLEN'S SYSTEM

CAN BE OBTAINED AT

22 Bond-st., New-York.

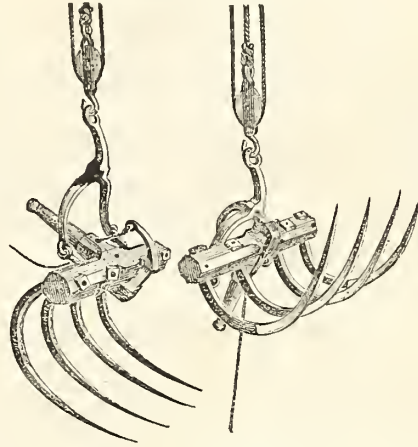
By this method the TEETH, GUMS, ROOF, and RUGÆ of the MOUTH are all truthfully represented, reflecting those delicate lines, shades, and forms peculiar to the natural organs, thus concealing from the observer the human agency in forming them. This we do positively accomplish, as evinced by our numerous patrons. The natural expression of the mouth, and original contour of the face can also be restored, which rejuvenates the waning cheek. A descriptive pamphlet may be obtained by addressing DR. J. ALLEN & SON, as above.

FOR FARMERS!

RUNDELL'S

HORSE HAY FORK!!

PATENTED APRIL 7TH, 1863.



This is the best and most substantial Fork yet invented. It is admitted by all practical Farmers and Mechanics, who have seen it operate, to possess superior advantages over all other Forks—being simpler, more substantial, working with greater facility in all places, can be elevated higher and through a smaller space. It weighs but twenty pounds, can be worked easily by a boy of 10 years, is very strong and is not liable to get out of repair.

That a Horse Hay Fork will pay, is no longer questioned by the intelligent Farmer, as it saves a vast amount of manual labor and time, which is an important consideration while labor is so scarce, and dear; besides it will frequently save its price when the Farmer has a quantity of hay to secure from the rain, as a man and two boys will, by the use of this Fork, unload a ton of hay in five minutes.

For Town, County and State Rights apply to L. RUNDELL, Coxsackie, N. Y. Manufactured by GIFFORD BROTHERS, Hudson, N. Y.

CLARK SORGO MACHINE CO.

(Successors to Wm. H. Clark.)

122 MAIN ST., CINCINNATI, OHIO.

Organized with ample capital, and employing every facility which the genius of invention has devised; using only the best materials, employing only the best of workmen, and owning within ourselves the best seven improvements upon Mills, including the original Hedges' Patent, we offer to the Public a series of Cane Mills of superior excellence. We call especial attention to our

VERTICAL MILLS of 1862, with Hedges & Clark's improvements, four sizes. Capacity 50, 80, 100 and 120 gallons per hour.

VERTICAL MILLS of 1862, with sweeps below, very convenient for a second story. Four sizes.

NEW HORIZONTAL MILL.

NEW HORIZONTAL MILL, with sweeps below.

VICTOR MILL of 1863, with valuable improvements. Five sizes.

Two ROLL MILLS of any size to order.

NEW BACK GEARED MILL, 4 to 8 horse power.

PLANTATION MILLS from 10 to 30 barrels per hour capacity. Larger sizes to order.

Every Mill warranted.

Also Steam Evaporators, Church, School and Farm Bells; Corn Crushers, Agricultural Steamers, Tobacco, Wine, Cider, Lard and Jack Screws, &c., &c.

Send for "The Sorgo Hand Book."

THE EXCELSIOR BURR STONE MILLS,

FOR FARMERS AND MILLERS.

Have taken the HIGHEST PREMIUMS WHEREVER EXHIBITED!

They may be driven by horse, water, or steam power, do their work as well as the best flat stone mills in milling establishments, and require but one-half the power to do the same amount of work. They are made in the best manner, and for farm use will last thirty years, and cost nothing for repairs.

THEY ARE GUARANTEED TO GIVE SATISFACTION, OR THE MONEY WILL BE REFUNDED.

For Circulars and further information address

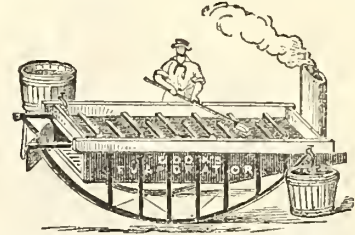
E. H. BENNET, Late Bennet Brothers, 42 and 44 Greene-st., New-York.

Important to Gardeners and Farmers. WANTED,

For Army Use, French White Turnips, Carrots, String Beans, Green Peas, Tomatoes, Cabbage, and Parsley.

Parties having all or any of the above articles, or wishing to plant on contract, will be liberally dealt with, by applying to LOUIS A. WALKER, 5 James Slip, New-York, or Stand 270, Fulton st. Pier, West Washington Market.

Reasons Why You Should Buy COOKS' SUGAR EVAPORATOR.



Manufactured by Blymyers, Bates & Day, MANSFIELD, OHIO.

BECAUSE IT IS "The only Evaporator which has succeeded in obtaining any notoriety in making sugar."

BECAUSE IT IS "No more trouble to make sugar upon it than to make a pot of mush."

BECAUSE IT IS "The only Evaporator which accomplishes the above results."

BECAUSE IT IS "The only perfect self defeater. No chemical required."

BECAUSE IT IS "From 50 to 100 per cent. the fastest boiler in the world."

BECAUSE IT IS "Much lower in price than any other Pan in proportion to the number of square inches contained."

BECAUSE IT IS "A perfect Evaporator and Defecator combined, and requires only one fire and one operation to finish the syrup, without the use of dampers by which a large portion of the heat is lost and the capacity of the Evaporator greatly diminished."

BECAUSE IT IS "Manufactured under the original Cook Patent, the oldest of all Patents on shallow Evaporators, and which with its reissues covers all points of value in Sugar Pans. It is therefore an infringement upon no other, and YOU BUY NO LAW SUIT WITH IT." Send for the "Sorgo Hand-Book."

AMALGAM BELLS. TO FARMERS AND OTHERS.

We are manufacturing a Genuine Article of FINE, MEDICAL, and COARSE BONE DUST, or RAW BONE SUPERPHOSPHATE OF LIME, manufactured from unburned Bones, containing all the Animal and Chemical Fertilizing Properties. Please address the Manufacturers, and get the Intrinsic Value of your money.

N. B. A Liberal Discount made to Dealers for Cash. Address A. LISTER & BRO., Tarrytown, Westchester Co., N. Y., Or Newark, N. J.

TO FARMERS. Bone Tafcu. Bone Tafcu.

MANUFACTURED BY THE LODI MANUFACTURING CO. The large sale of this manure, and constantly increasing demand has induced the Company to arrange for its manufacture on an extensive scale.

It is composed of FINE RAW BONE and NIGHT SOIL, free from all impurities, dried and ground to a fine powder, making it quick in its action, as well as permanent in its results.

For Buckwheat, Turnips and Winter Grain, no manure can be found of equal value for the amount invested. It is put in new Barrels, 200 lbs. in each. One and a half barrels will manure an acre.

Price, free of cartage, \$4.50 per Barrel.

All orders, which will hereafter be filled promptly, must be directed to the LODI MANUFACTURING CO., 66 Cortlandt-st., New-York.

AMMONIATED PACIFIC GUANO,

A real guano containing from seventy to eighty per cent of Phosphate of Lime, to which has been added by a chemical process, a large percentage of Actual Ammonia so fixed that it can not evaporate, making it equal if not superior to any other fertilizer. Pamphlets with copies of Analysis by Dr. Jackson, Mass. State Assayer, and testimonials from scientific Agriculturists showing its value can be obtained from J. O. BAKER & CO., Selling agents, 87 Wall-st., New-York.

COE'S SUPERPHOSPHATE OF LIME. PURE BONE DUST.

The exorbitant price of Peruvian Guano, makes these the cheapest and best fertilizers which the farmers can use. OTHER FERTILIZERS OF ALL KINDS. R. H. ALLEN & CO., New-York Agricultural Warehouse and Seed Store, 189 and 191 Water-street.

NOTICE.

In the Brewery of KOEHLER & FINK, Gnttenberg, large quantities of stable manure are for sale. Inquire of the owners.

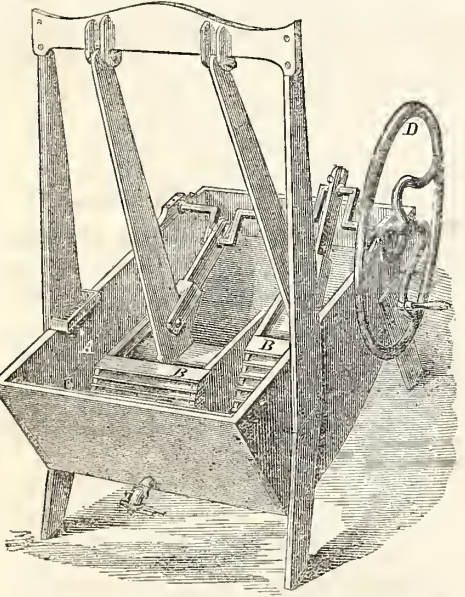


UNIVERSAL CLOTHES WRINGER.

No. 1, LARGE FAMILY WRINGER, \$10.00
No. 2, MEDIUM " " 7.00
No. 2 1/2 " " 6.00
No. 3, SMALL " " 5.50
No. 8, LARGE HOTEL " " 14.00
No. 18, MEDIUM LAUNDRY " { to run by steam } 18.00
No. 22, LARGE " " { or hand, } 30.00

NO. 2 1/2 AND 3 HAVE NO COGS—ALL OTHERS ARE WARRANTED.

Mr. JUDD, of the American Agriculturist says of the Universal Clothes Wringer: "From several years' experience with it in our own family, from the testimony of hundreds who have used it, and from the construction of the implement itself—we feel certain that it is worthy a place in every family where the washing is done at home."



The NONPAREIL WASHING MACHINE Is the only entirely reliable machine in use. It has been before the public two years, and has not in any instance failed to give satisfaction.

\$—SOMETHING NEW! AGENTS WANTED. Our New "FANCY CARD THERMOMETERS"—"HEMMEK AND SHIELD" for hand sewing—"Improved Indelible Pencil" for marking linen, and 10 more NOVEL, USEFUL and INDISPENSABLE articles, are warranted to give satisfaction.

BARON LIEBIG'S GREAT WORK ON AGRICULTURE. THE RESULT OF 16 YEARS OBSERVATION! D. APPLETON & CO., 443 & 445 Broadway, N. Y., PUBLISH THIS DAY THE NATURAL LAWS OF HUSBANDRY, BY JUSTUS VON LIEBIG, EDITED BY John Blyth, M.D., Professor of Chemistry in Queen's College, Cork.

ONION CULTURE—Fourth (new) Edition. This work comprises in 32 pages all the particulars for successful Onion Culture, from Selection of Seed to Marketing the Crop—being the practical directions given by seventeen experienced Onion Growers, residing in different parts of the country.

A Rare Chance! The "PRINTER'S DEVIL," a handsome illustrated literary family journal, will be sent free of postage, on trial, six months, for the nominal price of TWENTY FIVE CENTS.

TOBACCO. Just How to Grow it. Every particular, from the selection of the Seed, and preparation of the ground, to the Gathering, Curing, and Marketing the Crop, is given in a work issued by the Publisher of the American Agriculturist, and sent post-paid for 25 cents.

POLAR REFRIGERATOR. Maintains the Pre-eminence, and has always received the Highest Premium over all other Refrigerators. LESLEY & ELLIOT, Manufacturers, 494 Broadway, New-York.

GREAT DISCOVERY. An adhesive preparation, that is insoluble in Water or Oil, and that will stick Patches and Linings to Boots and Shoes sufficiently strong without stitching. HILTON'S INSOLUBLE CEMENT, Supplied in packages from 2 ounces to 100 pounds.

STAMMERING. Cured by Bates' Patent scientific appliances, the only known means for the rapid and permanent cure of Stammering, Stuttering, &c.

AGENTS WANTED.—To take orders for VICTOR'S HISTORY OF THE REBELLION, the acknowledged Standard. Endorsed by the President, Cabinet, Members of Congress, Governors, Bancroft, the Historian, and by the Press generally.

BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the Agriculturist at the prices named, or they will be forwarded by mail, post paid, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded.

Table listing various books for farmers and others, including titles like 'American Bird Fancier', 'American Farmer's Encyclopedia', 'American Florist's Guide', etc., with their respective prices.

ARMY AND NAVY POCKET DICTIONARY.

(Just published,) weighs four ounces, and contains a GENERAL POCKET DICTIONARY OF THE LANGUAGE; a DICTIONARY OF MILITARY AND NAVAL TERMS; a DICTIONARY OF PROVERBS, PHRASES, AND OF QUOTED WORDS, FROM LATIN, FRENCH, ITALIAN, SPANISH, GREEK, &c.

THE NEW-YORK WEEKLY HERALD,

THE BEST AND THE CHEAPEST FAMILY NEWSPAPER
IN THE WORLD!

The twenty-seventh volume of the NEW-YORK WEEKLY HERALD, the cheapest and best Family Newspaper in existence, was commenced on the 3d of January last.

The proprietor and editor now devotes especial attention to all the departments of the WEEKLY HERALD, and in
News, Literature, Fashion, War Maps, Agriculture, The Mechanic Arts, Sporting Matters, Financial Reports, Cattle Market Reports, Horse Market Reports, Business Reports, Editorials, Poetry,
and all other essentials of a First Class Weekly Newspaper

IT WILL BE FOUND UNSURPASSED.

It will be especially adapted to the requirements of a family, possessing for the fathers all the most important political, financial and commercial news; while for the ladies its carefully selected columns of literature of a higher order and fashionable intelligence will be found unusually interesting.

The WEEKLY HERALD has the advantage of all the facilities of

THE NEW-YORK DAILY HERALD,

Which is acknowledged to be the leading newspaper of the country. For instance, the Tribune, through its managing editor, makes the following admission in a letter to one of its own reporters:—

Office of the Tribune, New-York, April 28, 1862.

My Dear Sir :

* * * * *
The curiosity and anxiety about Yorktown is feverish, and the public like the paper best that is always giving something. If there is absolutely nothing to write about, drop a line and tell me that. The HERALD IS CONSTANTLY AHEAD OF US with Yorktown news. The battle of the 16th we were compelled to copy from it.

Yours, very truly,

S. H. GAY.

THE WEEKLY HERALD CONTAINS :

1. All the News of the week—Foreign and Domestic, Military, Political and Social—furnished by its corps of Reporters, Correspondents, and Contributors.
 2. Editorials grave and gay, lively and severe, commenting upon the topics of the day. The Humorous Editorials of the HERALD are one of its greatest specialties.
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THERE ARE NO TRAVELLING AGENTS for the HERALD.

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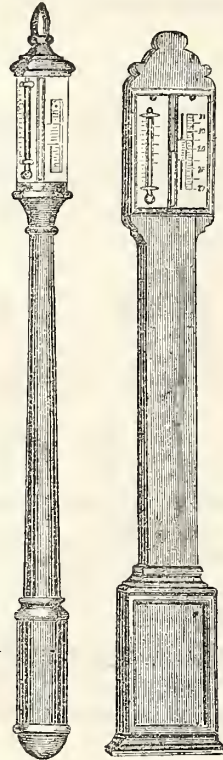


Fig. 1. Fig. 2. which has been the chief cause of breakage in transporting mercurial barometers. This new arrangement is so perfect, that with his improved mode of double boxing, the manufacturer now offers to guarantee the safe carriage of each instrument we may order, and to make good any chance loss. This guarantee places this barometer first, and we recommend it above all others for general use.

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We are glad also to announce that we have made a special advertising arrangement with Mr. Wilder (to continue only from June 1st, to August 31st.), by which these good barometers can be supplied as premiums, on terms that will place them within reach of many of our readers.

Here is our offer (the instruments to be sent direct from the manufactory by express, and their good quality and safe delivery warranted by the manufacturer, which guarantee we agree to see made good):—

1st.—The \$8 Barometer (Fig. 1) will be presented (with the guarantee as above) to any person who shall, between June 1st and August 31st, send fourteen subscribers to the *American Agriculturist* at \$1 a year. (The subscriptions to date January or July 1863.) See next column.

2nd.—The \$12 Barometer (Fig. 2) will be presented (with the above guarantee) to any person who shall,

between June 1st. and August 31st, send twenty subscribers to the *Agriculturist* at \$1 a year. (The subscriptions to date January or July 1863.

N.B. The subscribers can be sent in at any time between June 1st, and August 31st: but each name for the special premium should be specially noted as for this. This premium is special, and applies only to subscribers received after June 1st, and before August 31st.

N.B. Any person who desires to get his barometer at once, for use during the haying season, or otherwise, can send the amount (\$14 or \$20) and receive his instrument, and then forward the names before August 31st.

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Grape Vine Premiums.—We have about 2000 Delaware and Concord Grape Vines now planted out and growing finely, all of which we can well use on our own grounds. But as we have made it a point to raise the subscription list to the highest possible limit before the middle of the volume, we still offer to send one of these vines in Autumn (safely packed, and carriage prepaid) to any one who will during this month (July) procure a new subscriber at \$1 to begin Jan. 1st, or July 1st, 1863. The vines will be sent at the proper time in Autumn, when they will have had two seasons' growth.

American Agriculturist.

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FOR THE

Farm, Garden, and Household.

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Suggestions and Notes for the Month.

The great work of the season is over. The hot strife upon the harvest field has been crowned with victory, and the husbandman has borne away his golden trophies to the storehouse. He may now well relax his energies by a brief season of rest and recreation. There is yet much to be done before the campaign closes, and it is wise to recruit, before the plow is again driven afield, or the treasures of the cornfield secured. The writer well remembers how in younger days the prospect of a fishing excursion after harvest was like an oasis in the unending round of farm labor. It may be questioned whether in the universal strife for acquiring, American farmers are not sacrificing more than is necessary or wise. It is noticeable that farmers as a class, although surrounded by the most favorable conditions for enjoyment in life, yet bear the strongest marks of toil and care. It is not alone that the face is browned and the hands hardened by exposure and labor; the spirit of the man seems as rigid as his muscles, and he comes to regard work as the chief end of life. Here and there an open, genial countenance beaming with sunshine, shows the man appreciative of something more than money getting; and in such cases it is almost invariably found that the man mingles recreation with his labor. If there be a pond or stream within reach, he has a convenient boat, and well arranged fishing tackle; if he be where game abounds, he is supplied with rifle, fowling piece, and ammunition. "All work and no play," makes dull men as well as dull boys, and he is wise who unbends his muscles and his thoughts from severe toil before they are hardened into rigid severity. It is possible for a man to coin all his finer feelings, his better aspirations, and all the genial emotions of his nature into gold, by restraining every indulgence which interferes with making and saving money,

but there was never a greater mistake than to call such a man rich, though he may be able to count his acres by the hundred, and his bank stock by thousands. True wealth is the means of purchasing enjoyment, and of bestowing it upon others; and he most surely secures it who gives the fullest play in the right direction to all his faculties. Right here, we think may be found in large measure the explanation of the low estimate in which farming as an occupation has been held, and the lamentable eagerness with which young men have left it for other employments. Home has not been made the most attractive place, for it was only the center where money making operations by severe labor were carried on, and the indulgence of recreation and pleasure was considered entirely an outside matter, foreign to the great object of life; and hence the young have been in haste to escape to the outside, where pleasure was promised, and considered allowable. The *Agriculturist* would be untrue to its aim, if it did not endeavor to lead its readers to cultivation of themselves as well as of their grounds, and hence it is urged, that duty, no less than enjoyment require the indulgence of occasional seasons of relaxation from severe labors, and that the abundant stores of pleasure found in field and stream be freely drawn upon. A fishing excursion, a trip to the sea-side, or a neighborhood pic-nic, will furnish pleasant memories for months, and be like a sparkling stream flowing along the beaten, dusty track of every-day farm life.

Work for the Farm, Household, etc.

The widely prevalent drouth so hastened the maturity of the Summer crops, that haying and harvesting are now mostly completed, and there is a season of comparative leisure before the time for plowing for Fall grain. Profitable employment can be found in adding to the permanent improvements of the farm. A few hundred dollars expended for buildings needed for sheltering stock next Winter, may pay the interest on thousands in saving feed, and the lives of cattle or sheep. It is a most favorable opportunity for draining, particularly in swamps, which at other periods of the year are inaccessible on account of water. The fences, hedge rows, bushes and stones in meadows and other fields, claim early attention. The judicious farmer will also be on the lookout for good stock by which to manufacture his hay and grain into less bulky, more easily transported and more profitable beef, pork, and mutton, unless there be already a sufficient number on hand. If there be a surplus, the present is the time to find a market for them, before every one who is short of fodder is anxious to sell.

Buildings where grain and hay are stored need occasional examination to see that ventilation is sufficient, and that they are weather tight. A good coat of paint before the fall rains, will save much decay. Erect all needed for shelter to all

stock. Temporary sheds with roofs of straw are worth much more than their cost, if nothing better can be erected.

Bees.—Full directions for the month are given under the head of "Apiary."

Butter.—Continue to follow the directions given last month. An increase in quantity and quality may be secured by feeding cows with corn, millet, etc., from the soiling patch, unless pasture is abundant.

Cattle neglected at this season of the year and allowed to become thin in flesh, will with difficulty be prepared to pass through the Winter in good condition. If pastures are short, feed milch cows from the soiling patch, or give them a daily allowance of bran, shorts, and screenings. The extra leaves from a field of cabbages may also be turned to good account at such time. If fed immediately after milking in the morning, there will be less danger of injuring the flavor of the milk.

Cheese-Making will still be more profitable than the manufacture of butter, during the warm weather, where there are not conveniences for keeping the dairy cool. Endeavor by cleanliness and care in all the operations, to produce a first class article.

Corn.—It is not advisable to work among this crop after the roots have well occupied the ground, as they are in danger of injury by plowing. If necessary, pull out the weeds by hand. A liberal supply of green corn for winter use should be dried, or preserved in cans. For the latter purpose it should be thoroughly cooked, at least an hour, and sealed tight while boiling hot. Whole ears of corn may be preserved in strong salt brine.

Draining is now practicable in many places too wet at other seasons. Improve the present opportunity if practicable. If nothing more can be done, dig a ditch around swamps to cut off the supply of water from adjacent high grounds, and thus prepare for more thorough work in the future. Retentive soils will be benefited by underdraining. If tile can not be obtained at reasonable cost, lay drains of loose stone. Dig ditches 2½ to 3 feet deep, 40 to 80 feet apart, according to the nature of the ground, lay a course of flat stones at the bottom, and above these set large stones inclining together in wedge shape, then fill in with small stones, and cover with brush, straw, and earth. Brush drains alone, described in the *Agriculturist*, Vol. XX, page 169 (June No.), will amply repay their cost in many situations where better material can not be readily procured.

Fallows should be plowed if the weeds are preparing to ripen seed. They may thus be made to fertilize the ground from which they have drawn part of their nourishment. If left to mature, their produce will be a great hindrance

to future crops, and require much more labor to eradicate them, when they are thus multiplied.

Fences.—Arrange fields so as to need as few fences as possible, and keep these in good repair. Allow no hedge rows to line their sides, and extirpate all weeds which are ripening seeds along their course, especially in the corners. Let road and line fences especially, be kept up to prevent incursions from the stock of neighbors. Much vexatious litigation might be thus prevented.

Glean all fields of grain with the horse rake. Enough may be gathered after the most careful harvesting, to amply repay for the labor. The resulting grain should be immediately threshed out to be fed to stock, as it will usually be too much filled with foul stuff for making good quality flour.

Hay not yet secured, is worth something for bedding, if not for feeding. Gather all possible from swales and other waste grounds. Salt marsh hay should be stacked where it will not be carried away by high tides, or better, where practicable, stored near the barn, to be used during Winter.

Horses are better kept in the stable away from the flies and hot sunshine during the present month, except at night, when they will enjoy a run in the pasture. Provide fly nets for teams in use, and frequently wash them with a decoction of walnut leaves to repel insects.

Manures.—Continue to collect from every available source. Provide an abundant supply of swamp muck for use in the stables and sheds next Winter. If there is no swamp in the neighborhood, the settlements at the bottom of ponds now dry, or sunken spots at the foot of hills, will furnish excellent material for composting with stable manure. The carcasses of all animals dying upon the farm should be covered with a foot or more of muck or earth, which will absorb the gases from their decay, and furnish valuable fertilizing materials.

Meadows newly mown are much benefited by top-dressing with fine manure. Remove all bushes, rocks, and other obstructions to the mower. Do not allow stock to graze upon them until the grass is well started.

Millet or Hungarian Grass, should be cut for curing before the seed has ripened. Experience has shown that the seed is not safe food for stock.

Oats.—Cut before ripe enough to shell, or just as the grain has passed out of the milk. When harvested at this stage, the straw, if properly cured, is valuable for winter feeding.

Pastures, when eaten very closely and burnt by the sun, will be much benefited by top-dressing with well-rotted manure. A mulching of straw would be better than nothing. Occasionally scatter cattle droppings with a man. Cut all weeds before they ripen seed. Sow salt about the roots of thistles to attract the sheep and other stock to destroy the young shoots.

Potatoes.—Unless signs of decay appear, it is considered best to allow them to remain in the ground after ripening, rather than dig them early, if they are to be stored. Those largely engaged in their culture will be interested in the description of the newly invented digger on page 233. Set out late cabbages, or sow white turnips where early crops are harvested. Collect tops for the compost heaps, but burn weeds of any kind that have seeds nearly or fully ripened.

Poultry.—Allow them the range of grain fields after the crops are harvested. Confine them in the houses until noon, that they may deposit their eggs on the premises. Commence to fatten early, as they will be prepared for market more easily than in cold weather, and prices will be better than later in the season.

Root Crops.—Keep well hoed, and thin out where the plants are crowded. A top-dressing of superphosphate hoed in, will be beneficial on poor land.

Rye.—Harvest any remaining. Glean the fields with the horse rake, and thresh out for grinding

for stock. Select the best for seed; thresh as early as practicable, and store by itself.

Sheep are worth especial care in the present time of high prices. Many will be disappointed in the hopes of great profits from want of skill or management. Separate all rams from the ewes, and give the lambs rich pasture by themselves or with the yearlings. Keep a few older wethers with them as leaders. Examine the bags of ewes a few days after removing the lambs, and milk them occasionally if the bags be caked. Salt freely, and apply tar to their noses to repel the fly.

Swine relish green food, which keeps up their appetites, and improves their condition. Un-threshed pea vines are excellent for this purpose. Green clover is also relished. Weeds and refuse from the garden will be worked over by them into valuable manure. Commence to feed with grain early; it will show itself in the increase of pork more rapidly than later in the season when the weather is colder. Early made pork also usually commands the best price.

Timber.—Cut any needed for building, fencing, etc., peel off the bark, and put under shelter if not wanted for immediate use.

Timothy may be sown this month with prospect of a good crop next year. If to be put in with winter grain, next month is a better time.

Turnips.—Sow strap-leaf or flat varieties among corn, where early potatoes have been harvested, or on other vacant ground. Repel the fly from the young growth by sprinkling with soot or ashes.

Winter Grain.—Plow early and harrow thoroughly several times if sod ground is devoted to this crop. It usually succeeds best after oats, fallow, or some early hoed crop. Sow late this month or early in September.

Orchard and Nursery.

We hear very differing reports concerning the orchards. In many places where there was an abundant show of blossoms there is a great lack of fruit, while in other localities there is a promise of a very fair crop. From all that we can hear we infer that there will be a moderate supply at best, and in view of the great demand there will be for all kinds of dried and preserved fruit, unusual care should be taken to prepare all that cannot be disposed of in the fresh state. Early apples and pears, as well as peaches, will need to be gathered this month. In gathering, precautions should be taken not to injure the fruit or the tree. We have not seen many trees this year disposed to overbear. Thinning may yet be done where it is necessary.

Borers.—The eggs of these hatch at this season, and the young borer will soon make his way into the wood. Use lye or soft soap upon the trunks.

Budding.—This operation should continue as directed last month. The stocks should be worked only when the bark peels or "runs" freely, and well-formed buds selected for use. Use the greatest care in keeping the varieties properly labelled.

Evergreens.—Though May is the preferable month for removing evergreens, it may be done from the middle of August to the middle of September, if care be taken to move the trees with a good ball of earth. Choose a damp time for the operation. If the soil is dry, water well and put an abundant mulch around the roots. Large stones placed over the roots are better than stakes, to protect the tree from being disturbed by heavy winds.

Layers may be made from the wood of this season's growth as soon as it is sufficiently mature.

Seed Beds.—The young seedling fruit stocks and tree seedlings generally, especially those of evergreens, are apt to suffer this month unless they are watered and partially sheltered from the hot sun. Brush may be stuck about the bed to afford a partial shade. Screens made of lath or thin slats are often used. Keep the seed beds free from weeds, and stir the soil to promote early maturing.

Water.—In August the trees which were transplanted in the Spring may suffer from the effects of drouth. A thorough watering and subsequent mulch will usually restore and save a drooping tree.

Weeds.—These must be kept down not only between the rows, but among the trees in the rows. The cultivator or plow should be run through the rows frequently, and the soil near the trees worked with the hand hoe.

Kitchen Garden.

It is a good thing to have a garden. It is a pleasure to see the things grow, and to watch the maturing of vegetables planted by one's own hands. Then what a variety of delicious healthful food is now being daily furnished; fresh too—not carried a long distance to market and then allowed to wilt and lose its sweetness by long exposure on the huckster's stand—but only a step from the garden to the kitchen. We repeat it is a good thing to have a garden. In a garden of any considerable size, there is always a surplus which should be dried, salted, or bottled, as the case may be, for winter use. The heavy work is over and but little remains to do, but to keep the crops growing and the weeds from thriving, to clear off early crops and put in a few late ones.

Asparagus.—The dense growth of tops will help to keep the weeds in tolerable subjection. Large weeds will need hand-pulling. If seeds are desired, they may be collected as soon as they ripen, and sown at once, or preserved till Spring.

Beans.—Some of the early bush varieties may be planted for a crop of late string beans, or for pickles. String beans may be preserved for winter use by preparing them as if for cooking and packing them in a jar or keg with alternate layers of salt. Some persons scald them before putting them down.

Beets.—Thin those sown last month. In pulling the early sorts for use, take from where they are thickest. This vegetable is much better when grown rapidly, and it will pay to water small beds in dry weather, and give liquid manure.

Cabbages and Cauliflowers.—The early sorts are now ready for use. Keep all well hoed; their growth will be more rapid, with a consequent increase of tenderness. Set out the remaining plants for the latest crop.

Carrots.—Where young carrots are preferred to full grown ones, seed can be sown now.

Celery.—Earth up that set out early, as soon as sufficiently large. Prepare trenches as directed in July and transplant the late crop. Shorten the roots of the plants and remove the large straggling leaves before setting. If the weather be hot, shade for a few days with brush laid over the trenches, or with boards, and keep well watered. Some cultivators prefer to grow their celery upon the surface and leave the hoeing until it is taken up for the winter. We have never tried this method.

Corn.—Forward that planted last month by thorough hoeing and stimulate with a little hen manure if backward. The early sorts will now give a supply. Leave the earliest and best for seed.

Cucumbers.—For pickles gather when of a size to suit the fancy; most persons prefer them quite small. Preserve a sufficient number of vines to produce seed and remove all fruit from them, except that intended to ripen.

Egg Plants.—Hoe thoroughly and hill slightly, and forward by all possible means. If the fruit touches the ground, there is danger of its rotting; place a shingle or a handful of straw under it.

Herbs.—Gather and dry as soon as they flower.

Hoe and Rake.—The constant use of these tools is required to keep the garden neat, and it will, by loosening the surface, promote the growth of the plants. We have before recommended the hayonet hoe; it will pay to get one even at this late day; for working among cabbages, lettuce, etc., there is nothing like it, and for small gardens hardly any other hoe is needed.

Lettuce.—Those who like salads through the season, can easily keep up a supply by sowing at intervals. Choose a rather shaded place for sowing in hot weather, and give water as needed.

Melons.—To get fine well ripened fruit, a little pains should be taken. If the vines are neglected, twice as much fruit will set as can be ripened, and the frost will cut off a large lot of half grown melons. Take off all the fruit except 3 or 4 specimens to each vine. The ripening may be hastened by putting straw, or a piece of board under each melon. An occasional careful turning will cause them to ripen equally.

Onions.—In many places these will be ready to harvest by the last of the month. When the majority of the tops have fallen down, pull the crop; let them remain a few days in the sun, and then stack them in heaps or two or three bushels each. Most cultivators last year, marketed their onions as soon as harvested and at a comparatively low price. Onions properly cured and stored in a cool place, so that air will have free circulation, can be kept for a long time. See our work on onion culture.

Peas.—Be particular in saving seed. Clean the ground of stalks, which may be fed to swine or sheep, and occupy it with turnips, late cabbages etc.

Potatoes.—In digging potatoes for family use, it is the best plan to bury the tops as you dig from time to time, they afford an excellent manure.

Seeds.—Use every care in saving from the best specimens. Do not trust to recollecting the sorts but keep a label of some kind with them from the moment they are gathered until they are finally put away for use next season.

Spinach.—Seed may be sown at intervals to yield a late supply.

Squashes.—The summer varieties should be picked and used or marketed before they become too hard. Save seed from the earliest. The winter sorts are now too large to work among with safety. Continue to watch for the squash bugs and borer, and destroy insects and eggs.

Tomatoes.—Pick off the growth which will not perfect its fruit. The large green caterpillar will be busy this month. Look over the vines and hand-pick them. A single one if neglected will strip a vine of leaves in a few days.

Turnips.—These may be sown to take the place of crops which have been removed. The Red Top Strap-Leaf is one of the best for late sowing. White French and Swedes may be transplanted if they stand too thick in the beds. They can be transplanted as readily as cabbages.

Watermelons.—These need essentially the same treatment as melons.

Weeds.—Exterminate long before they can perfect their seeds.

Fruit Garden.

Blackberries.—There is every prospect of an abundant crop of this most delicious fruit. The New-Rochelle or Lawton should not be picked until it is fully ripened. If there is more fruit than can be consumed in the fresh state, it may be preserved in bottles, dried, or made into jam.

Currants and Gooseberries.—The season of currants may be much prolonged by shading the bushes. Where it is desirable to do this, a portion of the bed may be covered with a cheap awning. As soon as the fruit is off, prune the bushes, taking out from one third to one half of the old wood. Read article on page 242, where we mentioned only the Cherry and White Grape, and omitted to add that the Versailles (red), and Provence (white), were also desirable kinds.

Grapes.—The young vines should be treated so as to produce strong and well ripened wood only. See article on page 146, in *May Agriculturist*. In fruiting vines, the branches which have been pinched back, may throw out side shoots which should be removed. Keep well tied to the trellises. Pick

off caterpillars or dislodge them by a strong stream of water from the Aquarius or other garden engine. Mildew has appeared in some localities. We know of no better remedy than to remove the affected branches. Sprinkling with sulphur stirred in water may be tried as a preventive.

Raspberries.—As soon as the fruit is off, the bearing canes should be cut away. The new shoots of this season's growth will bear the fruit of next year, and their development should be hastened: cut out all but two or three of the strongest shoots, which should be kept tied to stakes or the trellis, and fork in well-rotted manure around the roots.

Strawberries.—Where it is desirable to multiply plants, give the runners their own way, otherwise cut them off as they appear. We have said sufficient on strawberry culture on other pages.

Flower Garden and Lawn.

This is the month in which the garden and grounds generally present the fewest attractions. The early flowers are gone, and it is too soon for the Autumnal ones. General watering in a time of drouth, can only be practised in gardens of very moderate size; still those plants which droop under the continued heat and dryness, should be saved by a special watering. Remove the earth near the roots and give a copious watering, and return the earth after the water has soaked away. This will be more effectual than surface watering.

Box Edging.—Give its last clipping early in the month, and keep well hoed.

Budding may be done on the shrubs which it is desired to propagate in this way, such as Oranges, Lemons, Magnolias, Roses, etc.

Bulbs.—Hyacinths and Tulips should be allowed to remain in the ground until the leaves commence to wither, when they should be taken up and kept in a dry place until time for the fall planting.

Climbers.—See that the supports are of ample strength to hold up the rapidly increasing weight.

Dahlias.—Keep well tied up to stakes according to directions given on page 211, last month. As soon as their beauty is passed, the flowers should be cut off. Watch for and destroy the borer.

Fuchsias.—These are propagated from cuttings with the greatest ease, by the method given on page 244. They are deservedly increasing in popularity as among the choicest ornaments of the flower garden.

Grass.—Whether on the lawn or as edgings, treat as directed last month. New lawns may be seeded; add a little rye to the seed; this will afford protection to the young grass.

Gravel Walks.—Keep free from weeds, in good condition, by the use of the hoe, rake, and roller.

Hedges may now receive their final clipping.

Hoe.—Keep the soil stirred by free use of the hoe and rake.

Insects.—Every chrysalis or cocoon should be destroyed as it contains the germ of future trouble.

Layers.—Shrubs and vines can be layered, and many of them will be rooted by Autumn. Those laid down in the Spring, if well rooted, may be taken away from the parent stock and planted elsewhere.

Mignonette.—If the seeds are sown now a late bloom may be had. It may also be sown in pots for flowering in the house during Winter.

Pelargoniums.—Trim to a compact form, and use the cuttings to start new plants. Remove the flower stalks as soon as the blossom falls.

Potted Plants.—Do not let them suffer for lack of water. Loosen the soil and remove all weeds.

Roses.—Continue to use whale oil soap against the slugs. Put down branches of the new growth as layers. If the remontants were properly cut back, they will now give a fine show of flowers.

Seeds.—Care should be taken to secure seed of the

finest specimens only. Biennials and perennials if sown as soon as the seed is ripe will give a bloom during the next season and thus save a year.

Verbenas.—Secure a stock for wintering over, either by layering or by striking from cuttings.

Green and Hot-Houses.

The work here is mainly that of preparation, as most of the plants are out of doors. If new structures are needed, they should be built at once. All repairs and painting are to be completed some weeks before the plants are returned to the house. A supply of potting earth should be laid in, and a stock of coal or other fuel secured. Cuttings of plants for early Winter blooming may be put in and those already started, potted off.

Apiary in August.

Prepared by M. Quinby—by request.

The moth will continue to prowl about the hives at night during the warm weather of this month. The female has a few hundred eggs to leave somewhere, and any colony not strong enough to keep her at a distance, will have to yield its wax to feed her progeny. Continue to set dishes of sweetened water about the hives at night. This insect has an appetite for strong drink, and will indulge like a human being, until destruction overtakes her. Some of them will drink even to bursting, and will fall into the liquid mire, and wallow about in it, delightfully intoxicated until morning; then comes the reckoning. Strain them out and feed to chickens. The bees of any diseased stocks that have been neglected may yet be driven out; they will probably do something; what they do make will be good for another year, when it is not enough for winter. Where Buckwheat is a general crop, strong colonies that are full, will store from twenty to thirty pounds of spare honey from its flowers. Give abundant room for this, by the addition of boxes. Boxes nearly full of honey from clover, should be removed in the early part of this month. If sent to market, and they contain but very little buckwheat on the outside, they will appear to be wholly of that quality, and will have to be sold for a corresponding price. . . . When a colony is much weakened by over swarming, and has left boxes half filled, with the cells generally unsealed, it is quite common for the bees to remove every particle of honey to the combs below. This is particularly the case where there is no buckwheat crop. Strong swarms may, at the same time, be gradually filling boxes. Watch closely, and take off as soon as they commence removing it. Being free from pollen, it is very nice for the table, even if it is not sealed. When the supply of honey has very much failed, there is some risk of changing from one hive to another; instead of having a box finished, we may lose what we have already. Swarms that issue this month, rarely make enough for Winter, they are usually worth but little; the bees are needed in the old stock to keep it strong for winter. If there is any queenless colony that needs a part, divide them, give half the bees with queen to that, and return the balance to the parent hive. When not wanted in this way, take away the queen and return all the bees. They seldom issue again at this season. Boxes of honey kept through the warm weather, will sometimes show the moth worm. A streak of white powder-like substance is first seen on the surface of the comb; in a few days the web will appear. Put in a barrel or box, cover closely, and smoke with brimstone. . . . Any one having the Italian bees and being surrounded by a large number of black or natives, will find it difficult to keep them pure. The queen meets the drone away from the hive, and a queen and a drone kept in colonies three miles apart will sometimes meet. On this account there is an advantage in rearing queens late, say October, when all the native drones are usually destroyed. To secure drones of the Italians at that time, select now a colony of the most beautiful ones, take away the queen, and destroy queen cells that are made eight days afterward. Drones are not destroyed here unless destitute of stores.

The hive that is used for this purpose can be made to winter a colony afterwards, if it has sufficient honey. The bees from some light one may be introduced in November or December. The Italian queen can be introduced in November as well as any time.

The Crops—General Prospects.

Mr. Judd, Editor of the American Agriculturist, writes from Grinnell, Poweshiek County, Iowa, July 18th: "... In passing over the great belt of country, lying in almost a direct line between here and New-York, I have carefully observed the growing crops, and conversed with many farmers in regard to the prospects. As the result, I conclude that the wheat crop will be fully an average one. At some points there was considerable winter-killing, and the fields show but a slim stand. In other places the stand is large, and the heads well filled. The favorable weather for harvest is telling well. The berry is large and plump, and very little will be lost by rust, or injured by rains in the gathering. Though there is a scarcity of help, enough appears to be found to gather the crop.—Oats look well in many places; in others they are heading out short and slim, owing to dry weather. The first hay crop was generally fair—frequently large. The drouth now prevailing is drying up the pastures. Corn also looks well in most sections, but in limited localities, it is badly injured by dry weather. Unless copious rains fall ere long, the crop as a whole, will be below the average.

Great American Exhibition of Pumpkins, Squashes, and Ornamental Gourds.

The Second Annual Exhibition of PUMPKINS, SQUASHES, AND ORNAMENTAL GOURDS, at the office of the American Agriculturist, 41 Park Row, New York City, opening on Wednesday, Nov. 4th, 1863, at which the following Prizes will be paid by the Publisher, upon the official award of competent Committees.

CASH PREMIUMS.

- A—For the Heaviest Pumpkin or Squash... \$10.00
B—For the 2nd Heaviest Pumpkin or Squash... 5.00
C—For the 3d Heaviest Pumpkin or Squash... 3.00
D—For the Best Pumpkin or Squash for cooking... 3.00
E—For 2nd Best Pumpkin or Squash for cooking... 3.00
F—For the largest yield on a single Vine... 10.00
G—For the 2nd largest yield on a single Vine... 5.00
H—For the largest and finest collection of Fancy or Ornamental Gourds... 7.00
I—For the 2nd largest and finest collection of Fancy or Ornamental Gourds... 4.00

*All to be grown by one person and to be accompanied by positive evidence from the grower, and one disinterested person who assists in gathering the specimens.

Note 1.—The specimens receiving the Prizes will remain on Public Exhibition at the pleasure of the Publisher who offers the prizes. The other specimens will be subject to the order of the exhibitors, or they will be sold at auction or otherwise disposed of, for their benefit.

Note 2.—All Exhibitors must notify us of their intentions by Oct. 15th, and deliver specimens for competition on or before Nov. 2d. Specimens to be delivered free of charge.

Note 3.—The same specimen can compete for only one of the premiums offered above.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Working under Difficulties.—On another page will be found a most interesting letter from the absent Editor of the Agriculturist, describing the harrowing scenes witnessed upon the ground after the great battle of Gettysburg. It was fortunate for him and for our readers that he was not compelled to collect and work over materials for the regular monthly issue in the neighborhood of that conflict while it was raging. Not but that he might have accomplished it, but it would have been an up-hill job. Quite unexpectedly the remaining editors here in New-York have found themselves surrounded by a struggle, not indeed so tremendous as that in Pennsylvania, but one for a time so all-absorbing as to make work on the paper next to an impossibility. The events to which we refer, the breaking out of the most violent riot ever witnessed here, conducted by a mob unparalleled for ferocity, and the reign of terror in some parts of the City for several days, have been duly described in the various newspapers, and we need not here chronicle them. Suffice it to say that

our office being situated in immediate proximity to the Times and Tribune offices, was at headquarters where excitement was felt, and on several occasions it became the duty of the able-bodied members of our establishment to stand on guard for the preservation of the property and peace of the neighborhood. This, with the fact that the office of the parties where the paper is printed was closed for a time, from fear of threats by the mob, will account for the delay of a day or two in the issuing of the paper, and will insure the indulgence of our readers, and their charity for any imperfections that may have escaped notice.

Our "Gift Enterprise."—We have come to it at last. After showing up gift enterprises for years past, we have gone into a sort of "gift enterprise" on our own hook. The details are given on page 241. It will be seen however, that there are no chance Prizes in this enterprise, and no money required—the "gift" is to be a genuine one, and all on our side. The Agriculturist for next year will be as good as it has ever been, and partially better, and will be amply worth not merely the dollar subscription, but many of them, while every person paying in his dollar will not only get the paper, but one or more plants of the greatest strawberry the world has ever produced. First come, first served, will be the order. A thousand names are already down for next year. The next subscriber coming in for 1864 will go down next, and so on. As fast as plants can be produced, they will be sent out, beginning with the first on the list. All old subscribers, renewing for 1864, if their time does not already extend to that year, will of course come in for a "gift." New Subscribers will have the gift also. We ought to have ten or twenty thousand of them, but if all the present subscribers renew and get the strawberry plants we shall be satisfied. Our family is now nearly as large as we can superintend and provide for.

The Agriculturist as a Premium.—W. F. Williams, Clay Co., Ind. Many hundred copies of this journal have been yearly distributed as premiums by the County Agricultural Societies of different States, and numerous correspondents have assured us of their satisfaction at receiving what they came to consider a valuable prize, when they became fully acquainted with it. There are many advantages in offering some good agricultural journal in the list of premiums; we know of nothing better calculated to stimulate improvement upon the farm and in the garden.

Wool-Growers' Association.—Samuel Ingels, Sec., writes that a Wool-Growers' Association has been formed in Mahaska Co., Iowa. At a meeting held July 16, there were represented 19,067 sheep, principally Spanish Merinoes, and it is expected that the number will be considerably increased at the next meeting. We are glad to note that wool-growers in other sections are forming similar associations, as by this means their interests can be protected and forwarded.

Sale of Sheep at Thorndale.—We have just learned that a large number of the first-class Southdown Sheep belonging to Samuel Thorne, will be offered for sale to the highest bidder without reserve, the coming Fall. The noted excellence of this flock for purity of blood should attract a large number of buyers. Full particulars are given in an advertisement on p. 251.

Strawberry Questions.—Either on account of our Exhibition or some other cause, there is just now a great interest manifested in the strawberry culture. We have numerous letters upon the subject, and many of the writers will find their queries answered in the article on page 241. We answer a few others here, and to save room do not mention the names of the inquirers.... We know of no remedy against grubs where a strawberry patch has been made on an old pasture. Better begin again on other soil.... The Hovey's Seedling is still a favorite berry around Boston, and in some other localities. The reason why it is generally discarded, is because it is a pistillate berry and needs a fertilizer, while there are plenty of perfect berries quite as good. The inquirer's total failure is probably due to the fact that his other kinds do not bloom at the same time with the Hovey. The Boston Pine is found to answer best as a fertilizer.... The Austin is not a first-class berry as to flavor. It stands dry weather remarkably well, and is a desirable family sort. It is remarkably prolific. We had on our table from G. K. Riker, of Stamford, Conn., one hundred and twenty-six berries from a runner set out in the Spring of 1862.... Trembley's Union is a most beautiful berry. Some of our fruit men think it the same as Trollope's Victoria, but admit that they never saw that variety bear like the Union. With Mr. T. it has been very productive, and has remained long in bearing.... We consider the Crimson Favorite a first-class berry, and have Mr. Fuller's assurance that it is a good bearer.

Sowing Strawberry Seed.—A Subscriber. They should be sown as soon as the fruit is ripe. They will come up much more freely than if kept until the following Spring.

Plants for a Name.—S. Elliot, Cumberland Co., Pa. The specimen is Tradescantia Virginica, or Spider-wort. It is much cultivated, and though its flowers keep open for only a portion of the day, it is worthy of a place in the garden. There is a variety with pure white flowers, which contrasts well with the blue... W. B. W., Buel, N. Y. The leaves and flower are those of the Saracennia purpurea. It is not a rare plant in our cold swamps, and is known by various popular names such as; Side-saddle Flower, Pitcher Plant, Whip-poor-will's Shoe, Huntsman's Cup, etc.... J. W. Bancroft, Barry Co., Mich. Your specimen is "Cotton grass;" it is not a proper grass, but belongs to the sedge family. Its botanical name is Eriophorum polystachyum. Eriophorum means wool-bearing, and is given in account of the long hairs upon the flowers.... A subscriber, St. Joseph Co., Mich. The leaf and flower are those of the American Columbine—See July Basket, page 198.... Irene Cole, White Co., Ind. Your No. 1 is the Trumpet Creeper, (Tecoma radicans,) a very pretty climber, but quite distinct from the Virginia Creeper, which has very minute flowers. No. 2 is Calystegia pubescens. Spectabilis is accented on the second syllable.... Martin Allen, La Salle Co., Ill. The plant sent is Tradescantia, noticed above.... S. H. Marrow, Androscoggin Co., Me. Your specimen is Saracennia, and is already noticed in this item. There are other "pitcher plants," but none grow in your State.... "F. G. C.," Monterey, Ind. The plant is American Columbine, mentioned above.

Propagation of Plants.—Baltimore. We know of no work exclusively devoted to this, though the various works on gardening treat of it to some extent. The case for striking cuttings is figured and described in the Agriculturist for April, 1860.

Saving Maple Seeds.—John Moore, Cook Co., Ill. The seeds may be mixed with dry sand and kept in a dry place out of reach of the mice.

Work on Gardening.—Mrs. Agnes Kemp, Penn. We know of no better work for your purpose than Watson's American Home Garden. It is in many respects the best work on gardening yet published in this country. Sent by mail from this office for \$1.50.

Work on the Cultivation of Trees.—Martin Allen, LaSalle Co., Ill. We know of no American work on the cultivation of trees for timber. The French work of Du Breuil is a good one, but it has not been translated. Emerson's Trees and Shrubs of Massachusetts has a little upon the subject, but that is out of print.

Fruit Books.—To several Inquirers. Downing's Fruits is the best descriptive work, and Barry's Fruit Garden, the best for culture, propagation etc. Both are in our book list and will be sent by mail at the prices there given. The Prairie Farmer has not suspended; the mail is probably at fault.

Pure Squash Seeds.—J. Patterson, Ohio, If but one kind is cultivated there is no danger. Where there are other sorts in the vicinity, the artificial fertilization must be practised. The fertile flowers, those that set a fruit, must have the pollen of the barren ones applied to them. This must be done before the fertile flower opens; it should be taken when just ready, and will open with but slight force and have the pollen or dust from a barren flower rubbed upon the pistils. The flowers thus treated must be protected from the visits of bees, by means of gauze, until the fruit begins to grow.

Saracennia for Small-Pox.—John Keen, Wayne Co., Ill. We believe that this plant has not, upon trial, proved to have any particular curative properties. It is common in swamps, and is known as the Piteber plant. Its hollow leaves, which are shaped somewhat like a horn, and hold water, distinguish it from all other Northern plants.

Gladiolus Bulbs.—R. H. Martin, Sussex Co., Del. These can generally be left in the ground without risk. If we had any very choice sorts, the hardiness of which was not proved, we should take them up to make sure of them.

Farms for Sale.—Two or three of these will be found among the advertisements on the last pages of this number, among which is one in a good agricultural and stock region of Illinois.

Hungarian Grass for Sheep.—H. M. Taylor, Cooper Co., Mo., writes to the *Agriculturist* that his experience in feeding hay from Hungarian grass has been unfavorable. He lost eight sheep from a flock of one hundred which were kept on this fodder. The seed was ripened and unthreshed. He recommends to allow no seed to ripen on grass intended to be cured for winter feeding stock.

Feeding Sheep with Corn.—James McClure, Logan Co., O., in answer to the question: "How much wool will a bushel of corn make, when fed to sheep?" says that last Winter he fed more corn to his flock, and gave them better shelter than ever before, but that the fleeces were lighter this season. This appears to be contrary to the general experience of sheep-breeders. We should like further details of those having experience in the matter, whether favorable or otherwise.

Wool Suit.—The Wool-grower gives the particulars of a lawsuit brought to recover damages against a farmer for enclosing "tags" and dirt in the centre of his fleeces, and selling them as fine wool in good condition. It was argued that it was customary for farmers to roll up the tags in the wool, and that there was no intention to deceive; also, that the purchaser accepted the wool, which he might have inspected if he chose to do so. On the other hand the Court held that as the wool appeared outwardly in good condition, it presupposed it to be so internally, and that the purchaser was not bound to open every package to see if it contained dirt, etc. Judgment, against the farmer, and very justly, we think.

Sale of Good Sheep.—By referring to our Advertising Columns, it will be seen that another opportunity is offered to the public to procure Southdown sheep of the choicest quality at the sale of Mr. J. C. Taylor, Holmdel, N. J. It will be remembered that this flock is largely made up of sheep purchased from the collection of Jonas Webb, Mr. Taylor having secured some of the choicest animals, among them the prize buck, for which \$1300 was paid.

Lice on Animals.—G. B. Talcott, Tioga Co., N. Y., writes to the *Agriculturist*, that he has found strong brine a complete remedy for lice upon horses or cattle. The animal should be thoroughly washed with it, and a few applications, will destroy nits as well as the parent insects. [Easily tried, but perhaps hazardous.]

Gophers.—W. A. Vaughn, of Crawford Co., Wis., is in trouble with the gopher, a sort of ground squirrel, or marmot, with large pockets in each cheek. These burrow in the ground and completely undermine it. A Minnesota friend informs us that they get rid of them in that State by poisoning them with strychnine. After the crop is sown, some grain which has been soaked in a solution of sulphate of strychnine in water, is strewed about for the benefit of the gophers. Strychnine in very small quantities is very fatal, and the animals can not go far after they have eaten it.

Striped Bug Antidotes.—Jesse Cendrick, Henry Co., Ohio, writes to the *Agriculturist*, that there is nothing like lime for destroying or driving away the squash bug. He punches holes in a tin box, fills it half full of fresh slaked lime and shakes it over the plants, repeating the process, when necessary. Wirt C. Williams, Dane Co., Wis., writes that he has succeeded in repelling the bugs by saturating a cloth with kerosene oil, winding it on a stick, and placing it in the middle of the hill of vines, so that the cloth shall be just above the surface. Still another correspondent, "Jno. F. McE.," highly recommends dusting the plants with powdered charcoal, which he says has always proved efficacious.

Oil Soap for Cabbage Fleas.—A subscriber has tried this remedy the present season, and saved his plants, while his neighbors lost theirs, even when treated with lime and ashes. He ties the soap in a bag and presses out a little of it into a watering pot, thus avoiding the strings or undissolved portions often left when the crude soap is stirred into the water. The solution is then sprinkled over the plants occasionally, and the insects flee away to more palatable pasturage.

Turnips with Corn.—"Beginner," Berks Co., Pa. There is little or no danger of injury to the corn crop in sowing turnip seed among the rows, immediately after the last hoeing. The corn is so far advanced, and its roots so widely spread, that the little growth made by the turnips before the ears are filled, will scarcely be any impediment to the full development of the latter. The turnips will make the principal part of their growth

after the corn is cut and shocked, if that be done as soon as it is sufficiently ripe, and thus a second crop of considerable value for market or for feeding, may be raised at a trifling expense. The quick-growing varieties, as the Red Strap-leaf, Cow-Horn, etc., should be sown.

Hay Caps.—George K. Flower, Alleghany Co., Pa. These are made of thick cotton cloth, $1\frac{1}{2}$ to 2 yards square, roughly hemmed, and provided with loops at the corners for stakes, or with stones sewed into the corners, to hold them down. Manufacturers make them of cloth prepared so as to be nearly or quite waterproof, and also to resist mildew: these are undoubtedly preferable. They might be made large enough to shelter a stack, but thatching, if properly done, is a good protection, and much less expensive.

Renovating Poor Land.—"Amateur," Rockville, Conn. Poor sandy soil cannot be brought into good heart by cropping yearly with rye, cutting it high, and ploughing the stubble under. Sow it with rye and plenty of clover seed, and turn the clover under in the Spring following the rye harvest. Repeat this a few years, and the land will show an increase of capacity for yielding grain. A readier way, if practicable, is to give the field a thorough manuring, when any crop may be put in with fair prospect of a good return.

Depth for Covering Wheat.—R. McMinn, Vernon Co., Wis. Plowing in wheat is practised to some extent, but there is liability of covering it too deep. It should not be buried more than two inches, and we should usually prefer a depth of one to one and a half inches, depending much, however, on the quality of the land. A light sandy soil would admit of the seed being covered with safety at a greater depth than could be done without risk on clayey loam.

Changing Soils.—R. McMinn, Vernon Co., Wis. A sandy soil will be improved by the admixture of clay, and vice versa a heavy clay may be ameliorated by applying a dressing of sand. Usually this would be too expensive for application on a large scale; but where, as in your farm, sandy knolls are found surrounded by a clay bottom, an exchange would probably pay. It would be better to mingle the different soils well by plowing, than to open ditches and fill them as you propose.

Draining Uneven Land.—R. McMinn, Vernon Co., Wis. The texture of the soil, rather than the surface, determines where draining will be beneficial. A heavy clay, even upon a steep hill-side, would be benefited by draining, by freeing the ground of moisture, and by opening channels for the rain to pass off in long-continued storms, thus partially preventing the best soil at the surface being washed away.

Large Yield of Beets.—G. Haagenstein, Le Seur Co., Minn., writes that from the package of Mangel Wurzel seed received by him from the *Agriculturist* office last year, he raised seventy bushels of roots, on which his calves feasted during the Winter.

Weight of Hay in a Mow.—S. C. Patten, writes to the Country Gentleman, that he bought a lot of hay, and after measuring it in the bay, it was weighed, and gave 570 cubic feet to a ton. It was cut late in the season and was not as heavy as it would have been if cut earlier.

Impure Water.—Rees R. Ellis, Armstrong Co., Pa., writes to the *Agriculturist* that after having worked a well fifty feet through solid rock, plenty of water was obtained, but of poor quality. It is described as being mixed with "motes;" some call it spa water. We cannot indicate a remedy without some more definite knowledge, but judge from the description that the water holds some mineral substances in solution. If this be the case, there is no way to free it but by distillation. If the impurities were held by mechanical mixture, they could be removed by filtering. In such a location we should advise to abandon the use of well water, and provide a filtering cistern of the required capacity.

Detecting Water Courses.—Edward Frost, Lapeer Co., Mich. The only way by which to detect where water will probably be found by digging a short distance, is to observe the conformation of the surrounding country, the inclination of the strata, course of streams, and the locality of springs in the neighborhood. The use of a witch-hazel rod, or any other witching for this purpose, is pure nonsense, resorted to only by the ignorant and credulous. Springs may be struck by digging horizontally into a hill-side, as well as by going downward, in a proper location.

Line Fences.—J. J. Winans, Luzerne Co., Pa. Of course it is the duty of your neighbor to make his share of the line fence cattle-proof, and if damage occurs to him, through his failure to do so, he must bear it. In this and some other States there are very properly laws by which a man may be compelled to keep his part of division fences in good repair, and we presume this is the case in Pennsylvania.

Pruning Young Trees.—C. J. Wilson, Oneida Co., N. Y. The best management is to nip superfluous shoots and shorten rampant branches while young and tender; then the use of the knife will seldom be needed. The present is a favorable time to take off branches that should be removed. Cut them smooth, and coat the wounds with grafting wax, or what is better, with gum shellac dissolved in alcohol, and they will soon heal over, and leave the tree uninjured.

The Ailanthus Tree, versus Insects.—W. J. B., Brooklyn, N. Y., writes to the *Agriculturist* that the maple, linden, willow and indeed almost all trees except the Ailanthus are in that city so infested with worms as to be a great nuisance; and hundreds of citizens after trying in vain to remedy the evil are cutting down the trees. Our correspondent states one fact coming under his observation, worthy of consideration. In several instances a tree whose foliage was preferred by the worms, standing between two of the Ailanthus species, remained unmolested. He recommends to set upon this hint, and plant the latter kind alternately with others which may be desired. If the fact noticed by him be general, the plan is worthy of adoption.

Raising Forest Trees.—John Waters, Dutchess Co., N. Y. It might be a paying investment to devote waste and rocky land to raising the more valuable kinds of timber, but on cleared land other crops give a quicker, and probably a better return. The experiment has hardly had a fair trial as yet, in this country, to enable one to judge of the actual profits of raising forest trees. We should be pleased to hear facts from any who have had experience.

Age of Fruit Trees.—Walter J. Evans, Benton Co., Iowa. The age fruit trees will attain and continue to produce, will depend greatly upon the treatment they receive. By the neglectful methods usually pursued, apple orchards generally become unproductive in from twenty to thirty years; but there are instances where apple and pear trees have continued vigorous for more than one hundred years. The actual limit of the life of trees can not be accurately stated; we know of no conclusive experiments made to ascertain the facts.

Cultivating Horse Radish.—F. E. Marlowe, Carroll Co., Ill. This plant like most others is greatly improved by careful cultivation. It delights in deep sandy soil enriched with plenty of manure. Specimens of roots two feet long, grown in almost pure sand which was yearly overflowed by a turbid stream, have been exhibited at the *Agriculturist* Office. In the vicinity of a large market like New York City, the crop commands a ready sale and is very profitable. Thousands of bottles are grated and put up here every year for supplying vessels, and shipping to other ports, and so great is the demand that dishonest parties adulterate the pure article largely with turnips.

Treatment of Rhubarb.—L. H. Warren, Orange Co., N. Y. This plant needs very rich ground, as it is a gross feeder. The stalks should not be pulled the first year after transplanting, nor too closely at any time. The season is prolonged by cutting out the seed stalk which grows up from the centre of the crown.

La Constante Strawberry.—Among the many sorts of strawberries exhibited at the *Agriculturist* Rooms, this promises remarkably well. It was shown by W. S. Carpenter, June 23th, in great perfection. It originated in Belgium, and is in high repute in that country, and also in France. Fruit large, conical, very regular, dark scarlet, or crimson color, flesh firm and of fine flavor. Flowers perfect. Its regular form, and fine bright color, make it a favorite late sort.

Cheap Fruit Boxes.—The call for a cheap box, which may be sold with the fruit, is being responded to in various quarters. The last noticed, are quart boxes made from a thick wood shaving, cut part way through at the corners, bent to a square form, and tacked. The bottom is coarse basket work made of splints, set $\frac{3}{4}$ inch from the bottom of the sides. They are manufactured by A. F. Newell, of Trumbull Co., O., for \$10 per 1000.

Annual Larkspurs.—D. P., Johnstown, N. Y. Both the tall branching, and the dwarf "Rocket"

are good, but the latter especially so. For the finest results, the seeds should be sown in September, and then the plants lightly covered in Winter. Early in the next season, and for a long time, they will display their double hyacinth-like flowers, blue, pink, white, pearl color, etc., and all very beautiful.

Kicking Cows.—A subscriber in Essex Co., N. Y., who has had a large experience with cows, and especially in breaking in heifers, says that gentleness and straps around the legs are the best things to use. He buckles the front foot upon the milking side, back upon the leg, and passes another strap around the two hind legs just at the hough joint, fastening the legs near together. In this position it is impossible for the animal to kick or step about; then, soothing words and gently rubbing the bag will soon take away the inclination to kick.

Cooking Food for Swine.—Wesley V. Houten, Suffolk Co., N. Y. It is generally believed that food is better fitted for fattening purposes by being cooked, but it is not certain that the advantage in this respect will repay the necessary outlay in fuel, labor, and time. Careful and extended experiments are needed to determine this point. The subject is important enough to warrant the trials necessary to decide the question.

Cover the Swill Tub.—Passing by a neighbor's sty the other day, we noticed five dead ducks, and upon asking the cause of their death, were told, they got into the swill tub and were drowned. Now though the duck is a good swimmer, it cannot make its way through, nor out of thick swill. We have frequently seen barn yard fowls, goslings, turkeys, and even pigs, pulled out of the swill tub in an exhausted state or already dead, and this last exhibition reminds us to say, keep the swill tub or barrel always covered, unless it is inaccessible to animals of all kinds.

Chaff for Feed.—S. B. Granger, Montgomery Co., Md. The chaff of wheat, oats, etc., wet and mixed with ground feed, is readily eaten by horses and cattle, and is probably as nutritious and healthful as cut straw or hay. Used in this way it will give a better article of manure than if thrown directly into the barnyard, as is usually practised.

Prevention of Smut.—George Larned, Calhoun Co., Ill. The following preparation may be relied on to prevent smut in wheat. Spread the grain rather thinly on the barn floor, and sprinkle it with human urine at the rate of three to four quarts to the bushel. Then add one to two quarts of fresh-slaked lime, and shovel the whole over until the kernels are uniformly coated. This should be done immediately before sowing, to prevent injuring the seed. This dressing will also give a quick and strong start to the young growth. A strong solution of blue vitriol (sulphate of copper) used in the same way, is efficacious in preventing smut, but the first named preparation is often available where the vitriol cannot be readily procured.

Potato Vines for Manure.—Henry Gerau, Lewis Co., N. Y. Potato vines contain a large amount of organic matter, valuable for plant food, and are worth saving for manure. Make a compost heap with the vines and muck, say a layer of the latter four to six inches thick, and a foot of the vines, and cover the whole with muck; or use common loam. The vines will speedily undergo active fermentation and decay, and the muck or soil will retain the gases passing from them.

Ashes for Manure.—William L. Smith, Orange Co., N. Y. Ashes are valuable as manure, in some degree on account of the ingredients which they contain, but without doubt also because of their action upon vegetable matter in the soil. They hasten its decomposition, and set free the elements which go to nourish the plants. Uncached ashes are of course preferable, as containing the most alkali, which is the active principle in their composition, but leached ashes have much value. They form an excellent addition to the compost heap in which muck is used.

Destroying Weed Seeds.—E. H. Parsons, Williams Co., O. The seeds of weeds thrown into a compost heap will lose their vegetating power if the manure ferments with sufficient thoroughness. There is danger however, that many seeds near the outside of the pile will be unaffected, and be ready to grow where they scattered with the manure. It is safest to burn all weeds the seeds of which are near maturity.

N. J. State Entomologist.—Dr. I. P. Trimble, of Newark, has recently been appointed entomologist to the New-Jersey State Agricultural Society.

Transporting Bees.—L. G. Comstock, La Fayette Co., Mo. Where bees are to be sent a great distance, ample openings for ventilation at the top and bottom of the hive are required. These may be covered with a wire cloth, which will retain the bees, and not impede the circulation of air. A very good arrangement was described and illustrated in the *American Agriculturist*, Vol. xix, page 76, (March, 1860.)

To Test Eggs.—L. A. Waters, Madison Co., Iowa. The most expeditious way we know, and which is generally practised by large dealers in this City, is to hold them between the eye and a lighted lamp or candle. If the egg is good, the light will shine through with a reddish glow, but if it be injured by incubation or from long keeping, it will be opaque or dark. This can be more readily discerned by placing the egg in a paper or other tube and looking through it, or by partially enclosing it in the hand. With a little practice, a person will thus examine a large number of eggs in a very short time.

Preserving Eggs.—A. M. Ward, Hartford Co., Conn., writes that after having tested a large number of directions for keeping eggs, he has adopted a plan recommended some years since in the *Agriculturist*, viz.; to place them upright in holes bored in shelves, and keep them in a cool dry place. This he says is satisfactory.

Milky Eggs.—C. S. D., Westchester Co., N. Y., writes that eggs from his hens taken when quite fresh, and boiled, do not fully coagulate, but part of the white is of the appearance and consistence of milk. We have never observed any thing of this sort, and can give no explanation of the phenomenon.

Trees for Transplanting.—D. Wells, Lewis Co., N. Y. Trees raised in the nursery are usually preferable to those growing in the woods, for transplanting. The latter have usually a tall spindling growth, which is in most cases undesirable. If wild saplings are taken, choose those which have grown in open fields or on the edge of the forest.

Bearing Year of Apple Trees.—Charles Snow, Cumberland Co., N. J. It is supposed that some apple-trees bear only during alternate years, because of some peculiarity which renders them unable to store up sufficient fruit-making material in a single year. Whether this attempted explanation be correct or not, it has been proved that by liberal manuring and keeping the ground loose by cultivation, the habit may be broken up and a crop gathered annually.

Cherry Trees Splitting.—J. H. Mead, Warren Co., O. A too rapid growth of wood upon very rich soil is said to often cause the wood of cherry trees to split. One who had lost many trees in this way says, that the difficulty was entirely remedied in his case by removing the highly manured soil about the trees, and supplying its place with that of poorer quality.

Time for Setting Cranberries.—W. L. Maxwell, Ontario Co., N. Y. Experienced growers say that cranberry plants may be set during any month in the year when the ground is not frozen; we should however prefer May or October, as then they are in a state of rest, and less liable to injury by wilting. The plant is very hardy, and with a little precaution will grow at almost any time. The upland variety, about which you inquire, is cultivated to some extent, but we are not prepared to endorse all the claims made for it by those having plants for sale.

California Wine, Wool and Stock Journal.—This monthly journal devoted to the above subjects has reached its sixth number. It is, of course, especially suited to California, but its articles on wine making by Mr. Haaszthy will be of value wherever grapes are converted into wine. The typographical appearance of the journal is fine. We wish it all success.

The Apple Worm.—Francis Thomas, La-Salle Co., Ill. This insect appears in the Spring as a miller, and deposits its eggs in the calyx or eye of the young fruit. From the egg, a worm or larva is hatched, which eats its way to the centre of the fruit, causing it to fall to the ground prematurely. If left there undisturbed, the larva will undergo its change to chrysalis and winged insect, and be ready next Spring to multiply its progeny. A few swine should have the range of the orchard to gather the blasted fruit, and thus keep the insect in check.

Remedy for Borers.—W. H. Williams, Queens Co., N. Y. We know of no outward application

to the trunks of trees that will prevent the borer from committing its depredations, where they have once effected a lodgement. Resort must be had in cutting in until the 'varmint' is reached, and extracting him. A sharp wire thrust into the holes will reach those that have not wormed too crooked a track.

Ripening Tomatoes Early.—R. S. Winsted, Delaware Co., Iowa. The maturity of tomatoes may be hastened by pinching off all new growth of the vine after a fair amount of fruit is set. The strength of the plant will then go to the growth of the tomatoes. Treated in this way the plants may be set nearer together than when they are allowed to run at will, and thus nearly as much early fruit may be realized from a given area as would naturally have been produced without pruning. The size of the tomatoes will also be improved.

Hardiness of the Tritoma.—This half-hardy plant can be wintered out of doors easily, by covering it late in the Fall with leaves or other porous litter, and then throwing over it a few inches of soil. Uncover gradually in the Spring; by the 5th of May, all covering may be removed. Yet, if one thinks it less trouble to do so, he can lift his plants in the Fall, and bury the roots in old boxes, and keep them in the cellar. We have tried both ways successfully.

Wax Flowers.—Generally we dislike to see any attempts to imitate flowers, as the artificial ones usually fall so far short of the natural that they are mere caricatures. We must confess that our prejudices have been lessened by the specimens placed on our table by Miss Van Bergh, No. 1143 Broadway, N. Y., which represent not only the shape but delicate texture and grace of the real flowers. Such a difficult flower as the Mignonette is represented with remarkable fidelity.

The Way the Wind Blows.—S. Ransom, Ashtabula Co., O., kept a series of weather notes during the year 1862, from which it appears the wind blew from the North 107 days, from the East 102 days, from the South 17 days, and from the West 9 days. There were 133 clear days, 91 cloudy, and the same number of rainy days. It snowed 50 days, making 31 days of good sleighing. The coldest weather was the 14th of February when the mercury fell to 19° below zero, and rose to 99° above on the 11th of August.

Kilns for Burning Charcoal.—Walter S. Williams, Rensselaer Co., N. Y. These are used in some places, especially in connection with iron furnaces where large quantities of charcoal are consumed. For manufacturing on a large scale they are doubtless most economical. The walls are built of brick about nine feet high, and arched over with the same material. Occasional openings the size of a brick are left for ventilation. They are built to contain from forty to fifty cords of wood, which yields about fifty bushels per cord.

Value of Zinc Paint.—W. W. Farwell, Oneida Co., N. Y. This article is superior for painting all surfaces exposed to the action of gas from coal fires, or from decaying matters, as in cellars, privies, etc. It is not affected by sulphuretted hydrogen gas, which causes white lead paint to turn dark. It costs no more than lead paint, as the same weight, though of greater price, will cover a larger surface.

Sugar Prospects in Illinois.—In addition to the unusual breadth of sorghum sown in this state we learn that the sugar beet has been largely planted. We hear that Prof. Mot, an account of whose experiments were given in the *March Agriculturist*, expects to make this Fall 300,000 pounds of sugar from the beets raised by himself and the neighbors whom he has interested in the culture. Success to him.

Mother's Journal.—"E. A." This is a very excellent monthly edited by Mrs. Caroline O. Hixcox, 335 Broadway, New-York. \$1 a year. Its articles are judicious and instructive—not of the sentimental class so common in Journals of the kind.

A Ladies Magazine.—"Sarah." Minnesota. We know of nothing else approaching so near what you inquire for, as the "*Ladies Repository*" published by Poe & Hitchcock, Cincinnati, Ohio, at \$2.50 a year. It is every way a first class magazine, with fine original steel engravings, and full of good sterling common sense articles, interesting and instructive—not to grave nor too gay. It has an immense circulation already, but may well be introduced into any other family, where it is not yet known. The true lady, married or unmarried, will find it both entertaining and useful.

Horses Wanted.—Walter Miller, Harrison Co., O. The demand for good horses is at present far beyond the supply, and promises to remain so for several years to come. The country has been swept of its surplus, to supply the requirements of the army, and many more will be needed in this service. There is also a continued call and ready sale for extra animals at extra prices. We believe raising colts will be found one of the most profitable branches of farming for a few years.

Salting Cows.—"Martha," Saratoga Co., N. Y. We cannot say positively that neglect to salt cows will detract from the quality of butter, or prevent its being easily gathered after churning; but where all requisites for good butter, except this, have been observed, and the butter fails to give satisfaction, it is strong evidence that salt is wanted. Perhaps some of our readers can give facts from their experience bearing on this point. At any rate, it is easy to salt the cows regularly, and note whether any improvement takes place. If the "good man" fails to do it, take a walk into the pasture at convenient seasons, and give the stock a treat. They will soon learn to welcome you.

Beef Brine for Warts.—James Warden, Baltimore Co., Md., writes to the *Agriculturist* that he has removed warts from several horses by washing the part twice a day with beef brine until the excrescence disappeared, which he says took place in a few days.

Selection of Seed Wheat.—G. H. Wilson, Iowa Co., Iowa. In selecting wheat for seed, if it is to be purchased out of your own immediate neighborhood, endeavor to secure a kind which has succeeded in a climate and soil similar to your own. It will not be amiss to experiment on a small scale with varieties of which little can be certainly known, but for the main crop only that should be sown about whose good qualities and suitability for the location there are no reasonable doubts. See that all seed is fully ripe and plump, entirely free from the seeds of weeds, and not more than two years old; one year, or less, is preferable. Sow only one variety on the same ground.

Wheat Crop in Indiana.—Ellis Jones, of Marion Co., reports that the crops in his vicinity will average well. He sends a splendid head from a neighbors field where the crop will yield not less than 25 to 30 bushels to the acre.

Greasing Hens.—John Bright, of Cumberland Co., N. J., says that it does not answer to grease hens with him, as no chickens are hatched after it if the hens are greased ever so little.

Kerosene for Curculio.—S. D. Palmer of Lenawee Co., Mich., says that he followed the suggestions of Mr. Richardson, of Norfolk Co., Mass., and used Kerosene oil to prevent the attacks of curculio and thereby killed four fine plum trees. Will Mr. Richardson inform us if the plan still succeeds with him?

Urine for Ants.—O. Ursenbach of Utah informs us that he has for the last two years successfully destroyed ants by means of urine. Early in the morning he removes a little of the earth from over the nest and empties the contents of a chamber vessel upon it. He finds that one application is generally sufficient.

Gooseberry and Currant Worm.—S. H. Murray of Maine, says, he has found nothing to answer but hand picking. He would like to know how to kill them. Can any one of our readers help him? One of our exchanges has a communication from a gentleman who found salt a complete remedy, but added in a postscript, that it killed the bushes too.

Hemp and Caterpillars.—F. W. Peterman, of Kentucky, advises those who are troubled with caterpillars on their cabbages to sow hemp between the rows. He says that they do not like the odor of the hemp, and leave. What does Mr. P. do with his hemp when it grows tall enough to shade the cabbages?

Spare the Snakes.—Not the Copperheads, rattlesnakes, nor other venomous reptiles, but the inoffensive striped snake, black snake, etc., which live mainly upon insects and worms, and which are true friends, although disguised in a form against which there is almost universal prejudice. They certainly are more beautiful and graceful than the toad, which is now a universal favorite among gardeners.

Quince Stocks.—Ignoramus is informed that the Angers quince is preferred to the common variety for dwarfs, as it is a much freer grower. The few cases

in which we have seen the common quince used were not very successful.

The Grape Vine.—Mrs. Bradford, Lynn, Mass. The new shoot which started from below will be precisely the same kind of grape as if it came from a bud above ground. It is only with grafted fruits that a different kind may be looked for. We suppose that the celery alluded to is the result of high culture.

The Cut-leaved Blackberry.—We find very different opinions regarding this variety. Some, whose judgment we value, speak favorably of it. A. W. Corson of Penn., writes us that he planted it about the year 1844 and it has proved worthless; he does not recollect to have seen one common sized berry on it. A neighbor of ours offered last Spring to give it away to those who would take it out of his grounds.

Cleaning Fruit Bottles.—Maggie H. Hagerly wishes to know if the cement can be removed from fruit jars, that have been once used, by any other method than the slow one of scraping them. We should suppose that if put into strong lye or potash water, the cement would be dissolved off, but we have never tried it.

Large Thread Factory.—A Company at Willimantic, Conn., are about erecting an immense building for the manufacture of linen thread. It will be 640 feet long, 170 feet wide, and run 20,000 spindles. It is said that when completed, this will be the largest thread mill in the world.

Ground-Glass Shades.—"E. S. D.," of Phoenixville, Pa., asks "would a room receive less light from a lamp on which a ground-glass chimney or globe is used than when the chimney or globe is unground or plain?" We believe that the amount of light would be the same in both cases, but in coming through the ground glass, the light is dispersed in all directions, and hence it appears to be lessened in quantity.

Gas Tar for Paint.—J. J. Malcolm, Van Buren Co., Mich. In localities where this substance can be readily obtained, it forms a cheap and excellent paint for woodwork exposed to the weather. It is not desirable for houses or front fences, but for barns, sheds, rough fences, tools, etc., it is just the thing. It acts as an excellent preservative by excluding air and moisture from the wood, and also by its chemical effect. Its unpleasant smell will pass away in a few days after application.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed upon our tables since our last report.

FRUITS, ETC. Strawberries:—Prince Albert, and a collection of seedlings from England, shown by Robert Wade, Troy, N. Y. Austin, 126 berries on one plant set out from a runner in 1862; G. K. Riker, Stamford, Conn. Union; S. R. Trembley, Bergen Point, N. J. Chance Seedling, quite white, believed to be from Wilson's; Wm. F. Heins, Morrisania, N. Y. Specimens for name; Richard Lawrence, Yonkers, N. Y. Seedling from Black Prince and Hovey; Mrs. C. Swazy, Hope, N. J. White Alpine; George Kellogg, New Canaan, Conn. La Constante, very fine, Bonte St. Julien, Russell's Prolific, Trioumpe de Gand, Empress Eugenie, Marguerite, Victoria, Austin, Duc de Malakoff, Brooklyn Scarlet; Wm. S. Carpenter, Rye, N. Y. **Cherries:**—Fine Bigarreau Doulin; C. Marc, Astoria, N. Y. Black Eagle; George A. Shelton, Newark, N. J. Specimen for name; E. Williams, Mt. Clair, N. J. New Jerusalem; Dr. I. P. Trimble, Newark, N. J. Ox Heart, 18 on one spur; A. Granger, Washington Heights, N. Y. Large Red Prol; Prince & Co., Flushing, N. Y. **Gooseberries:**—Union and English; D. H. Barnes, Po'keepsie, N. Y. **Currants:**—Red Dutch, White Dutch, Cherry, White Grape, Victoria, Prince Albert, Versailles; E. Williams, Mt. Clair, N. J. Provence and Grape (white varieties); and Cherry; W. S. Carpenter, N. Y. Naples (black); E. C. Wheeler, West Orange, N. J. **Raspberries:**—Belle de Fontenay, Fastloff, Hudson River Antwerp, Orange, American White Cap, Black Cap, Franconia, White Antwerp; Mr. E. Williams, Mt. Clair, N. J. **Mulberries:**—S. Tuttle, New-Haven, Conn.

FLOWERS:—Basket Cut Flowers; Thomas Cavanach, Brooklyn, N. Y. Magnolia grandiflora; Wm. Lillenthal, Yonkers, N. Y. Fine collection of Cut Roses and other flowers; Wm. Chorton, Staten Island, N. Y. Bouquet of Flowers; W. E. Meserau, N. J. Cut Flowers; John Drummond, gardener to Mrs. James Strong, Newtown, N. Y. Night blooming Cereus, and

Magnolia macrophylla; A. P. Cummings, New-York.... Arum Draucunculus, and Cut Flowers; H. T. Haviland, Brooklyn, N. Y. Collection of flowers in pots; O. Judd, Flushing, N. Y. Splendid collection of Auriculas and Sweet Williams; B. K. Bliss, Springfield, Mass. Hydrangea Japonica, very beautiful; Wm. Cortelyou, Staten Island, N. Y. Perpetual Rose, one cluster with 131 blooms; A. P. Cummings, New-York. Yuccas in bloom, and Cut Flowers; Thomas Cavanach, Brooklyn, N. Y. Brugmansia, fine bloom; Mr. James, Brooklyn, N. Y. Gloxinias in variety; A. Janes, Morrisania, N. Y. Collection of Carnations and Picotees; Wm. Wilson, Florist, Astoria, N. Y. Bloom of Pancreatum; Mrs. Allston, Brooklyn, N. Y. Fine collection of ornamental plants; J. S. Barnes, Port Richmond, N. Y.

MISCELLANEOUS:—Large egg weighing 4 oz., Levi Springsteen, Jr., New-York. Leaves from the Sago Palm Tree; D. Cordier, Collee Point, N. Y. Green Corn fit for the table, July 11th; G. M. Usher, Port Richmond, N. Y. Wax model of Newtown Pippin; Mrs. H. M. De Wolfe, 923 Broadway, New-York. Golden Summer Crook-necked Squash; J. McLane, Monmouth, New-Jersey.

Agricultural Exhibitions in 1863.

STATE FAIRS.

Intern'l Wheat Show	.... Rochester, N. Y.	.... Sept. 8-10
National Horse Fair	.... Hartford, Conn.	.... " 8-10
New Jersey	.... Patterson	.... " 8-10
Vermont	.... Rutland	.... " 8-11
New-York	.... Utica	.... " 15-19
Ohio	.... Cleveland	.... " 15-18
Canada West	.... Kingston	.... " 21-25
Illinois	.... Decatur	.... Sept. 23-Oct. 3
Pennsylvania	.... Norristown	.... " 29- " 2

COUNTY FAIRS.

MAINE.		
Cumberland and Portl'd.	Portland	.... Oct. 14-
MASSACHUSETTS.		
Worcester Co. Hort.	.... Worcester	.... Sept. 15-18
Housatonic	.... Great Barrington	.... Oct. 1-
Hampshire	.... Northampton	.... " 1-2
Barnstable	.... Barnstable	.... " 6-7
CONNECTICUT.		
New London	.... Norwich	.... Sept. 29-Oct. 2
NEW-YORK.		
Jefferson Co. Hort.	.... Watertown	.... July 6-11
Cattaraugus	.... Olean	.... Sept. 22-24
St. Lawrence	.... Canton	.... " 22-24
Ulster	.... Kingston	.... " 22-24
Schuyler	.... Watkins	.... " 24-26
Chenango	.... Norwich	.... Sept. 26-Oct. 1
Delaware	.... Delhi	.... " 29-Oct. 1
Queens	.... Hempstead	.... Oct. 1-2
NEW-JERSEY.		
Burlington	.... Mt. Holly	.... Oct. 6-7
PENNSYLVANIA.		
Wyoming	.... Wyoming	.... Oct. 20-22
DELAWARE.		
Newcastle	.... Wilmington	.... Oct. 6-8
OHIO.		
Trumbull	.... Oak Grove	.... Sept. 29-Oct. 1
Paulding	.... Antwerp	.... Oct. 1-2
INDIANA.		
Fayette	.... Connersville	.... Sept. 1-4
Harrison	.... Corydon	.... " 8-11
ILLINOIS.		
De Kalb	.... De Kalb	.... Sept. 15-17
Winnebago	.... Rockford	.... " 15-18
Morgan	.... Jacksonville	.... " 15-18
Mercer	.... Millersburg	.... " 22-24
IOWA.		
Scott	.... Davenport	.... Sept. 7-11
Floyd	.... Charles City	.... " 23-24

Preparations for the Great Fair

Oliver Hoyt, Esq. who is travelling in Europe writes to the "Methodist," concerning the International Exhibition to be held at Hamburg, Germany, the present season, "The fair is to be on a grand scale: the ground occupied is eighty one acres, of which more than one third is covered by sheds. At the entrance to the ground there is erected an arch, which will be decorated with all the flags of Europe, and among them the glorious Stars and Stripes of America will be prominent. The entries of live stock have already reached four thousand one hun-

dred and sixty six. Of these fifteen are Arabian horses of the finest blood. Of course, our country will not send horses or cattle four thousand miles across the seas, but we expect a very good exhibition of farming utensils, and believe we shall excel all other nations in this department. I have learned in relation to American implements, a fact worth noting. A Russian diplomatist, high in official position, wrote a letter to one of the managers of the Fair, wishing to know if America would be represented, saying if she were not he would not attend. On being informed that America would be represented, he replied that he would attend, and twenty or thirty Russian nobleman with him. Similar inquiries have been made from different parts of Germany."

The New Mail Law.

On the 1st of July a new act of Congress went into effect, which makes several changes in our rates of postage. For the convenience of our readers we note the provisions of most interest to them.

Postage on letters weighing half an ounce or less is three cents to any part of the United States. Formerly letters to California and other Pacific States were 10 cents. Letters delivered from the office where they are mailed pay two cents. In towns where there are letter-carriers they make no charge for delivery.

Postage on newspapers must be paid in advance. The postage on the *Agriculturist* is now twelve cents a year, to be paid in advance at the office where it is delivered.

The postage to the Canada line has to be paid here, and the subscription price of the *Agriculturist* to be sent to our Canadian friends, will be \$1 12.

Newspapers sent by mail to those who are not subscribers must have a two-cent stamp, if not over 4 ounces in weight, and the same for each additional 4 ounces.

Books by mail must pay 4 cents for any weight not over 4 ounces, and 4 cents for each additional 4 ounces, or part of the same. No parcel weighing over 4 pounds can be sent by mail. Postage on books to California is the same as to any part of the United States.

The franking privilege has been greatly restricted. We are requested by the Commissioner of Agriculture to say that the right to send seeds, cuttings, etc., from that Department, has not been abridged, but that they can still frank parcels weighing not over 32 ounces.

What of the Future?

In forming an opinion as to the probable prices for the produce of this year, there must be taken into account some elements not usually affecting the course of trade. First there is the continuation of the war, the effect of which has been largely felt, and upon which very materially depends the state of the markets. The present prospects are full of hope for its successful termination at no distant day. The recent glorious victories have so restored confidence, that gold, which at one time stood at 170 and over, has fallen to 125, and few are eager to speculate in it at that figure. The effect of this will, of course, be to reduce the price of wheat, but with it other commodities to be purchased by the farmer must fall in equal ratio, which will compensate for the apparent loss. As the rate of exchange with

foreign countries follows the fluctuations in the precious metals, all imported goods will be subject to a falling off in market value, so that the diminution in this direction need not be counted as unfavorable, but rather the contrary. The accumulated stocks of foreign wares will be rapidly pressed upon the markets, and ensuing competition must still further depress the figures at which they are held.

From all the information we have received, we judge the wheat crop to be about an average one, and as a large breadth was sown, there is prospect of a good supply. The harvests abroad appear to be an improvement upon those of the previous two years, which will have the tendency to somewhat lessen the exportation. But the political aspects of Europe are such that the whole course of foreign trade may be entirely revolutionized within a few months, or even weeks. Should a general war convulse the Continent, the demand for breadstuffs from this side the water must greatly increase before the close of the year, and everything must go up with rapidity. The uncertain feeling on this subject even now influences the general market.

From a survey of the whole field it would appear that there will be at least remunerative if not high prices for what provisions the farmer may have to sell. There is not, we judge, anything to favor holding on in anticipation of any great rise in value. Wool will probably continue firm, not perhaps maintaining the unprecedented rate it has attained during the year, but yielding returns that should satisfy wool-growers, except perhaps those who embarked in the business at the height of the tide, hoping to realize almost an independent fortune. The producer who so keeps his accounts that he can calculate at what figure he can afford to sell his commodities, and who, year by year, disposes of them when that figure is reached, will in the long run show a better balance-sheet than he who trusts to occasional sudden rise of prices to ensure him large profits.

What to Do with Money.

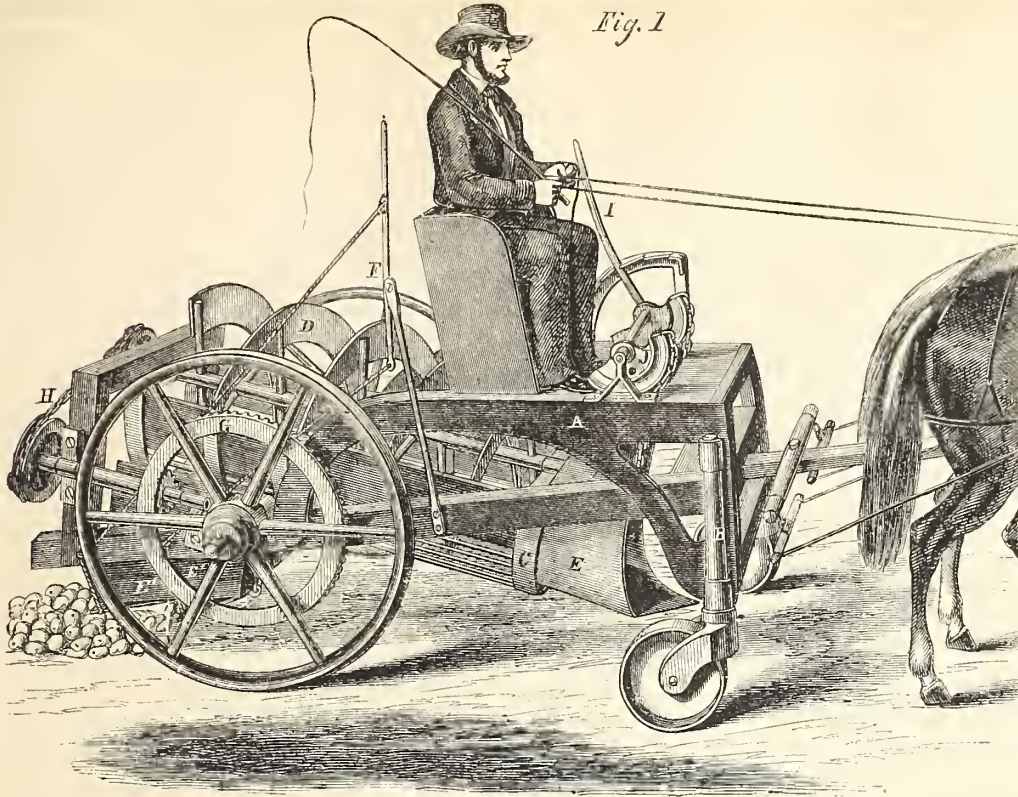
Not a few of our readers have during the past year or two accumulated more than is apparently wanted in their business. To many it is a somewhat perplexing inquiry how to bestow their goods. They desire that their surplus capital shall be safe, and that it shall yield a fair return for the investment. We have counselled, and still advise, that the Government securities now in the market are among the very best stocks. Their value enhances with every victory, and we rejoice that these are multiplying weekly. But there is danger that many will overlook investments nearer home that would be equally safe, and in the end more remunerative. It has been proved over and over again, that capital judiciously used in farming can be made to pay a percentage with which reasonable men will be abundantly satisfied. Indeed the want of sufficient means to properly improve the farm and bring it up to its best producing capacity, is the great hindrance to the advancement of thousands. They are barely able to make ends meet when interest day comes round, and are unable to drain, to subsoil, to manure, to build and fence, and thus from year to year the farm is at a stand still, if it be not running down. To such we repeat the advice repeatedly given in these columns, sell part of the farm and improve the remainder, and there will be more satisfaction in working, because of less embarrassment, and in the

end, greater profit. To those whose farms are already paid for, and who are so fortunate as to be inquiring what to do with their surplus capital, we say, spend it on the farm, if it be not already at the highest point of productiveness. Fifty dollars per acre spent in draining will often give an increased fertility to the soil equivalent to ten, or even twenty per cent on the amount expended. So of buildings for shelter, planting of orchards, and purchase of manure. Each for himself will be enabled to judge what is lacking to make his a first class farm.

Many capitalists have shown their foresight by seeking investments among the agricultural community, advancing funds to young men just starting in the world, for the purchase of farms, or to those desiring to improve the land already owned. Others have wisely purchased homes in the country, and deeded them to their wives, that something substantial may remain in case of reverses which often prostrate the most successful business men. Hundreds of these will in after years discover that this was wise, not only because it saved something from the wreck of their fortunes, but from finding in the peaceful occupations of intelligent husbandry a satisfaction never enjoyed in the whirl of the city, and more than this, a better atmosphere, moral as well as physical, for the education of their children. Many among our readers are of the mercantile and manufacturing classes, and they may well give this subject their careful thought. In the end, some of them will without doubt, thank the *Agriculturist* for having made these timely, practical suggestions.

Mallory and Sanford's Flax-Dressing Machine.

As the time is not far distant for gathering this crop, so important the present year, we are impelled to again call attention to the great improvement effected in the preparation of the fibre for market, effected by the use of this machine. We have watched the progress of the invention for several months past, and have been pleased to find our first opinion of its importance and excellence endorsed by many who have during this season purchased machines and had them in operation. Not only will this apparatus effect a large saving in time and material, but by its use, tangled flax straw, which has heretofore been counted only as so much waste, where flax was grown for the seed, can be brought to a marketable state, to be transported to the paper mills, and worked up, or to be manipulated by the manufacturers of flax cotton. We know of no invention recently introduced that bids fair to do more in cheapening paper stock, and also in reducing the price of textile fabrics. If the manufacture of flax cotton proves an ultimate success, of which there seems at present to be strong probability, it will be difficult to estimate the value of this flax-brake to the farming community. The hand-power machines recently manufactured by this firm will enable a single person to dress 600 lbs. of flax straw in a day easier than half that quantity could have been broken with the old-fashioned hand-brake. Whoever has this year engaged in flax culture, will do well to correspond with this firm in relation to their implement. Their advertisement will be found upon another column. We have no personal interest in this or any other machine, but we deem it a favor to the community to bring so useful an implement into general notice.



A New Potato Digger.

Whoever has dug potatoes with a hoe, fork, or hook, has doubtless wished that something might be invented which would dispense with this tedious and fatiguing labor. We have recently inspected a new machine which promises to effect as great a revolution in the potato field, as the mower and horse rake have accomplished in the hay field. The machine is the invention of S. B. Conover Esq., a well-known commission merchant in West Washington Market. Its construction and action will be readily understood by the help of the accompanying engravings. Fig. 1, gives a view of the machine at work, and fig. 2 represents a lengthwise section of it, the letters referring to the same parts in both figures.

A strong sifter or riddle, *C*, runs the whole length of the machine; this is made of iron rods and is in the shape of a half cylinder; it is placed in an inclined position and has a vibrating or shaking motion communicated to it by means of gearing on the wheel at *G*. At the lower end of the sifter is a strong wrought iron scoop or plow, *E*, with a point of such shape as to readily enter the earth and so arranged that it may be plunged into the soil at any required depth, or be lifted out of the way of stones, stumps, or other obstacles by moving the lever, *I*. Within the sifter there is a large screw, *D*, looking something like the screw of a steam propeller; this is made to revolve by means of the gearing at *H*. These are the essential parts of the machine: they are mounted upon a frame, *A*, which has two large wheels at the rear and two small forward wheels which move like castors, independently of each other, and facilitate the turning of the machine. When at work, the wheels go between the rows of potatoes, and the scoop enters the soil directly under the row to be dug. The forward movement of the team pushes the potatoes and soil together into the sifter, the vibratory motion of which causes the earth to shake out, while the blades of the screw are constantly pushing whatever

may be in contact with them towards the rear end of the machine. Between the shaking and the stirring by the screw, the potatoes are soon freed from the dirt and keep travelling upward. At *E'*, the grating is sufficiently coarse to allow the small potatoes to drop through, and the large potatoes pass on and fall out farther on. The large and small potatoes are received in separate boxes which have hinged bottoms opening downward and so connected with the lever, *F*, that either box can be emptied at pleasure. The potatoes are delivered in assorted heaps, making the after work of picking up comparatively easy. Weeds and tops will be pushed out at the rear end of the sifter by the action of the screw. The soil will be left by the machine in excellent condition for the succeeding crop. We have seen a full sized machine, and although we have not witnessed its operation in the field, we can see no reason why it should not realize the hopes of the inventor. It has been suggested that this machine might also be used for the purpose of clearing land of small stones near the surface. Though the inventor did not have this object in view we think that it might be effective on certain soils. The machine we saw is well made and so simple in all its parts, as not to be liable to get out of order. If his invention will successfully substitute the work of animals for human labor in harvesting the potato crop, Mr. Conover will receive the grateful thanks of many members of the agricultural community.

The War and Agricultural Implements.

Dealers in agricultural implements report that the demand for labor saving machines during the present season has been altogether unprecedented. The manufactories of mowers and reapers, horse rakes and pitchforks, etc., although worked to their utmost capacity, have been unable to fully meet the orders. This has of course resulted in a large degree from the scarcity of laborers caused by the transferring of so many men to the field where other harvests than those of agriculture are being reaped. But it is also due, in some measure, to the influence of the agricultural press, which has for years been educating the farming community to the practicability of substituting animal and mechanical power for hand labor. This fact is one of the compensations of the war, and no slight one either. Its influence will be felt long after peace shall have called the absent laborers to their homes. It is, in fact, an emancipation of thousands of men from the necessity of severe toil; an emancipation which furnishes no elements for political agitation, but which

is none the less noteworthy. No man will willingly return to the old routine of muscle work, after having once enjoyed the comparative ease in haying time, bestowed by a good mower. One effect of this release of so many laborers will be to allow the cultivation of a much larger area of land. The Great West already owes much to the successful introduction of mechanical contrivances into agriculture, and its fertile prairies will ere long receive still larger accessions from this cause. The influence of this change will also be widely felt in the number of young men willing to follow the profession of farming, now that so much of exhausting labor

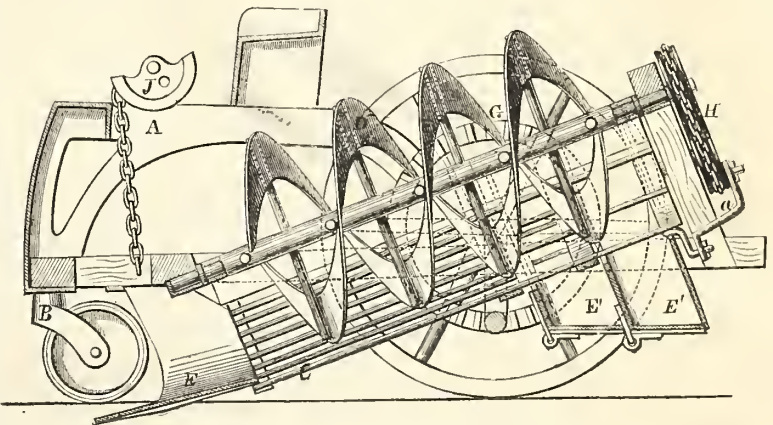


Fig. 2.—SECTIONAL VIEW OF THE DIGGER.

is relieved. The work of the farmer will take rank above mere manual labor, which will always hold a lower place than the exercise of skill. Although this may appear of little account in any particular neighborhood, in the aggregate, the results will be of great importance. Agriculture needs the brain work of many a man whose muscles are not strong enough to handle the scythe, and not a few such will be added to the ranks by the general introduction of farming by machinery.

Blooded Stock vs. Native.

A subscriber asks the pertinent question, will a blooded or grade animal sell for more in the cattle market than one of the same weight of native stock? We answer yes, usually, for the reason that high-bred cattle have their weight developed on desirable points. Bones are valuable for many purposes, but no butcher will pay 9 to 12 cents per pound for them, when he can obtain an equal amount of good meat for the same price. Native animals occasionally show great symmetry of form, well developed muscle, and meat laid on where the butcher and epicure like to find it. In such cases the market value of the animal will not differ materially from that of one having a long good pedigree. Usually, however, it is found that native breeds give more of offal and coarse meat, than those bred for generations back with a view to fitting them for the shambles, and hence their value for slaughtering decreases correspondingly. It should be constantly kept in mind, that it is not the peculiar excellence of single animals that wholly determines their value upon the farm. A perfectly well-formed native cow yielding a generous supply of milk, is justly prized for her individual qualities; but the owner can not, with any degree of certainty, expect her good qualities to be transmitted to the next generation. Of course her calf will be more likely to prove good than one from an ill-favored dam, but the deficiencies of her ancestors may crop out in an unlooked-for degree, and render the progeny comparatively worthless as a breeder. It requires many years of careful management to fix the qualities of a breed of animals, so that they shall be repeated in the progeny. There must be a counter-balancing of points, and overcoming of deficiencies, by proper selection of sire and dam, for many successive generations. Unquestionably this may be done by starting with a promising native pair, and continuing to breed sufficiently long with reference to the development of desirable points. But few are found possessed of sufficient means, time, patience, and perseverance, to carry the process to a successful termination. A few have done so in other countries, especially in England, and the world is sharing the benefit of their endeavors. Again, even supposing success attainable by starting with native animals, it seems more feasible to begin with animals already possessing fixed qualities of excellence, and to super-add to these, by proper breeding, whatever may be wanting. Intelligent cattle raisers are pursuing this course, and already this country can furnish no mean show of blooded stock compared with that of any other land. To every farmer who proposes to raise but a single calf, we would say secure the services of the best blooded bull attainable, and continue to do so; in ten years you will find your account in it.

Importation of Wool—A Hint to Sheep Raisers.

It is a fact worthy of note that while the increased demand for the sorts of wool needed for broadcloths, cassimeres, etc., is being partially met by increased production, as yet little has been done to furnish supplies of the staple required in goods substituted for cotton; that is for the warps of worsteds, delaines, etc. The wool needed for this use is that which will make the smallest and strongest thread with the least nap from the smallest amount of stock. This is furnished in the greatest excellence by the

Leicester, Cotswold, and kindred breeds, and as comparatively very few of these sheep are raised in this country, the great bulk of wool needed for manufacturing purposes here, must be imported. Accordingly it is found that the importations during the present year have by far exceeded those of any previous period. The amount received during the past six months has very nearly if not quite equalled the whole quantity imported in 1862, and is greater than that brought in during both 1860 and 1861. But owing to the demand upon the other side of the Atlantic for a similar article, the price has advanced to an unprecedented figure, and such wool now commands, and must for some time continue to bring a price far beyond its actual relative worth as compared with wool of finer staple. In other words, a larger amount of money can be realized for wool by investment in these breeds of sheep. Now it behooves American farmers to reap a share of the advantages thus offered. Heretofore, the raising of the coarser bodied sheep has been advocated on the ground of producing superior weight and quality of mutton, and the advantage, if any, in this respect, is not less now than formerly, as any one will find who indulges in the luxury of this meat at present prices. The matter is worth thoroughly looking into by those who are about stocking their farms with sheep. Some enterprising men will reap a good return from importing improved flocks of these breeds, and we shall be pleased to chronicle their success in the *Agriculturist*.

WOOL IN PENNSYLVANIA.—A number of wool growers in Alleghany and Washington Counties, Pa., at a recent meeting, resolved to hold their wool at \$1 per pound until there is a change in the prices of cotton and woolen goods. The wool growers of Western Pennsylvania, have been called to meet in convention to consider the matter. Other events of greater importance will probably prevent their assembling for some little time at least.

Proper Depth for Manuring.

The Annual Report of the Secretary of the Massachusetts State Board of Agriculture, Charles L. Flint Esq., for the year 1862, contains, among much other valuable matter, the record of a most important and interesting series of experiments to determine the best depth for applying manures. The trials were made pursuant to premiums offered by the several Agricultural Societies receiving bounty from the State, and in accordance with the direction of the State Board of Agriculture. The following instructions were prescribed for experimenters: "Select a level piece of land of any convenient size, from twenty square rods up to as many acres or more, which should be as nearly equal in character and conditions as possible. Divide it into equal parts, numbering them 1, 2, 3, 4, 5, for a rotation of three years.

"Divide the manure which it is proposed to apply, and which should be of a uniform character, into four equal parts. At the time of first plowing in the Spring, spread evenly one fourth of the manure upon plot No. 1, and then plow the whole field of an equal depth. Apply another fourth part of the manure to plot No. 2, and then cross-plow the whole field to about half the depth of the first plowing. Spread another fourth of the manure upon plot No. 3, and harrow or cultivate the whole field; after which sow or plant the whole evenly with any

crop preferred. Finally, spread the remaining quarter part of the manure upon plot No. 4.

"Observe that by pursuing this course, each of the five lots will receive equally, a deep plowing and a harrowing, or cultivating; the only difference in them being, that in No. 1, the manure is buried deep, in No. 2, shallow, in No. 3, buried only slightly, but coated with loam, and in No. 4, exposed upon the surface, while No. 5, gets no manure. The manure is to be spread broadcast and as evenly as possible. The after cultivation should be the same on each of the lots, and the harvest of each should take place at the same time."

Fourteen experiments were carried through the three years of 1860, 1861, 1862, according to the above directions, and the details are given in full in the Secretary's Report. They present many items of importance, but from various causes can only be deemed as approximating to a decision of the matter in question. The summary of the different results shows that manure buried deeply gave the best returns in two instances; placed at a medium depth (by the cross-plowing) in six cases; when harrowed in, in four, and when left on the surface in two of the experiments. Taking the retentive soils by themselves, deep plowing of manure gave the greatest result in one case, shallow plowing in five, harrowing in three, and surface application in two. The light soils yielded the best returns from one of each of the several applications, except where applied on the surface.

The number of experiments was too limited to give a satisfactory decision of the question. Different crops were also cultivated by several of the experimenters, and various kinds of manure were used, both of which particulars might, in some measure, vary the results. The influence of the weather, whether wet or dry, must also be taken into account. This was recorded in the above cases, but it will require a long term of years to decide how far this will affect the general result. On the whole, there is ground to recommend the use of manures at moderate depth, as at least the probabilities seem to be in favor of this course, and we have no better ground for deciding. If the subject now so well opened, be followed up, in time an authoritative rule may be established. Such efforts toward solving the practical problems of Agriculture are worthy of all commendation, and we trust that the above example may not be without effect upon kindred societies. The Department at Washington might, by entering upon a similar field of experiment, bestow a just return to the country for the generous support which has been accorded to it by the people.

For the American Agriculturist.

Digging Muck or Peat.

With all that has been said upon the value of this substance for manure, the last ten years, it is not half appreciated. The majority of our farmers have never used it, and few of them who use it, conduct their operations so carefully as to know how much it is worth. I am writing in sight of a clover field dressed with muck, which blossoms all over in praise of the article. Labin never sent out such perfume as comes up from this muck-plastered meadow. The general conviction is, that muck is good on hungry, gravelly soils, and loose sands. It is, for I have found it thus, and seen the results. It may not be known that it is also good on muck lands. That meadow now so luxuriant with clover, good for three tons to the

aere, is a reclaimed swamp, and the manure was simply dried muck and fish pomace at the rate of not over five dollars to the acre. We have repeatedly tried stable manure composted with muck, upon the same meadow, with similar results. The popular faith that it is best for gravelly soils, is undoubtedly correct, but it is about good enough, when composted, for even reclaimed muck swamps. And this fact is not without its analogies. It is well known, that soils made up in part from lime rock, are much benefitted by applications of lime; and granite soils which are supposed to be rich in potash from the decomposed feldspar, show at once the effects of wood ashes.

The muck is ameliorated by the manure or ashes with which we have mixed it, and it shows its good effects upon the grass in a powerful manner. After using muck for ten years and more, we should hardly know how to farm on old soils without it. The present is the best season in the whole year to dig it. The swamps are now, many of them, without water enough to be troublesome, and the water is so warm, that one can stand in it barefooted all day without danger of taking cold. Then the warm season is much the best for curing the muck. When thrown out upon the bank of a ditch, it is drained of its superfluous water at once, and is heated in the sun. The outside of the heap very soon becomes as dry as powder and much finer than common soil. In this dry condition it is benefitted by the fall rains and the winter frosts, if it lies on the bank, and still more benefitted, if it is carried to the yards and stables. It is one of the best deodorizers for sink drains, privy vaults, and barn cellars, and a farmer should always keep a good supply on hand, and, if possible, have it sheltered ready for use. There is a great difference in the value of muck, owing to the trees and shrubs from the decay of which it is composed. But the immediate effects of it upon crops is still more determined by the condition in which it is applied to land. This summer curing before it goes to the compost heap, or the stables, we regard as very important. Without attempting to account for the philosophy of the fact, it does undergo a very rapid change in hot weather, and becomes much more available for plant food in the compost heap. If it is to be in the compost heap six months or a year before using, the summer exposure is of less importance. Muck digging ought to have a regular place in the yearly routine of labor. On the whole we have never found any farm operation to pay quite so well.

CONNECTICUT.

How About the Compost Heap?

In this season when the garden is teeming with vegetation, are you accumulating materials to meet next year's demands? We all know in what request manure is in the Spring, and provisions should be made for it now. The garden furnishes a large amount of refuse matter which should go on to the compost heap. An occasional load of stable manure may be added, and alternate strata of green vegetable matter and manure may be built up throughout the season. Every privy should have its vault so arranged as to be perfectly accessible for removing or adding to its contents. An occasional addition of muck and plaster or copperas (sulphate of iron) will completely deodorize the contents and make a highly valuable fertilizer. Do not forget the hen house in the summer season. A few shovelfuls of soil will

make the hen roost more comfortable for its inmates and assist in forming a manure equal in value to guano. It is better to save and accumulate manures now, than to be short and obliged to buy when the need is felt next Spring.

Fish for Manure.

It is a query whether fish are turned to their greatest possible account as manure. It would seem that by good management they might be made to fertilize a large part of the barren sands which line the sea-shore. And what more just than that the sea should render back some of the fertility which has been washed into it from the land. As Prof. Johnson happily remarks, "Guano is an indirect contribution of the ocean to Agriculture. The sea-fowl manufacture it from the fish with which the sea is everywhere teeming."—Analysis shows that fish abound in nitrogenous and phosphatic elements; and experience shows that they are very useful in bringing up lands otherwise quite unfertile. Indeed, we have known farmers to cart them fifteen or twenty miles distant from tide water, and to find the labor remunerative. Yet the slovenly practice of spreading fish on the surface of land or imperfectly covering it for the benefit of growing crops, is one to be condemned. It is wasteful, and exceedingly offensive, if not unhealthy to all the region filled with the foul effluvia.

But fish, in a crude state, can not be handled or carried many days in warm weather; they soon corrupt. Some method must be devised for curing and putting them into some concentrated and portable form. This was done some years ago in France and in England, and an article was produced which was reported to be as valuable as guano. Not long after, a similar article was manufactured in this country, at New-Haven Conn., Bristol Rhode-Island, and in New-Jersey, which was styled "Fish Guano," and which has become popular with those who have used it. Of the precise mode of preparing it for market, we know only a little. The fish used for the purpose are chiefly the Moss Bunkers or Menhaden (*Clupea Menhaden*), which are boiled or steamed, and thus reduced to a soft mass of flesh and bones. This mass, we are told, is now "chemically treated," then dried, thoroughly baked, and ground to a coarse powder. Possibly, the "chemical treatment" is only the application of sulphuric acid. This makes a powerful fertilizer. Another and less potent agent is made by mixing the boiled fish with some absorbent, like dry peat or street sweepings, and then drying it. This has greater bulk, and is called "Fish Compost."

But where neither of these prepared fertilizers are in market and at a reasonable price, we would advise seaboard farmers to use all the fish they can get, in their own way. They can profitably be laid up with muck in heaps, to decay. A barrel of fish composted with muck or loam will make a rich dressing for any crop.

Lessons of the Drouth.

How often have farmers read of the importance of draining, deep plowing, thorough pulverization of the soil, and other elements of good husbandry! And they have said to themselves, this is very good theory, and it is very well for others to practise, but *my* and don't need such fussing over. Yet, almost every year, in time of drouth, we hear them wonder why

their corn rolls up its leaves so much worse than that of more careful farmers, and why most of their crops dry so badly in mid-summer. Has not this been the experience of some the present year? They complain bitterly of the season, of Providence, of everything except their own management. Now and then they visit other farms where the land is well drained, where sub-soil plows are owned and used, where the manure heap is constantly building and no part of it suffered to waste, and where all the farm implements are kept bright by use; and here they find the crops almost unaffected by drouth. Their eyes are opened a little, and they begin to see that there is something in thorough farming, possibly in book farming. We have no doubt that an inch or two deeper in plowing often repays the farmer a hundred or more dollars annually, in the crops saved from drouth, or increased in amount.

Corn Raising in Illinois.

In the June number of the *American Agriculturist*, page 173, I find an article on the cost of raising corn in Connecticut. The writer says he raised last year on twenty-three acres, 1000 bushels amounting at \$1 a bushel, to \$1000. The expenses according to his estimate were \$599.25, leaving a profit of \$400.75. He says at the close, "Let Western farmers beat it, if they can." I will give what it costs me to raise 24 acres, and farmers here say it is a fair estimate.

12 days Plowing land at \$2.....	\$24
2 days Marking at \$2.....	4
2 days Planting, man, boy and team, at \$2½.....	5
Seed Corn.....	2
3 days Harrowing Corn, at \$2.....	6
12 days Plowing Corn, at \$2½.....	30
Interest on Land.....	20
Total cost.....	\$91
By 1,440 bushels Corn, at 30c.....	\$432
Net profit on Crop.....	\$341

A man will plow two acres a day easily; and with the markers we have, will mark 12 acres. The planting is done with a machine—a man to drive and boy to drop. I estimate the wages of the man and team at \$2, and the boy at half a dollar. Twelve acres is the lowest number planted a day. The harrowing is done as soon as the corn comes up (the front tooth of the harrow being knocked out). No harrowing is done before, as the plowing leaves the ground in good order. Plow the corn four times with double shovel plows, one horse to each plow. I hire a man and a boy, and after paying the man and boy there is enough left of the \$30 to pay for the use of the team. I count 60 bushels to the acre; as once harrowing and four times plowing will make it, 80 being frequently raised. If corn is worth \$1 in Connecticut, it is certainly worth 30 cents here. I do not estimate the gathering, as it is not counted in the report from Connecticut. My corn is worth 40c. to me to feed, but I have put the value at the lowest figures—the estimated value in the article referred to was at the *highest*. The ground is rich enough without manuring, and hoeing does not pay here. Mr. Dickerman expends \$599.25 to make \$400.75. I use \$91 to make \$341, or \$485, if I count it at 40 cents, which would be right, if a dollar is right for him.

Mercer County, Ill.

H. S. SENTER.

TRUE NOBILITY.—The day laborer who earns, with horny hand and the sweat of his brow, coarse food for a wife and children whom he loves, is raised by this generous motive to true dignity; and though lacking the refinements of life, is a nobler being than he who thinks himself absolved by wealth from serving others.

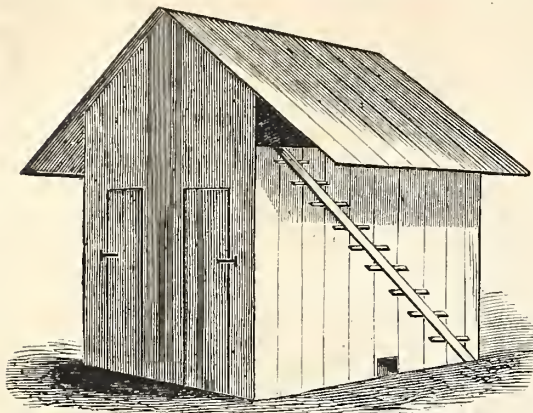


Fig. 1.

A Cheap Poultry House.

A correspondent "Lex.," contributes the accompanying description of his poultry house. "The building (Fig. 1) is 8 by 12 feet on the ground—the side walls 9 feet high to the eaves. A partition runs lengthwise through the middle, from the ground up to a floor which covers all the interior, at the height of 7 feet. Two doors in the gable end open, respectively, into the two rooms thus formed. There are two tiers of nests, containing ten in each, all of which are movable boxes or drawers, so placed as to slide freely through the partition, from one room into the other. The right hand, or "laying room," has an ordinary opening through which the hens have ready ingress and egress, but the "sitting room" is closed to all but the "sitting members" and their human visitors. In this room, supplies of food and water are constantly kept, accessible to the sitting hens. Above the floor, or in the second story, are the roosting poles, to which access is had from the outside, as represented in fig. 1. The sectional outline (fig. 2) will illustrate the interior construction.

Whenever a hen takes possession of a nest in the laying room, manifesting a disposition to sit, the requisite number of eggs are placed under her, and her nest is pushed through the partition into the sitting room. Here she finds herself in a state of contented seclusion for the term of incubation. No rash removal from the nest of her choice here disturbs her maternal calculations. No ambitious layer molests her peaceful possession. Does she desire refreshment, solid or fluid? She has only to hop down to the floor of her apartment, where her wants are speedily satisfied, without a tedious search over the barn-yard, involving much peril to her neglected charge. When other hens, by similar process, have become occupants of the same apartment, there is still but one hen to each nest therein, and though they may sometimes change about, no nest will ever be left unoccupied. When hatching occurs, the mother and brood being removed, the nest box is taken out into the yard, where the straw is fired with a match, and suffered to burn until the sides of the box are slightly charred. This destroys all vestiges of vermin, incipient or otherwise, and leaves the drawer to be re-placed in its proper position, sweet and clean for a new nest.

Of the roosting place above, with the intervening floor, it is sufficient to say that, while the lower apartments are free from the droppings and easily kept clean, an abundant supply of "guano" is furnished where it can be raked out by the bushel, from time to time, for use in the garden and elsewhere. Both sides are open the entire length of the building, and the

hens enter by steps provided for the purpose. I have just forty hens. They have thus far (June 1st) hatched out three hundred chickens, fifty turkeys, fifteen ducks, and five Guinea-fowls, besides keeping us furnished with plenty of fresh eggs for table use and cooking, for eleven in family. I shall be much disappointed if my hens do not raise, say from seven hundred to a thousand chickens ere the season closes. The number of hens and capacity of hen-house, as herein described, seem very suitably adapted to each other, since there has, all along, usually been about one half the number of nests employed in either apartment. I add nothing in this connection on the subject of raising chickens after they are

hatched, since I have merely followed the old beaten track, and sustained about the usual percentage of loss from barn-yard accidents, etc. I have had better success with poultry this season than any of my neighbors, and believe the results due to my hen-house. It may be that your Eastern readers with their superior appliances, will find little in it to commend. But I

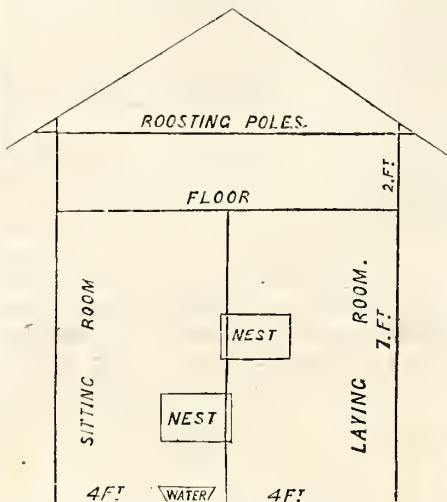


Fig. 2—SECTIONAL VIEW

write from the "Far West," where the numerous readers of the *Agriculturist* will find more interest in simplicity and cheapness of construction, with fair results, than in elaborate and expensive plans which promise fabulous profits."

Great International Wheat Show.

A great International Wheat Show will be held at Rochester, N. Y., September 8th, 9th, and 10th, under the auspices of the Monroe County Agricultural Society. The following premiums are offered:

For the Best 20 Bushels of White Winter Wheat.	\$150 00
For the Second Best do do	75 00
For the Best 20 Bushels Red Winter Wheat.....	100 00
For the Second Best do do	50 00
For the Best 2 Bushels White Winter Wheat.....	50 00
For the Second Best do do	25 00
For the Best 2 Bushels Red Winter Wheat.....	40 00
For the Second Best do do	20 00
For the Best 2 Bushels Spring Wheat.....	20 00
For the Second Best do do	10 00

Competitors for these Prizes will be required to furnish samples of the wheat in the ear and with the straw attached, (say 50 ears of wheat and straw), also to furnish a written statement of the nature of the soil on which the wheat grew, method of cultivation, time of sowing, quantity of seed sown, manures (if any used,) and mode and time of application; also the time of ripening and harvesting, and the yield

per acre, with such other particulars as may be deemed of practical importance; also the name by which the variety is known in the locality where it was grown.

The Wheat must be one variety, pure and unmixed. The prize to be awarded to the actual grower of the wheat, and the wheat which takes a prize to be the property of the Society.

It is hoped that farmers in all sections of the United States and Canada, who have good samples of wheat, will compete for these Prizes. We have never yet had a good Wheat Show in the United States. It is highly important that the wheat growers of the country should meet together and compare samples of wheat raised in different sections. We understand that the money for these premiums has been raised by subscription, among the friends of Agriculture in Western New-York, and the time of holding the Fair has been fixed so as to enable farmers to purchase their seed from the wheat entered for competition. A change of seed is always desirable, and it is believed that all the wheat of good quality sent to the fair, will find purchasers at a high price. Full particulars of the Exhibition can be obtained by addressing the President of the Society, JOSEPH HARRIS, Editor of Genesee Farmer, Rochester, N. Y.

We take great pleasure in calling especial attention to this notice. A movement of this kind, if properly sustained by wheat growers, will be of incalculable benefit by bringing prominently before them the best varieties of this grain, and placing desirable sorts within their reach. The character of those having the enterprize in hand, is such that contributors may rely with the utmost confidence in their ability and fair dealing as judges. Let there be a full response from all parts of the country.

Chicken Pox.

A subscriber in New Brunswick, N. J., writes to the *Agriculturist* as follows: "I noticed a remark signed "J. E. R." in regard to the disease in his chickens called chicken pox. I had some 30 hens sick with it last year, and only lost two. I first washed their heads in warm water until their eyes were open, and then fed them with Indian meal boiled with powdered charcoal and flowers of sulphur—as strong as they would eat it. It is unnecessary to say my sick hens were separated from my well ones. Parties who keep a large stock of hens, said I should kill and eat the rest of mine before they were taken sick, as I could not get rid of the disease without a new stock and hen-house, but as my fowls were Spanish and Leghorns, I did not feel like killing them.

Notes on the Scale Louse and Cut Worm.

A correspondent of the *Agriculturist*, "J." writes as follows: "I have had scale lice completely cover the trunks and main branches of the *thriftiest* pear and apple trees, in two years. Thin soft soap (not suds) applied with a paint brush has never failed to kill them. They will turn black in a few days and finally drop off themselves. I have practised it for five years without a failure and with no injury to the trees. You recommend to "look after the cabbages early." Last season I did look after them early in the morning, and was accustomed to find 5 or 6 each day, (out of about 50 plants) eaten off. I used the "only remedy," searched for and found the rascal, but killing after he had destroyed the plant was but the satisfaction

of retaliation. I then, as an experiment, took 4 oz. aloes and dissolved in a gallon or two of water, and applied to the plants. I never lost a plant afterwards. This season I have done the same and have not lost a plant, except where I neglected to use the aloes water, and then out of 6 plants I lost 3 in one day. As soon as I had set new plants I applied aloes water, and the remedy thus far is effectual."

Talks About Weeds...III.

We supposed that our first article in the June *Agriculturist* was sufficiently explicit upon one point, i. e., that there are no specific preparations to kill particular weeds. Still as we are constantly receiving letters asking: "How shall I destroy Canada Thistle?" "What will kill Devil's Flax?" "What will remove Sweet Flag

safely be set down as a humbug. True, a destructive agent may be applied to an individual plant, as salt to thistles, the same as the surgeon may extirpate a wart by means of the knife or caustic, but this is a case of local treatment and cannot be applied to a whole field.

THE RED ROOT.—This has of late years become one of the pests of cultivated grounds. Its botanical name is *Amarantus retroflexus*; it belongs to the Amaranth or true Pigweed family, which produces several troublesome weeds, but none so generally known as the one under consideration. (The plant most commonly called pigweed is *Chenopodium album*.) Figure 1 will give a good idea of the full grown plant. It is sometimes called "Pigweed," but the most common name is Red root, given on account of the red color of the root. The plant is distinguished by a great vigor and rapidity of growth, and if neglected for a short time, becomes so large as to resist the hoe and must be pulled by hand. Being an annual, a cut with the hoe destroys the plant, but the stock of seeds in the soil seems to be inexhaustible, and crop after crop will spring up through the season. The flower clusters are crowded with minute green flowers, each one of which produces a seed. From the prolific character of the plant it will be seen that a single one, if allowed to arrive at maturity, will furnish hundreds if not thousands of seeds. If the plant has flowered, it should not go into the compost heap, as, in common with many other plants, the stalk contains nutriment enough to perfect the seeds after it is cut off or pulled out of the ground. The plants, if they have flowered, should be dried and burned. Like all annual weeds this soon succumbs under careful cultivation. Another closely related plant the Thorny Amaranth (*Amarantus spinosus*) is quite common in waste places about New-York and other sea-ports, but does not seem much disposed to extend into the country. It is certainly a vile weed and is readily distinguished by the sharp spines which are mixed in with the flower-clusters. This most unwelcome foreigner cannot be too carefully eradicated the moment it makes its appearance.

THISTLES.—Though we have some ten native and introduced species of thistle, there are only two which are very troublesome to the farmer, and these are foreigners. The common "Bull thistle," or "Michigan thistle," (*Cirsium lanceolatum*) as it is sometimes called, is the commonest of our thistles. It is readily known by its broad luxuriant foliage and its large heads, which are an inch or more in diameter. Though exceedingly troublesome, especially in grain fields, where its prickly leaves are a great annoyance to the binder, it is not difficult to exterminate. Being a biennial the root is readily pulled. During the first year the plant forms a broad tuft of leaves which lie close to the ground, and it does not attract much notice; the second year it throws up a large flowering stem from 2 to 3 feet high, and then becomes, from its very prickly leaves, a formidable enemy. During the first year of its growth a cut with the hoe, or a tablespoonful of salt applied to the crown of the plant, will destroy it. When it is allowed to run up to flower it should be pulled or cut as early as possible. The fruit, or seed as it is called, is provided with a copious down, and thousands of these little balloons with a seed attached may be seen floating upon the breeze from the field of some careless farmer to annoy his more thrifty neighbor. If a whole neighborhood can be aroused to exterminate this thistle, not only from the field but

from the road sides, they would soon be rid of the pest. This thistle is an exotic, but it seems to make itself perfectly at home in our cultivated fields, especially affecting the richest ground.



Fig. 1.—RED ROOT OR PIG WEED.

from my meadow?" etc., we are induced to repeat that weeds are subject to the same laws of growth as other plants, and what will kill the one will kill the other. There are but two ways of getting rid of weeds after they become established: One is to exterminate them, either by such frequent cutting that they will be exhausted, or to dig them out root and branch; and the other is to introduce a cultivated crop that will occupy the ground to their exclusion, and choke them out. The ground has to be occupied with something—if with a well cultivated crop, the weeds stand but a small chance; if by a neglected crop, the weeds and the crop have to fight the battle for possession and the chances are that the weeds will get the best of it. Again we repeat that there is no specific remedy for weeds, any more than there is for human diseases, and any one who advertises either may



A. H.

Fig. 2.—CANADA THISTLE.

A far more troublesome plant is the Canada Thistle (*Cirsium arvense*) which is perhaps the worst weed with which the farmer has to contend. As other, comparatively harmless plants have been taken for this, we give a very good engraving of the upper part of a flowering plant. This differs from the common thistle in being a perennial; besides its strong roots, it throws out into the soil numerous strong root-stocks, or underground branches, and multiplies very much in the way described for the couch-grass in the last number. Running a plough or cultivator through a patch of it, instead of destroying it, only breaks up these root stocks, and they become many separate plants. This plant has two separate modes of propagation. The one is by its seeds, which are readily borne by the wind from place to place, and the other is by its underground stems, which from a partial warfare against them only flourish and multiply. When one Canada thistle appears upon the farm the war must begin. It is modest in its first appearance, presenting but a small tuft of prickly leaves, often hidden by the grass, but it must be exterminated at once. If let alone, the root-stock extends itself for a long distance in all directions, and branches are thrown up to the surface. These are apparently winter-killed, but the returning summer shows that this is not the case, they are only killed down to the ground, and as soon as favorable weather comes their prickly stems arise from the subterranean buds and stand up in bristly defiance to the cultivator. Wherever a Canada thistle appears, cut it down. We have but little belief in specific applications to weeds, but we have known these and other thistles to be destroyed by cutting as soon as they appeared and applying salt to the portion remaining in the ground. Whether the first year's attempt at exterminating this pest is successful or not, it is a duty that each farmer owes, not only to himself but to his neighbors, to prevent dissemination; let no plant upon the

premises flower, much less perfect its seeds. Patience and frequent cutting as fast as it appears above the surface, will in time destroy it.

The Legislature of Michigan has recently passed a law requiring every person to cut from his land and the adjoining highways, the Canada Thistles as often as may be necessary to prevent them from going to seed, under a penalty of 10 dollars for neglect. In case the owners of the land should fail to cut the thistles after proper notice, the Overseers and Commissioners of highways of the towns are empowered to destroy them and add the expense of doing so to the tax levy. If a similar law could be carried out in every State, we should hear but little of the Canada Thistle.

Agricultural Colleges.

The Agricultural College Act passed in 1862 donates to each state 30,000 acres of land for each Senator and Representative in Congress. We find the following list of states which have accepted the land grant, in one of our exchanges:

1. Iowa—To select land within her own limits.
2. Rhode Island—To locate with scrip.
3. Minnesota—To select within her own limits.
4. Kansas—To select within her own limits.
5. Illinois—Part selection, part scrip.
6. New-York—Scrip.
7. Kentucky—Scrip.
8. Vermont—Scrip.
9. Wisconsin—To select within her own limits.
10. Pennsylvania—Scrip.

Unless we are much in error, the State of Michigan should be placed with the above. We can not conceive that a State which has, from her own resources, established an Agricultural College and accumulated a fund of experience for the benefit of other states, should be behind her neighbors in accepting the means with which to consummate her costly experiment. The little state of Rhode Island, smallest in territory, but among the first in every patriotic work, was foremost to avail itself of the provisions of this grant, and locate her lands; and now we find Kansas, which was but a short time ago a territory, inviting for proposals from different counties for the location of its Agricultural College. Rhode Island has placed her lands in trust with Brown University to carry out the provisions of the act of Congress, and we have no doubt that this venerable institution will, in due time, give a good account of its stewardship. Most of the states have several colleges, and they can not do as Rhode Island has done for fear of exciting local jealousies. In the majority of cases entirely new institutions will be founded, and as the matter will probably be put in charge of those who have had no experience, we would offer one or two suggestions on the subject.

Do not make the attempt to start an Agricultural College in the wilderness. It is better to begin in a settled and well cultivated region. The students have already seen enough of subduing the forest and of making a farm at their own homes. They wish to see the best culture on cleared land, and will become discouraged if they find nothing better at an Agricultural College than they left at home. Every institution of this kind should have manual labor as one of its absolute requirements. An agricultural college which neglects this branch of education will fall short of public expectation. While we insist upon manual labor as one portion of the instruction in these colleges, we are aware of the difficulty of uniting the theory taught

in the class room with practice in the field. In a somewhat extended experience we have met but few persons who united thorough practical with thorough scientific knowledge of agriculture. The opening of so many colleges where agriculture is taught, both as an art and as a science, will present a new field, and induce our young practical farmers to educate themselves to fill places in them as instructors.

A Few More Humbugs.

One of the meanest attempts at imposition we have met with, is set forth in the following advertisement, published in several newspapers.

DRUNKENNESS CURED.—The inebriate may now bid defiance to the tempting cup. Dr. —'s **ANTIDOTE FOR STRONG DRINK** is a certain cure for drunkenness. It creates a dislike for strong drink, and can be administered without the knowledge of the patient. Price \$1 a box. Sent by mail.

An acquaintance of the writer's who had unfortunately contracted an uncontrollable appetite for spirituous liquors, earnestly desiring to reform, was induced to try a prescription advertised like the above. It made him severely ill, and for a short time kept down the desire for alcohol, but upon his recovery it raged as fiercely as ever, and he drank even more deeply than before. Fortunately he was finally rescued by taking and keeping the total abstinence pledge, which is the only perfect preventive of, or known cure for the habit of drunkenness. The "remedy" proposed, probably consists of tartar emetic, a poisonous substance producing violent nausea, and affecting some persons dangerously. A sufficient amount to "turn the stomach" can be purchased for a few cents of any druggist. At best, its effects will only be temporary, and we repeat, it is a mean swindle to thus trifle with the sorrows and the hopes of the afflicted for the purpose of unjust gain.

ANOTHER "TRANSMUTATER."—A certain "Doctor" sends out from New-York City, a "Journal of Science and Medicine," wherein are contained matters of marvelous import and astounding magnificence. Every disease is to be cured, unbounded wealth obtained, and unlimited happiness realized, all for a few dollars apiece. Here are a few choice samples of this "Doctor's" wares. "Elixir of Life, \$6." "Silver and Gold Fluid, \$5." "Instrument to Discover Treasures, Mines, Minerals, etc., \$3." "Instructions and Means how to make an Enemy fear you, at whatever distance, \$5" (a pledge of Good Motives must accompany the Order). "A Means by which one may go through all Dangers, Troubles, &c., \$5." "String of the Civit Cat, by the use of which one may pass through all Enemies, Battles, &c., without any Danger whatever, \$7. This valuable means is used in our army with the greatest success, and no person who has a friend in the present struggle, should fail to procure one and have it sent at once; hundreds of testimonials can be given, but want of space prevents, and as the 'Civit' speaks for itself (wonderful Civit), it is not required." "Mysterious Electrical and Weird Ring.—Whoever wears it, Never can have an enemy. Just by turning the Weird Seal of this Ring towards the beholders, he will become to them Invisible. In which condition he can do what he or she likes to do, and no one can see How or What is done"—and so on to the end of the chapter. Now "Doctor" Freeman, you know this is all lying nonsense, got up to cheat the ignorant and credulous—but there is no use in wasting words on such a case. Let none of our readers, from curiosity even, hold any communication with such a glaring swindler. Let

him and others like him pay their own printing and postage bills, without aid from our readers.

A WONDERFUL PREPARATION.—We notice in the columns of a respectable agricultural contemporary, an advertisement of a "Sheep Dipping Composition," which is said to "add over one pound of wool to each fleece, besides wonderfully improving the condition of the sheep, at a cost of only about three cents a head." This beats Graham's Unguent for making whiskers grow in six weeks, or the hair preparation recommended to restore the covering on old trunks. Possibly it is made of the same materials. If a sheep be afflicted with scab or other similar ailment that causes the wool to fall off, then a "dip" in tobacco water may save a pound of wool per head; but the attempt to pull the wool over the eyes of farmers by such pretensions as are made in the above advertisement is simply dishonest, and we can not but wonder that it should receive any countenance from a respectable journal.

Japanese Agriculture—Interesting and Instructive Notes.

Dr. H. Maron, has made a report to the Minister of Agriculture at Berlin, on Japanese husbandry, which is full of interesting facts and eminently suggestive. The Japanese cultivator follows a routine which the experience of centuries has marked out, and though there is nothing about their system which indicates progress, their results show that their actual state of cultivation is far in advance of more civilized countries. The area of the Japanese Empire is about the same as that of Great Britain and Ireland, and contains a far larger population: yet Great Britain is obliged not only to import food from other countries, but to also import large quantities of fertilizers to aid in raising its crops. Japan, on the contrary, imports neither grain nor manures, but exports considerable quantities of food. This is the present condition of Japanese Agriculture, taken as a whole. Its details are not such as could be carried out among our people as they bend the whole energies of a large majority of the population to producing the greatest possible amount from a small area of soil. The whole arable land of the country is divided up into plots of from two to five acres each, and their agriculture would be considered by us as a very close system of gardening. The land is kept constantly up to its greatest productiveness, and this is done by a system of manuring and cultivation which may offer some suggestions to our own farmers. In the first place, the Japanese follow deep tillage, the arable soil being several feet in thickness. What is a wheat patch at one month is converted in part into a rice swamp the next. One part of the field being excavated, and the earth thrown upon the other to make an elevated island for the growth of sweet potatoes and other crops, while the lower portion is flooded with water for the rice crop. In this way the whole soil is frequently turned over to the depth of 2 or 2½ feet. Another peculiarity is that the crops, of whatever character, are always grown in drills; sown in this way they can receive the highest possible culture, and special manuring. Each crop is grown with no reference to that which shall succeed it. The system of rotation and fallows is unknown, but the land is looked upon as a bank which will honor any drafts made upon it, if the drawer has only made a sufficient deposit—*of manure.*

The amount of manure on hand determines the breadth of land which the Japanese farmer will sow. The peculiarity of Japanese husbandry is that no animals are kept. Human excrement forms the principal manure. The Japanese farmer does not allow the crop to be eaten by cattle and then return to the soil the manure from them, but he eats the crop himself, with the help of his family, and returns the manure directly to the soil. The religion of the people prevents their eating any animal food except fish; and they eat the mollusks or "shell-fish" in great quantities, and the manure from them is the only fertilizing material returned to the land that does not come off of it. On the farm, human excrement is returned to the land from which the food came, and the cities regularly return to the country loads of human manure in exchange for the food which they receive. Throughout the country the greatest care is exercised in preserving the night soil. The cabinet or privy, is an essential part of the houses of the poorest as well as of the wealthy. A bucket or earthen vessel is placed where it will receive the deposit and is provided with projecting ears into which a pole can be inserted for the purpose of carrying the vessel. At the towns and cities "thousands of boats may be seen early each morning laden with high heaps of buckets full of the precious stuff, which they carry from the canals in the cities to the country. These boats come and go with the regularity of the post; it must be admitted, however, that it is a species of martyrdom to be the conductor of a mail boat of this kind. In the evening long strings of coolies are met with on the road, who, having in the morning carried the produce of the country to the town, are returning home, each with two buckets of manure, not in a solid or concentrated form, but fresh from the privies. Caravans of pack-horses, which often have brought manufactured articles (silks, oil, lacquered goods, etc.) a distance of 200 to 300 miles from the interior to the capital, are sent home again freighted with baskets or buckets of manure; in such cases, however, care is taken to select solid excrements." For the way in which the manure is treated, we can not do better than to quote the language of this interesting report.

"The excrements are diluted with water, *no other addition of any kind being made to them*, and stirred until the entire mass is worked into a most intimately intermixed fine pap. In rainy weather, the vessel is covered with a movable roof to shield it from the rain; in dry weather this is removed, to allow the action of the sun and wind. The solid ingredients of the pap gradually subside, and fermentation sets in; the water evaporates. By this time the vessel in the privy is again ready for emptying. A fresh quantity of water is added, the whole mass is again stirred and most intimately mixed together, in short, treated exactly like the first emptying. The same process is repeated, until the cask or pan is full. After the last supply of excrements, and thorough mixing, the mass is left, according to the state of the weather, for two or three weeks longer, or until it is required for use; *but under no circumstance is the manure ever employed in the fresh state. This entire course of proceeding clearly shows that the Japanese are no partisans of the nitrogen theory, and that they only care for the solid parts of the dung.* They leave the ammonia exposed to decomposition by the action of the sun, and its volatilization by the wind, but take the greatest care to shield the solid ingredients from being wasted or swept

away by rain, &c. As the peasant, however, pays his rent to his landlord, not in cash, but in a certain stipulated percentage of the produce of his fields, he argues quite logically that the supply of manure from his privy must necessarily be insufficient to prevent the gradual exhaustion of the soil of his farm, notwithstanding the marvellous richness of the latter, and in spite of the additional supply of manuring matter derived from the water of the brook or canal from which he takes his material for irrigation. He places, therefore, wherever his field is bordered by public roads, footpaths, &c., casks or pots buried in the ground nearly to the rim, urgently requesting the traveling public to make use of the same. To show how universally the economical value of manure is felt and appreciated in all classes of society in Japan, from the highest to the lowest, I need simply state the fact that, in all my wanderings through the country, even in the most remote valleys, and in the homesteads and cottages of the very poorest of the peasantry, I never could discover, even in the most secret and secluded corners, the least trace of human excrements. How very different with us, in Germany, (and in America.—Ed.) where it may be seen lying about in every direction, even close to the privies! I need not mention that the manure thus left by benevolent travelers is treated exactly in the same way as the family manure.

The Japanese farmer prepares also *compost*. As he keeps no cattle to turn his straw, etc., into manure, he is forced to incorporate this part of his produce with the soil without 'animalization.' The method pursued to effect this object consists simply in the concentration of the materials. Chaff, chopped straw, horse-dung, excrement gathered in the highways, tops and leaves of turnips, peelings of yams and sweet potatoes, and all the offal of the farm, are carefully mixed with a little mold, shoveled up in small pyramidal heaps, moistened and covered with a straw thatch. I often saw also in this compost, heaps of shells of mussels and snails, with which most of the rivulets and brooks abound, and which, in all parts close to the seashore, may be obtained in any quantities. The compost heaps are occasionally moistened and turned with the shovel, and thus the process of decomposition proceeds rapidly, under the powerful action of the sun. I have also often seen the shorter process of reduction by fire resorted to when there was plenty of straw, or where the manure was required for use before it could be got ready for use by the slower fermentation process."

It will be seen, from the foregoing that the Japanese farmer applies his manure only as a top-dressing and in the liquid form. The manure being fully fermented, is brought into immediate contact with the seed, not only without injury, but with decided benefit to its early growth. Another feature which characterizes their culture is the manuring with every crop. Each sowing receives the necessary amount of manure, and a full return is expected from the immediate crop without reference to the next harvest. We have introduced this subject to show that for thousands of years, a successful system of agriculture has been carried on mainly by the aid of human excrement, in the hope of inducing our readers to add this element of fertility to their farms. There exists a sort of prejudice against the use of night soil as a manure. A general knowledge of chemistry would dissipate this and other notions. Human excrement, as well as that of animals, contains

elements which are needed for the growth of the plant. It matters nothing from what source these are obtained, the wondrous processes going on within the plant will convert these elements into food. Every thoughtful person will see that it is man's duty, when he has taken the products of the soil for food, to return to it those portions which are not needed in his own system, but which are, according to the operations of nature, voided in such a state as to demand their removal, and which form valuable plant food.

Statistics of the Tobacco Crop.

The following figures published in the Massachusetts Agricultural Report for 1862, show the immense commercial importance of this crop.

The product in the United (and seceding) States and Territories, in 1849, was 199,752,655 pounds. In the year 1859 it reached the astonishing amount of 420,390,771 pounds, being a gain of 220,638,116 pounds in ten years. The crop grown in 1859, at the low figure of ten cents per pound, would amount to \$42,039,077. Notwithstanding the great amount grown here, we find that large quantities are imported every year. Not being able to get the amount imported in 1859, we take that of 1858. In that year there was imported into this country, 7,499,566 pounds, at a cost of \$1,255,831. Also 218,729,000 cigars, at a cost of \$4,123,208, and snuff, with other manufactures of tobacco, to the amount of \$589,439. Of the domestic tobacco spoken of, there were exported 127,670 hogsheads, 4,841 cases and 12,640 bales, valued at \$17,009,767, and of the manufactured domestic tobacco exported, there were 11,210,574 pounds, valued at \$2,410,224.

By the census of 1840, all the tobacco grown in Massachusetts in 1839, amounted to only 64,955 pounds. In 1849 the amount was 138,246 pounds, all grown in four counties, viz.: Franklin, 14,590 pounds; Hampden, 68,156 pounds; Hampshire, 55,300 pounds; Middlesex, 200 pounds. In 1859, Massachusetts produced 3,223,198 pounds, being an increase of 3,084,952, the last ten years, and in twenty years 3,158,243 pounds. It is estimated that Massachusetts has produced this year (1862,) one-third more than 1859, which would make the amount 4,297,597 pounds. At fifteen cents per pound, (which is a low estimate for this year,) this crop would come to \$644,639.55. Several of the northern States present a very large increase. Ohio raised in 1859, over twenty-five and one-half million pounds. New-York increased her product the last ten years, from 83,189 pounds to 5,764,582 pounds. Connecticut increased from 1,267,624 to 6,000,133 pounds. In 1849 the loyal States produced 230,369,341 pounds, and the seceding States produced 199,021,430 pounds. The consumption of this article, in various forms, doubtless keeps pace with the production.

Sweet Potato Vines for Cattle.

"Experience" writes from Monmouth Co., N. J., as follows: "I have used sweet potato vines for cattle, for the past five seasons with admirable success. If care is taken to rid the vines of the dirt which generally adheres to them when pulled, cattle will eat them as readily as they will the best of pasture. In fact I have seen cattle, when vines were thrown into their field, leave first rate pasture and come bellowing for a feast. I do not hesitate to say that sweet potato vines can be used to great advantage for both hogs and cattle."



The Wonderful New Strawberry—The Plants to be Presented to the Public.

None but those who were at the *Agriculturist* Office on Thursday, June 18th, can have a full conception of the enormous size to which this delicious fruit has been grown. The accompanying engravings (fig. 2, 3) are exact sketches of two of the berries of the New Seedling, taken from accurate measurement with calipers. These were not abnormal specimens, of chance growth, for there were plenty more nearly as large. And what is remarkable, the berries were not hollow, nor poor flavored, but were solid, a rich crimson color to the core, and of excellent flavor, having the pleasant pine taste of one of the parent plants. The general form is that of fig. 2, conical and partially necked. The plant itself bears large leaves, is very vigorous, and shows a good bearing propensity. Taken all in all, this new seedling is probably the largest and the most remarkable production in the Strawberry way, that has ever appeared.

Its Origin.—Mr. Seth Boyden, upon the results of whose inventions in the manufacture of polished leather (called "patent leather,") and in the production of malleable cast iron, etc., much of the growth and prosperity of the large City of Newark, N. J., depends, has for many years devoted more or less attention to the improvement of the Strawberry. "Boyden's Mammoth," and "Boyden's Green Prolific," are widely known. The Green Prolific he has hitherto considered his best product. It was obtained by hybridizing Hovey's Seedling, and Kitley's Goliath. Following up his experiments, he hybridized the Green Prolific with Peabody's Seedling, the latter a large, excellent pine berry, but too little productive to meet with general favor. One of the products of this last hy-

bridization, is this new seedling which has recently attracted so much attention.

The Name.—Mr. Boyden simply called it his "No. 10" Seedling. It was proposed by some to call it the Seth Boyden; by others, Boyden's Giant; by others, Boyden's Wonderful, and so on. But to avoid confounding it with the already well known Boyden's Mammoth, it has by common consent been named the "*Agriculturist* Strawberry"—partly because brought out at the *Agriculturist* Exhibition, and partly because, at large expense, the Proprietor of this journal secured all the plants, and is cultivating them for free distribution.

The Purchase of the Plants.—No one outside of Mr. Boyden seems to have known anything of this new variety, until he came in quietly at the opening of the Exhibition, and placed upon the table the plates of berries, and a growing specimen of the plant. It at once attracted much attention, exciting the admiration of all who saw it, and there was an eager desire to get the plants. Mr. Boyden, who is noted for looking out very little for his own interest, while contributing so much to the prosperity of others, accepted the first offers, voluntarily made to him, of one to three dollars each. Some of the enterprising clerks in the *American Agriculturist* office immediately called the attention of the Proprietor to the matter, and proposed that it be secured for distribution. He at once examined the fruit and plant, and seeing its great merits, made Mr. Boyden an offer for all the plants unsold, which offer was promptly accepted. In order to keep the plants pure, and prevent speculation in them, he bought up at \$10 each those plants already sold, except a single one in the hands of an amateur friend, who will cultivate it only for his own personal use. M. Olm immediately went with men and teams to New-Jersey, and took up all the

original plants carefully, and transplanted them to the Proprietor's grounds at Flushing, where they are now doing well, not one having been lost, though moved 25 miles in the hot days of June 22d and 23d. M. Olm, than whom there is no more skillful cultivator in the country, has them in special charge, and will multiply them as rapidly as possible. There is little doubt that several tens of thousands of plants will be ready for distribution during next season (1864). The design is to make this, the greatest and best production of this delicious fruit, a free gift to the public. No plants are offered for sale on any terms, though as high as \$50, and even \$100 dollars, have been offered by enterprising cultivators, for a single plant.

Plan of Distribution.—The plants will be distributed during the year 1864, and as our experience has proved that they can be sent safely by mail, hundreds and even thousands of miles, this mode will be adopted for all who do not live near enough to take them by hand. Those living at a distance will therefore be on a par with those residing here. We purpose to produce as many plants as possible, and send them out to all subscribers to the *American Agriculturist*, and that will embrace pretty nearly everybody in the country who takes an interest in such matters. The number of plants will depend upon the weather from this time onward. We hope to have 100,000 plants, which will give at least one to every subscriber. Let there should be any failure in getting enough for all, we shall begin at once to enter down the names of all subscribers for 1864 who desire the plants, beginning with the 1st of July, and supply them in the order of receiving the names. (As soon as our intention was known, many persons who saw the plant and fruit at once subscribed ahead for 1864.) We feel safe in promising 30,000 to 50,000 plants at least. Those whose subscriptions already extend to next year, need only to send in their application, with the trifling sum named below, and their names will be put down for the plants.

Expenses of Distribution.—The expenses of purchasing, propagation, etc., will amount to some

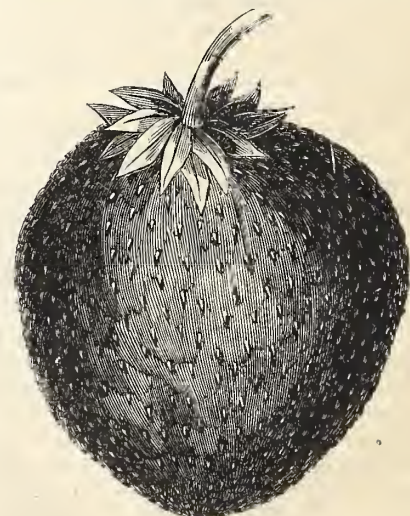


Fig. 2.

thousands of dollars, which we will cheerfully pay. In the distribution, the cost of postage and oil cloth will be about 5 cents for each parcel. This small sum, small to each, but large in the aggregate for 50,000 to 100,000 parcels, should be met by those who receive the plants. We therefore ask each one who desires the plants to enclose an extra 5 cents along with

the application. As there must be some limit, we know of no better one than to make the distribution to subscribers for volume XXIII, (1864). We therefore repeat.

The plants are offered free to ALL persons receiving the *Agriculturist* for 1864, (exchanges included), who apply for them, if there be plants enough for all, and if not, the plants will be sent as far as they go to those first applying, in the order of the receiving of the names for 1864—the only charge being the cost of postage and oil cloth (5 cents) as above.

A single plant can be rapidly multiplied to hundreds. We once made about 1200 plants in a single year from 6 plants that had been ten

food; and never enjoyed better health. Those delicious berries did not cost a cent a quart, aside from the picking, and the labor of picking was trifling, for not "a great many made a quart." Every member of the household was also similarly supplied, and several friends shared with us. Besides, we bottled three pecks for next Winter, and the grocer came and bought enough to pay the entire expenses of the whole! The saving in meat and other food, to say nothing of health, would have paid the expenses three times over, if the grocer had not. All this came from less than four rods of ground, which was only set to vines last year, partly in September, but mainly in April. Does any reader wonder that after such experience we are earnest in our effort to induce all the members of the *Agriculturist* family to grow strawberries if we desire to promote their pleasure? Other fruits are good in their season, and should be under culture, but years of time are required to get the tree fruits. Strawberries set in Spring yield abundantly the next year, and those set early in Autumn yield a partial supply the next Spring, and are in the height of bearing the year after. The next month of September, and the first of October is perhaps the best time to begin, the earlier the better. The last of August is a good time when the plants are not moved far enough to require packing. The plants of good standard varieties are now within the reach of almost every one. Under the new postal law, plants go every-

where to the most distant States and Territories, for 2 cents postage on each 4 ounces. A few cents' worth of oil cloth will envelope them securely. We have demonstrated that they can be sent hundreds and even thousands of miles by mail, and safely, especially in the cool weather of Spring and Autumn. Of 40,000 plants distributed by us to subscribers last year, nearly the whole lived, and have already multiplied to millions. Our advertising columns, this month and the next, will doubtless tell where an abundance of plants can be obtained by mail. As noted elsewhere, next year we shall offer, free to all our subscribers, plants of the largest strawberry yet produced. But do not wait for that. Try your hand this year at raising some of the good sorts already before the public in abundance. There are the *Triomphe de Gand*, the *Bartlett*, the *Austin*, the *Wilson*, etc., any one of which is better than wild diminutive sorts, or even the older improved kinds. A small sum will buy a dozen to a hundred plants.

Any Soil Will Do.—There are only two exceptions to this rule, viz., soils too sandy and barren to bear anything, and those subject to standing water. The freezing of standing water in Winter is apt to kill all the plants. Good corn ground is good for strawberries, though they need more water than corn to produce the best results. We have seen first rate crops of strawberries on very heavy clay land, which had been deeply plowed and lightened up by a large mixture of leached ashes, with an open drain or two to carry off surplus water. Any soil is improved for strawberries by working into it a good quantity of rotten manure and black mold from the woods.

Strawberries Will Grow Everywhere.—We should hardly attempt to grow them at the North Pole, but they can be grown about as far north as civilized society extends at present, and as far south as the equator. North of 40° or 41°,

a slight covering of straw is useful in Winter, and necessary for most varieties north of 42° or 44°. The main requirement is to prevent the destruction of the plants by freezing and thawing. In the moist climate of Great Britain the same varieties grow larger than with us, but inferior in flavor. They require but a short season of warm weather to perfect their fruit.

Varieties.—The *Wilson's Albany* is a popular variety, because it yields large crops of large and beautiful berries. For our eating it is too acid, when sugar is so costly as now. For general culture we prefer the *Triomphe de Gand*, which bears nearly as well, the fruit of better flavor, and equally as good in appearance, and the plants are less apt to die out after heavy bearing. The *Austin* is a great bearer and the fruit large, but it is not so firm, and not quite equal in flavor. Its prolificness, its hardiness, and long bearing render it worthy of a place in a family assortment. Two or three kinds are preferable to one, both for variety and to lengthen the season. The *La Constante* is one of the most beautiful strawberries in appearance, is excellent flavored, and desirable in a collection, but plants are not very abundant or cheap this year. There are many other desirable new sorts, but we are only speaking now of a few of the good varieties so abundant as to be accessible to the millions. The *Triomphe de Gand*, the *Wilson*, and the *Austin* will supply an assortment that will give satisfaction to the great mass of people.

HINTS ON CULTURE.—Strawberries will grow without any culture; they will thrive under moderate care; they will repay the best attention. If one has but few plants and the first object is to multiply them, prepare a well manured plot, digging in thoroughly a free supply of decomposed or half decomposed manure, and set the plants two to three feet apart each way, so as to leave room for runners. The strawberry is multiplied by runners which start out in every direction, and take root at the joints of the runners. When well rooted, the runners may be cut between each two new plants. A level surface of fine soil is best for the runners. If anxious to get as many plants as possible, put a little crotched limb, or a lump of earth, or a small stone, over the runner near each joint, so as to insure its taking root there. Usually this is not necessary, unless there be considerable wind to sway the runner and disturb the catching of the roots. If two or more runners start together, they may be moved apart, or the direction of one be changed so as to distribute the new plants well over the ground. The first plants formed on runners starting in July, will usually produce other runners during Autumn. If carefully transplanted in August or early in September, each young plant may become the parent of many other plants before frost. By this process, we have made half a dozen plants set in Spring, cover 500 square feet thickly with new plants during the same season.—The fruiting plot will become thickly studded with plants in Autumn, unless the runners be clipped or removed as fast as formed. In regard to manuring, the whole soil may be made fertile. We are however, pursuing the following plan with our New Plants. They were set 3 feet apart in soil moderately manured and prepared for other crops. Then a coat or mulch of half rotted manure was spread upon the surface around each plant, and the water applied, washed some of its strength down into the soil, while that remaining upon the surface, acts as a mulch to keep the ground moist. This is one of the

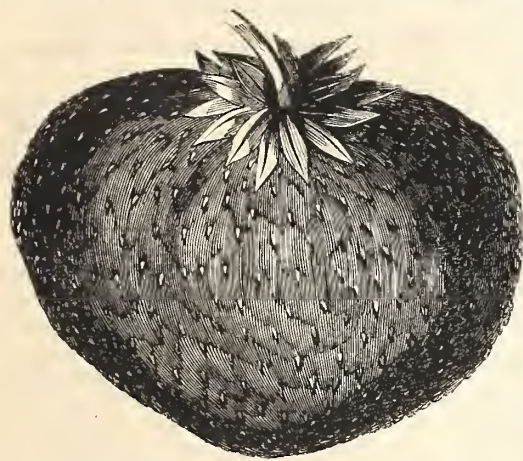


Fig. 3.

days in reaching us. They had met with such hard usage that only six lived out of a dozen received, and those were very weak. It will be seen then, that our mode of distribution will soon scatter them over the whole country, as we have subscribers at more than three-fourths of all the Post Offices in the Loyal States, and in the British Provinces.

The plants are not offered as prizes, but rather as a gift to all subscribers who receive the *Agriculturist* for 1864. If any present subscribers prefer to be among the first on the list, they can do so by sending in their subscriptions now for the next year, to begin when their present subscriptions close. New subscribers, beginning at the middle of the present volume, will go on the same list.

N. B.—All persons sending in subscriptions will confer a special favor by stating whether their names are already on our books. It will save us much extra labor in arranging the names upon the mail books.

Good Strawberries—At Least Two Bushels for Every Family.

Yes, two bushels of good delicious fruit, the berries larger than walnuts. A single rod of ground, a few hours' work, and 25 to 50 cents for plants to start with, will do it. We wish we could impress this fact so strongly upon every family in the land that they would set about the work at once. Everybody loves strawberries; they are grateful to the taste, and healthful. They will grow wherever corn will grow, and in many places where corn will not ripen. They are almost as easily cultivated as corn, and will even flourish on poorer soil.

See here! From June 12th to July 4th our own personal rations included a quart of fine strawberries every day, part in the morning and the rest at evening. We eat much less of other

best methods of applying manure to any plants or shrubs which have been transplanted.

For General Culture or Fruiting.—There is need for but few directions. Choose any soil, the best that can be spared: spade it deeply, and if not in good heart, mix all through it a fair supply of rotteu manure, muck or sods, or better still, blaek mold (blaek earth from the forest). This is not necessary, but is desirable, in order to get the *best* results. Leached ashes mixed in plentifully, are also good, especially for heavy clay soils. Too much fresh manure will produce an over *growth* of plants at the expense of fruit, though a fair supply of any kind of manure is not objectionable for plants set in Autumn. We prefer dividing the ground into beds 4½ feet wide, with three rows of plants in each, one in the middle, and the others 7 inches from the sides—setting the plants 15 to 18 inches apart in the rows. The plants can then be worked and picked from the alleys between the beds, without treading on the beds at all. If there are plants enough, the runners should be picked off as they appear, keeping the original plants in hills. If more plants are desired, let them grow between the hills, and then remove them. The best fruit is obtained by keeping the plants separate in hills.

Strawberry Experience.

The following communication from William F. Heins, Esq., of Morrisania, N. Y., embodies his experience with the different varieties for the present year. The opinion of Mr. H. has great value from the fact that he is purely an amateur cultivator, and has no interest in the sale of either plants or berries, but gives his observations upon the endurance and prolific quality of the plants, during the past unfavorable season, entirely from their behavior in his own grounds. "In most locations the crop may be considered nearly a failure, and I think the principal causes were: 1st, the changeable Winter; 2nd, the hot and dry weather following, and 3d, the sudden and heavy rains while the plants were flowering. My soil, gently slopes to the S. E., is an excellent, medium heavy loam, thoroughly worked to the depth of 30 inches, and rich in completely decomposed vegetable matter. The result of my observations upon the 65 kinds I cultivated is the following: The Triomphe de Gaud I put at the head of the list, and with me, old and new beds, attended to or neglected, gave plenty of fruit, and showed least signs of suffering; the plants remained vigorous, and are bearing now, July 6th, a quantity of sound and excellent berries. The next, mentioned in the order of their excellence, were Lennig's White, White Pine Apple, White Albion, Wilson's Albany, and W. A. Burgess' new seedlings, General Scott, Garibaldi, Gen. Lyon, Monitor; Hot-house Pine. The three first ones gave plenty of fruit, were of vigorous and healthy habit; then I name Burr's New Pine, Russell's and Downer's Prolific, Early Scarlet, Ladies' Pine, Empress Eugenie, Scott's Seedling, Scotch Runner, Jeany Lind, Bartlett, Hooker's Seedling, McEvoy's Superior, Cutter's Seedling, Honneur de la Belgique, Bonté de St. Julien, La Constante, (the last two of very excellent flavor), Nero, Blaek Prince, Red and White Alpine, Duc de Malakoff. As all the other sorts suffered more or less and yielded only a very moderate crop, it is not necessary to enumerate them. It is probable that in more favorable seasons some of these will prove more valuable than they seem to be at present.

Currants and Gooseberries.

The season of strawberries passed away with June and was succeeded by the less delicious but still acceptable currant. The currant is one of our most reliable fruits, and we refer to it at this time, because we desire every reader of the *American Agriculturist* to be thoroughly impressed with the importance of the small fruits, both as a matter of health and economy. We hope every one of them will have a constant and full supply of strawberries, currants, gooseberries, raspberries, blackberries, etc., as long as the season lasts. A currant patch is easily started; if neglected it will bear tolerably for years, and with a little care in pruning it will continue to yield abundant crops of fine fruit which is excellent fresh, dried, made into jelly, or preserved in bottles. The time that fruits are in perfection is the one in which to talk about growing them. All our plans, whether for the farm or garden should be laid well in advance. Let every farmer who is without small fruits determine to have at least a patch of currants, and strawberries; grapes, and other fruits will soon follow. Currants are raised with the utmost ease. Good rooted plants from the nursery set this Fall will give a some fruit next season. Those who cannot afford to send to nurseries or are not in reach of them, can always get cuttings of some neighbor. Cuttings of this year's wood, about a foot long, are to be taken as soon as the leaves have fallen: cut out with a sharp knife all the buds except three or four of the upper ones, and then plant in rows 6 to 12 inches apart, burying them for two-thirds of their length. If set into good soil, not ten in a hundred will fail to make plants, which next year may be set out where they are to stand. In after culture the currant is grown in several different ways. It may be grown upon a single stalk in the form of a tree; it may be trained upon a wall, fence or trellis; or it may be grown upon a sort of renewal plan. According to the last method, the eyes or buds which go below ground are not taken out, but the plant is allowed to shoot up from the root, and the branches which come up are cut out after they have borne one crop of fruit. If the plants become crowded, a portion of the new wood should be cut out. This manner of growing currants is, by many cultivators, preferred to the tree form. A hoop is sometimes put over the bush, to which the branches are trained, thus giving all an equal chance at the light and air. We have seen such fine crops grown with both methods of cultivation, that we hardly know which to recommend. When the bushes are trained upon a fence or trellis, they should be encouraged to make only two stout branches the first year. These are to be laid horizontally, and the limbs which they throw out are to be trained in an upright position. Currants may be made to give a large crop and take up little room, by training them against a fence; they may be planted within six inches of it. With regard to varieties there is considerable choice. We say, grow currants at any rate, and take the common red, if nothing better is within reach. Where they can be had, the Cherry currant and the White Grape are to be preferred. Even the common sorts will yield larger fruit by good culture and close pruning. The gooseberry is very much neglected of late for the reason that the varieties most celebrated in Europe are rendered worthless in our country by mildew. Of late two American sorts, Houghton's seedling and the

American seedling have been introduced, which are quite free from this defect. They are pretty sure to give a crop, though the berries are small. We recently saw on the grounds of J. C. Thompson Esq., at Staten Island, a fine large seedling berry which was very productive and very free from mildew. Mr. T. expects to get 20 bushels from a small patch, and judging from the appearance of his bushes we should think that this amount might be gathered. Should this berry produce as well and prove as free from mildew in other localities, as it does in the grounds of Mr. Thompson, it will be a decided acquisition. The gooseberry, when green, possesses a sprightly acid flavor which will always render it popular for either pies or "sauc."

Another Enemy to the Fruit Grower.

Prof. G. M. Smith, of Tippecanoe Co., Ind., has sent us specimens of an insect which seems to be of the most destructive character. It strips the leaves from the trees by cutting off the leaf stalk, and eats the bark from the young shoots, and in some cases attacks that of the last year's wood. It does its work of devastation so thoroughly that not a leaf or young shoot was left on about 50 trees which were attacked. Not recognizing the insect, we forwarded specimens to Prof. Glover, of the Agricultural Department at Washington, who has kindly furnished us with the name and the drawing from which the engraving is made. It is the *Ithycerus curculionoides*, belonging to the same order with the well-known curculio, and is one of its largest representatives. It has been called the New-York weevil. The insect is of a gray color, having upon each wing-cover four white lines interrupted by black dots. Its attacks are not confined to fruit trees, as it is also found on the oak and maple. Fortunately this pest does not seem to be very abundant, and wherever it appears, it should be captured, by jarring the trees under which a sheet has been placed, in the same way that has been described for the destruction of the curculio, on page 164.



Renewing Old Grape Vines.

Many persons have large, ill-shaped vines, clampering over arbors and trellises, which they would like to bring into better shape and more fruitfulness; but they don't know exactly how to do it. There are several ways: First, lay down a good, vigorous cane on each side of the main trunk, burying it for two feet or more in length, with six inches of dirt. In one season, or at most two, these canes will be finely rooted, when the old stump may be grubbed up. The new layered plants may afterward be trained according to any of the received methods. Another way would be to retain the old root, but to change the top by degrees. Cut out in the Fall, one fourth of the large canes on one half of the vine; train up the handsomest new shoot that pushes during the Summer; and in the Fall, cut away *all others* on that side of the vine. This shoot retained is to form a horizontal "arm" for training up perpendicular canes from. Next year, proceed in the same way with the other side of the vine. This work of renewing the vine ought to be done gradually, and extend over a period of three or four years; since, if the old canes are cut away at once, the

new growth will be long-jointed and succulent, and poorly fitted for good horizontal arms.

Experience with Grape Cuttings.

Mr. D. N. Allard, sends to the *Agriculturist* the result of his experiments with fifteen thousand grape cuttings, taken from the vines at various times from December to March 1st. He planted all the cuttings in the same manner and found that of those made in February, twice as many grew as of those taken in December. This he accounts for by the fact that the partially ripened wood had been killed off by February, and was rejected in making the cuttings at that time, while in December the wood was all alive, but the fully and the partially matured were both used. Most of his beds of cuttings were shaded by branches supported upon frames five or six feet above them—while three beds were left unshaded. The result was that more than twice as many cuttings rooted in the shaded beds as in those without this protection.

Azaleas, Rhododendrons, and Kalmias.

It surprises English visitors to this country, that we make so little of these native flowering shrubs. In the old world, especially in the British Isles, they are a favorite feature in ornamental grounds. They are set in picturesque groups and masses, in soils carefully prepared and suited to their wants, and are styled, by way of distinctive honor, "the American Garden." Mr. Hovey tells us that "every Spring these shrubs are transplanted in the Regent's Park and Royal Horticultural Society's Garden, where they are arranged in neat beds, and protected with an awning, retaining their beauty for weeks, and attracting immense crowds of admiring visitors. After their bloom is over, they are removed to the nursery-grounds from whence they were taken, receiving no injury, so easy are they to transplant at all seasons."

Why should we leave it to foreigners to find out before us, the merits of our own plants and trees? Like our books, they have to go abroad to get a reputation before we appreciate them. But the few who do know them, are becoming zealous in their attachment and most enthusiastic in their praise. One reason why they are so seldom planted, is the prevalent impression that they are hard to transplant; whereas, if properly treated, nothing is more easy. If taken from the shade of a dark swamp, and set in the glare of a sunny garden, it is not strange that they wither and die.

The *Rhododendron maximum* of our Northern swamps does not seem to do so well in cultivation as its more Southern brother, the *Rhododendron Catawbiense*; this has been hybridized with some of the brilliant Indian sorts, and a great number of varieties of exceeding beauty have been produced. The Azaleas now procurable are a great improvement on our native species. We have the pink, yellow, orange, and flame-colored, which make the garden all ablaze with bloom. The Kalmia is beyond improvement. It is less fastidious than the rhododendron or azalea about soils, and will do well in any garden not too dry. All these plants in a wild state seem to prefer the steep banks of streams, or the sides of hills sloping northward. This northward slope protects them from the burning suns of mid-day, and gives them the partial shade and cool atmosphere they delight in. To any of our readers preparing to set out these shrubs, we would recommend the trial

of such a situation and such soil; if not at command, let the treatment be as follows: Choose a spot rather sheltered from harsh winds, surround it with a belt of evergreens, or at least with a screen on the south side, throw out the natural soil of the bed for eighteen inches or two feet deep, and fill up the space with a compost of good garden loam, sand, and fibrous peaty earth. Give the plants a thorough watering when set out, then cover the ground with three or four inches of forest leaves. One writer warmly recommends a mulch of sawdust. The girdle or screen of evergreens is needful both to keep off the bright rays of the sun in Winter and Summer, and to protect the plants from too sudden changes of temperature. Once a year, it will be found advisable to cut off with a spade the roots of the surrounding evergreens, because they will naturally push into the rich feeding ground of our plants and rob them. It is possible that the partial failure of some planters is owing to the practice of setting the roots of their plants too deep. In their native conditions, they do not send their fibrous roots deep into the ground, but spread them out in a sort of net-work near the surface, ramifying among the half-decayed leaves and rubbish of the top soil. Follow nature's hint, and do not forget the indispensable mulching. The deep trenching we have recommended is needful to furnish a reservoir of moisture for the roots in dry weather, but not to bury the roots in, and the mulching is useful to keep that moisture from evaporating. It is one excellence of the rhododendron, that it can be safely transplanted any time from April to October. We have often reset them when just opening their blossom buds, and have had good flowers the same year in which they were transplanted.

Substitute for a Green-House.

Lovers of plants will manage to grow them in spite of all difficulties. We have published several ingenious plans contrived by those who can not command a green-house, for the preservation of their favorites. Mr. S. A. Myers, of Henry Co., Ohio, writes us, that "having but two acres of land and at present a cabin house, the pretty green-house would make rather a striking contrast, and yet I am not willing to do without flowers even of tender varieties. Our house being too cold to protect them, I have made a close fitting glazed box, 4 feet long, 3 feet high, and 2 feet 4 inches wide, which is placed on wheels and kept in the house; it is accommodated with several shelves in order to bring the small plants near the top. The result is, that I have succeeded in keeping in a healthy state, 4 varieties of roses, 5 Geraniums, 4 Fuchsias, 2 Pinks, 3 Cactuses, 1 Pelargonium, 1 Lemon scented Verbena, Ageratum, Petunias, Verbenas, 1 Jerusalem Cherry, etc.

Floral Zodiacs.

A lady correspondent is mystified about this learned expression. An explanation is easy. As used in garden-books, it means an arrangement of pleasure-grounds, by which the flowering shrubs and plants of each month are arranged by themselves. Suppose we have a garden walk 150 feet long, running in a circle if convenient. We will divide this off into eight or nine sections, called by the names of the months, which we will mark by stout stakes. On finding out the month in which every known

plant blooms, we will place the plant in the section where it belongs; and so, when our collection is full, we shall have a floral zodiac. The April and November sections will require less space than the others. August, September and October will demand the largest room. A walk through such a zodiac would be both charming and instructive. Such a zodiac was first devised and executed by Daubenton, an eminent French gardener and botanist. The scene of his labors was the garden of Luxembourg. He styled it "the grove of the months."

The Perennial Phloxes.

We have often advocated the growing of perennial flowering plants. They are less troublesome than the annuals and bedding plants, and a few of them should find a place in the smallest gardens. The Phloxes make a great show, remain a long time in bloom, and present a great variety in color. The newer sorts have every shade from pure white to dark purple. Some, like Harlequin and Van Houttii are pleasingly variegated. *Alba perfecta* is a fine white. *Roi des Roses* a good rose color. *Minerva* is of a rosy lilac with crimson centre, and *Atropurpurea* is of a deep purplish rose. The catalogues have a host of varieties; we mention the above because we have cultivated them. A mass of different sorts with strong contrasts of colors is a fine sight.

Double Flowering Trees and Bushes.

Of these, there are many. The double flowering cherry is a pretty thing, and blooms abundantly. The double Peach has several fine varieties, such as the rose-colored, the newer crimson, and the white. Lately, we have heard of a carnation or striped, and a camellia-flowered. For free, luxuriant bloomers, commend us to the flowering Hawthorns, crimson and pink. And if the common single apple blossom is beautiful, much more so is the double. Among shrubs, the old flowering Almond, pink or rose-colored, should never be overlooked. More recent additions to this family include the double white and large single-flowered Almond, pure white. Reeve's double *Spiræa* is a gem in its way. The *Prunus triloba* is spoken of as very fine, but we have not yet seen it.

Pillar Fuchsias.

The true beauty of the flower of the Fuchsia is not seen when it is looked down upon. The finest display we ever saw was where the plant was trained to the rafters of a rather low green-house. The flowers, hanging where it was necessary to look up at them, made a most magnificent show. Something of this effect can be obtained by training the Fuchsia, cutting back the branches to the height of 6 or 8 feet. Two or three of different colors trained in this way and planted out against a pillar for support, produce a grand effect. They should be put in a rather sheltered and shaded situation.

ECONOMY IN CUCUMBERS.—In England, cucumbers can only be successfully grown under glass, and some of the varieties grown there have very long fruit. A recent foreign treatise on the cucumber and melon tells us, that it is the custom with some, to cut off a portion of a cucumber, and leave the remainder to grow on.

Grape Trellises Again.

In the *Agriculturist* for April we gave Mr. Knox's plan for a grape trellis, and it has been adopted by a number of our readers. We now present the form used by Mr. A. S. Fuller, the well known horticulturist of Brooklyn. The article is an extract from a forth-coming work, by Mr. Fuller, on the culture of the grape. A plain and practical work upon the grape is much needed, and we shall be disappointed if the work alluded to is not just what is at present required by the inexperienced grape grower.

"The usual manner of making grape trellises with wires running horizontally, is not only very objectionable, especially when the vines are trained with horizontal arms, but it is a much more expensive method than the one shown in the engraving below, consisting of two horizontal bars, and perpendicular wires. Every-body

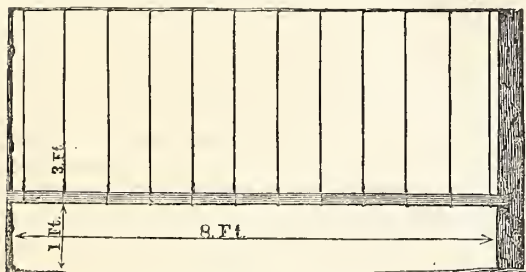


Fig. 1.—FULLER'S GRAPE TRELLIS.

who has made trellises in the ordinary manner, is aware of the difficulty of keeping the wires straight, even if the posts to which they are fastened are not more than eight feet apart, as the wire will contract and expand at every change of temperature, being loose on hot days and tight on cold ones. Besides, much larger wires must be used, if put on horizontally, to support the fruit and the vine. But the most serious objection that I have found is, that the wires, unless very near together, are not where they are most needed when the young bearing shoots first start, for they must be tied to something to support them when only a few inches long, or they are very liable to be broken off by heavy driving rains. If the wires are eight inches apart (which is nearer than the usual custom to place them) the young shoot must be at least twelve to fifteen inches long before the strength of the vine will admit of its being tied to the horizontal wire; besides, when tied, the strings will allow the shoot to slip lengthwise of the wire, and often it will crowd or become entangled with its neighbors. To tie the vine very tight to the wire, would cause it to become girdled as it expanded in growth.

The above are but a few of the difficulties which I have had to overcome in using the

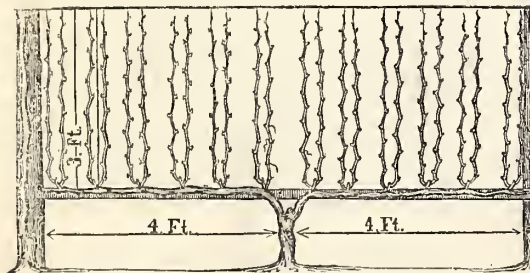


Fig. 2.—FULLER'S TRELLIS WITH THE TRAINED VINE.

common grape trellis with horizontal wires or bars, and to avoid these difficulties I have adopted upon my own grounds (for low trained vines with single arms) a trellis constructed like the one shown in the above illustration. (Fig. 1.)

It is built in the following manner: Select posts of good hard durable wood of from 4 to 6 inches in diameter and 6½ feet long, set them in the ground 2½ feet deep and in a line with the vines and 8 feet apart, that is if the vines are that distance apart: a post should be placed between each two vines at equal distance from each. When the posts are set, nail on strips 2½ inches wide and ¾ to 1 inch thick, one strip or bar being placed 1 foot from the ground, and the other at the top of the posts; then take No. 16 galvanized iron wire and put it on perpendicularly, twisting it around the lower and upper bar, each wire being placed just where the upright bearing shoots are to grow. It is well to lay down the arms by the side of the lower bar and make a mark on it where each wire is to be put, before fastening the arm; then remove the arms to one side while putting on the wire. If a wire should not be in the exact place where it is wanted it can be easily moved to the right or left, provided it is only twisted around the bars. The distance between these upright wires will differ according to the variety of vine, as the distance between the buds varies very materially in different varieties, but usually 8 inches will be the proper distance, sometimes wiring at every bud and with others only at every alternate one. It will readily be seen that in this mode of making a trellis, when the young shoots start, they can be tied at any time

when necessary, and there is no need nor is it judicious to tie them tight to the wire; they should be left at least one inch from it, the two shoots being tied to the one wire. The cost of wire is about one-fourth of that when large horizontal wires are used. The arms should be fastened to the lower bar either by strips of leather tacked on, or by tarred twine tied around the arm and lower bar."

[Fig. 2. represents the trellis with the vine trained according to Mr. Fuller's system. We should remark that the two engravings were sent to us as one, and in cutting to fit our columns, the left hand post in Fig. 1, and the right hand one in Fig. 2, are represented only half the proper thickness.—ED.]

Making Cuttings.

A large number of our plants are propagated from cuttings, and as this is the season at which many are started for winter blooming, a few hints upon the rationale of the process will be timely. A plant may be regarded as a sort of compound being, made up of a number of distinct parts, each of which is capable, under favorable circumstances, of becoming an independent plant. Every plant, at least all those in cultivation, will be found to be made up of a succession of joints, each consisting of a piece of stem of greater or less length, and a leaf or pair of leaves as the case may be, each leaf having at its base a bud which may or may not be large enough to be noticed. The point at which the leaves are attached is called a *node* or *knot*, and not only do the leaves start from here, but when the stem is buried in the earth, the nodes are the points from which roots most readily start.

Though in some plants they will spring from any part of the stem, in the majority of cases they are only successfully produced from the nodes. We make two sorts of cuttings; those from the ripened wood after the leaves have

fallen, and those in which the plant is still in a growing condition and retains its leaves. The last named are the kind made at the present season. With proper care and treatment each joint of a plant may be made to grow, but in the ordinary way of making cuttings, a shoot containing several joints is taken. To make a cutting a shoot is taken from the parent plant, its lower leaves cut off, and set in the ground with one or more knots beneath the surface. In removing the shoot we separate it from its natural source of nutriment, and it has to make new roots before it can begin on its own account as an independent individual. Plants differ very much as to the readiness with which the cuttings will strike root. Some are so difficult in this respect as to require all the skill of the professional propagator, while others will root by being merely placed in the soil. The roots are formed from material contained in the stem



GERANIUM CUTTING.

and leaves, and they must be produced before any considerable growth can take place. Evaporation is constantly going on from the leaves, and, in most plants, it is necessary to cover the cuttings with a hand glass or other protection to prevent exhaustion by evaporation. Let us take for example a cutting of a common *Pelargonium* or *Geranium*, as it is commonly called. A shoot of tolerably mature wood is taken, cut at a node or knot, the lower leaves removed, and it is set in the ground as far as the dotted line. In about two weeks, more or less, it will be found that a new growth has commenced between the bark and wood; it appears as a sort of excrescence or *callus* as it is called by the gardeners. This callus is material supplied by the stem and leaves, and forms a sort of bed from which roots will start; it often attains a considerable size, as is shown in the figure, and seems capable of performing the functions of the root, as cuttings that are well callused will often make considerable growth before any roots are pushed out. A cutting which makes a good callus is pretty sure to live. In a rich soil, cuttings are apt to decay before they root, and much better success is usually had if they are planted in a naturally poor soil, or one made so by a large admixture of sand. The professional gardener strikes his cuttings in pure sand, and uses bottom heat; many plants can not be rooted except in this manner, and all are more certainly managed in this way. Many persons not having these appliances, or the skill to use them, are deterred from propagating, thinking that cuttings can only be grown by these means. The fact is that a large share of our shrubs and herbaceous plants can be readily propagated by

means within reach of every one. We have used with great success a common soap box with the bottom knocked out, and a piece of muslin (common cotton cloth) tacked in its place. The cuttings being placed in a sandy soil are covered with this box, which admits sufficient light and retains the moisture. If air is required, the box may be tilted and a brick or other support placed under one side. Where there are hot-beds in use, a frame with the glass coated with whiting or shaded by muslin will be found much more convenient. In this way we have rooted in large quantities and with very little trouble, Fuchsias, Lantanas, Petunias, Verbenas, Cupheas, Ageratums, and a host of other bedding plants, as well as Weigelas, Forsythias, Roses, and numerous other shrubs. The soil should be made very sandy and kept well watered, and in making the cuttings, strong and well or partially hardened shoots should be taken.

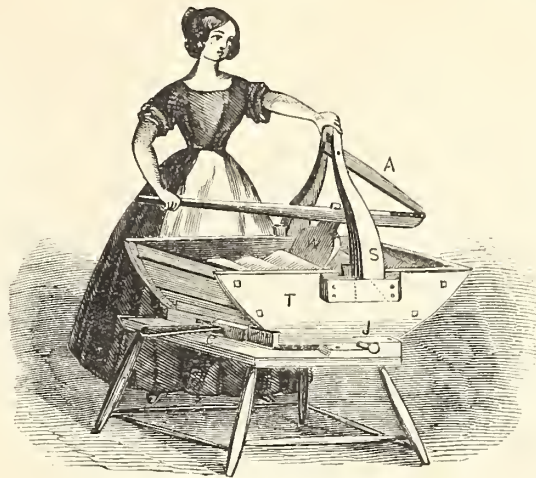
THE HOUSEHOLD.

About Naming Children.

A correspondent of the *Agriculturist* writes that several years since he read in some journal a plan for composing proper names of pleasing sound. As near as he can remember, a certain number of consonants were to be placed in one box, and vowels in another, and in some manner specified, these were to be drawn out and a euphonic name would be the result. We never happened to meet with this item, and can therefore say nothing of its feasibility. The subject, however, suggests a few thoughts worthy of consideration. We have known individuals made a laughing stock through life, by the thoughtlessness of their parents in giving them ludicrous names. Who could restrain a smile at hearing announced Mr. Preserved Fish, Mrs. Seedy Brown, Onderdonk Dimpler, (sure to be nicknamed "Underdone Dumpling;") or Pullau Wool, known to his neighbors as "Pulled Wool." We have known several instances where persons thus afflicted by the thoughtlessness of their parents, applied to the Legislature for relief. Though apparently a trivial matter, such naming of children is a real cruelty. Constant annoyance from this source is more painful than a serious temporary affliction; almost any one would choose to endure the pain for a few weeks from a broken limb, than be tormented for years by the pricking of a thistle. As a general rule it is not in good taste to give to children the names of distinguished persons. Their station in life may afterward make the contrast ludicrous. Hundreds of names commence with George Washington, and end with Smith, Brown, or Jones, all of them unobjectionable terminations, but made insignificant by the high sounding introduction. It is as if one should erect a splendid gateway at the entrance of a potato patch. Should individuals so named, rise to distinction, they could hardly hope to equal their illustrious namesake, and their fame would thus constantly suffer by comparison. It would be a much less difficult undertaking for the individual to make a new name distinguished.

In naming a child, some reference should be had to the convenience of the appellation: it is a wrong upon a person's associates to require them to waste breath in addressing a person by a long or difficult title. Who could have patience in calling after "Shalmanezzer"? The convenient nickname "Sham" would very soon designate such boy, and accompany him into manhood. The wise man says: "A good name is rather to be chosen than great riches," and although this refers to character, yet it is of great advantage to a person to have a prepossessing name, which will give him at least a favorable announcement in society. No one would wish to be introduced as Judas Iscariot, or Benedict Arnold, and even so small a circumstance as the possession of a pleasant name may open many

avenues to advantage in life. The subject is worthy of thought by those who are fortunate enough to have the bestowment of one of the gifts which must be accepted for life, and which therefore should not be lightly or thoughtlessly disposed of.



The Nonpareil Butter Worker.

The good quality of butter depends upon properly "working" it, as much or more than on any other process in the manufacture. A very small quantity of buttermilk left among butter, will very speedily cause it to become rancid, and then no after treatment can restore its original sweetness. It is also necessary that the salt added to butter should be completely commingled with the whole mass, otherwise it will not be of uniform quality when fresh, and the unsalted portion will soon be spoiled and corrupt the remainder. To properly work butter, it is required that the ladle or other instrument should be brought into contact with every portion of it, and to do this takes no little time, patience, and strength; and as neither of these are found in over quantity among many butter makers, the market is too largely supplied with underworked and inferior butter. We are pleased to notice any improvement that promises to make this labor easier of performance, and thereby renders it more likely that it will be properly done. The engraving at the head of this article represents a recently invented apparatus for this purpose, which has been tested and adopted by some of the leading dairymen in the western part of this State. It consists of a tray, *T*, resting upon a stand or table of suitable height, to which it is attached by a joint, *J*, so that one end may be raised to pour off the buttermilk. A latch, *L*, in front keeps it in place when the worker is being used. The worker, *W*, consists of a ladle mortised into a lever. This lever hangs from the arm, *A*, by a hook, and may be readily detached by bringing it forward and lifting it from the eye in which the hook rests, and only when in this position. The arm, *A*, turns upon a pivot between the two standards, *S*. These standards may be removed if desired, by taking out the key which holds the tenon in the mortise on the sides of this tray. The working of the apparatus will be readily understood by examining the illustration. The operator presses successive portions of the butter under the ladle by means of the lever, and when the butter is crowded back toward the end of the tray, it is readily brought forward to be pressed again by means of the lever and ladle, and is thus repeatedly gone over until all the buttermilk is extracted. The salt is easily worked into

the butter in the same manner. The apparatus in fact enables a person to use lever power in the application of the ordinary hand ladle, and thus greatly diminishes the amount of force required. We consider this arrangement superior to the implement heretofore in use consisting of a roller hinged at one end and working upon a slab, as in the latter case a portion of the butter will be moved along over the surface of the slab with a sliding motion, thereby in some degree destroying the "grain" and making it of a salvy consistence. The above described apparatus is manufactured by Mr. J. P. Corbin, Whitney's Point, Broome Co., N. Y., and sold at about six dollars. They will also probably be on sale at agricultural warehouses, and be advertised accordingly.

New and Improved Milk-Rack.

The illustration given below, represents an improved rack or stand for holding milk, devised and patented by Mr. Robert Cruikshank, Washington Co., N. Y. It consists of eight posts, standing in a slanting position, into which tiers of horizontal slats or bars are inserted to serve as shelves for supporting the milk pans. There are six tiers of bars on each side, six inches apart. Near the bottom of the posts, inverted conical caps of tin are placed, to prevent rats or mice climbing up to the milk. The racks are made of two sizes; the largest size $5\frac{1}{4}$ by 4 feet at the base, and $5\frac{1}{4}$ by 2 feet at the top, will hold 48 large sized pans; the other $4\frac{1}{2}$ by $4\frac{1}{2}$ feet at the base, and 4 by 2 feet at the top, will accommodate 36 pans. The advantages claimed for this rack are: The large number of pans of milk which can be accommodated in the space occupied; the pans can be placed on the rack and the milk strained directly into them, thus avoiding danger of spilling; the bars



allow a better circulation of air around the pans than when they are placed on shelves, and consequently the milk cools more quickly and yields an increase of cream. The rack is very simple in construction, and so put together, that the pieces may be easily separated for removing or cleansing. The price of the rack is, largest size \$6, smaller, \$5. It is commended by many prominent dairymen, and appears to be a very desirable arrangement, particularly where space for dairying is limited. It would be just the thing to hold the milk where it is kept in the cellar, as is practised by many who have no building specially devoted to the purpose.

The Rats Have "Skedaddled."

To the Editor of the *American Agriculturist*:

Yes, they have all gone—where I can not tell—and it was the "Phosphorus Salve" that did it. I bought a box according to your suggestions in the April *Agriculturist*, and used it freely. At first it appeared to agree with the rats, and I concluded that rats which had grown fat on strychnine, arsenic, plaster of paris, and sundry other ingredients,

were proof against even phosphorus. They ate the well buttered (phosphorused) slices of bread with avidity, and I did not see that they diminished in numbers for some time, but when using next the last batch the box contained, I noticed the former dose had not all been eaten, and I fancied the rats were not as plenty. That dose finished them—at least I have not seen or heard of a rat on my premises since, though my neighbor's dog had busy work, about that time in an adjoining yard. I imagined the phosphorus did not kill them outright, as I would see half stupid rats running about, and as they strolled over into the next premises, were an easy prey to a large Newfoundland. If they ever return, I have one more charge left, and if that is not sufficient, Lane, or somebody else will have a customer for another box.

TABITHA.

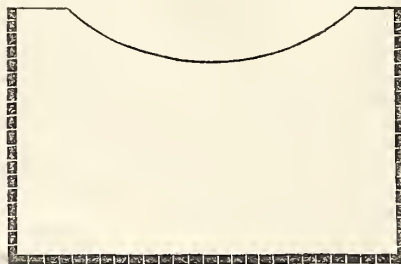
Moral Education of Children.

To make a child do right is one thing, to teach him to prefer right doing is another, and much more difficult task. The first can be accomplished by rewards and punishments, the latter only by calling into action his own conscience, and accustoming him to obey its requirements. Children trained under the first system are like a clock kept at the right hour by frequently moving the hands; but, as every one knows, a time-piece will only remain correct when the regulator is properly adjusted, and the same is equally true with children; they must not only be governed, but trained to govern themselves. This plain, undeniable statement, explains why so many who have been brought up with the greatest strictness, have, when removed from parental control, and left to themselves, speedily run to ruin. It was like removing the brakes from an engine under a full head of steam.

It is an error to suppose that a child can be taught to love virtue by merely telling him what is right. Some of the most graceless pests in the community have grown up in families where the Bible and the catechism were administered as regularly as the daily meals. Scoffers have pointed to such examples as proof of the worthlessness of the Holy Book, as a guide for life, but this is no more reasonable than to pronounce water of no value because those confined to it in youth, have afterward destroyed themselves by intoxicating drink. Moral truth whether drawn from the Bible or other sources, is valuable above other teaching only in proportion as it is wrought into the life by daily practice. We may safely challenge the world to show an instance of a wicked man, who from childhood was accustomed to guide his life by the precepts of the Bible. The first requisite for right moral training of children is the living example of the parent or teacher. The greater part of education of children whether good or bad is accomplished by this agency. It is useless for a father to chide for anger, and exhibit passion himself when inflicting punishment for the child's display of temper. Every blow given under such circumstances, will confirm the combative tendency of the child. The father who talks about honesty and boasts of sharp bargains, is teaching his child the first principles which may make him an accomplished swindler. The mother who rebukes vanity, and yet indulges in display of dress and ornament, will find that her "actions speak louder than words" in the formation of the character of her daughter. Most of the fixed habits of life, those which determine character and make or unmake the man, are the direct results of imitation while in youth, and they who would be happy in their children, must accustom them to walk side by side with themselves in the ways of virtue.

One of the surest ways to instil and confirm a love of right-doing is to give children an experience of the pleasure of such conduct. For instance, a child is prone to selfishness. Punishment can not drive it out, offered rewards only appeal to and strengthen the motive it is desirable to suppress. Make such a child the almoner of your bounty to some poor neighbor. Let him hear the grateful thanks of the widow for the present received at

his hands, and witness the delight of the scantily clad child to whom he has given some article of clothing. He will participate in the pleasure, and soon be easily induced to secure similar enjoyment for himself, even at the price of self denial, if the parent watches for and makes opportunities for him to exercise his own benevolence. Another powerful but much neglected means of confirming right principles and actions in children, is a readiness to appreciate and mark with approbation their efforts to do right. As long as the child's conduct is unexceptionable, and causes no trouble to the parent, he is too often left unnoticed, but any departure from this course is immediately marked, and perhaps visited with reproaches and punishment. The writer has known children to purposely do wrong in order to attract attention; they were uneasy at being left as mere eiphers, whom nobody cared for. The love of praise is a natural endowment, intended by the Creator to act as one of the strongest incentives to right-doing, and the parent who fails to appeal to it is both unskillful and unwise. Although a child feels an inward satisfaction in good conduct, yet it loves to be appreciated, and when praise is so pleasant to bestow, it is to be wondered at that parents are generally so sparing of commendation. This subject is almost an exhaustless one. Its full elucidation would require volumes, and we can only hope to here present a few leading points to elicit thought in the right direction, and thus aid parents in securing one of the most earnest desires of their lives, the welfare of their children.



A Cutting or Lap Board.

A convenience of this kind was described in the *Agriculturist* Vol. XXI, page 372, (Dec. No.) and highly recommended. A subscriber, A. M. Ward, Hartford Co., Conn., writes that he was constructing such an article, when the paper containing our description arrived, and thinking it superior, he sends an illustrated description for the benefit of our readers. The board is 27 inches long, 18 inches wide, and $\frac{3}{8}$ inch thick; made of white pine, which should be sand-papered smooth, and may be wax polished if desired. Two strips of hard wood are fitted to the ends by tongue and groove, to prevent warping; this is preferable to the use of cleats. Ineh marks are made around the three sides, from left to right, which will be very convenient for measuring any work in progress. Additional finish is given by inlaying a $\frac{3}{4}$ inch strip of Boxwood around the edge, to receive these marks. Both sides of the board are finished alike, though this is not essential. The curve in front to receive the body of the person using it is four inches deep. Where much work is required, and the board is to be used by a strong person, Mr. Ward recommends to make it 24 by 36 inches, and the body circle 6 inches deep, and says he prefers to have it square cornered, and without supporting legs. Such a board will cost from 25 cents to \$3, according to material and finish, and it will save many a weary hour of bending over a table in cutting out dresses and other similar work.

COAL OIL FOR BED-BUGS.—One who has tried it says: "Tell the *Agriculturist* readers that if any of them are unfortunately troubled with bed-bugs and think nothing but the spirits of turpentine and nitrate of silver mixture will kill them, they labor under a mistake. Coal oil does it effectually, besides rendering the places where it is used, unpleasant

abodes for new comers. Use a stiff feather or quill and apply to all infected places. The offensive odor in a room soon passes off with free ventilation

For the American Agriculturist.

Convenience of Bags.

In many houses which I have visited, as I have noticed how various articles were "lying around loose" I have wished to say to the good woman of the house, "make a few bags," but as politeness forbade my appearing to notice any want of tidiness, I can only avail myself of the columns of the *Agriculturist* to give a few hints which will be seen by thousands of housekeepers. First there are the shoes and boots of the household, which are usually left standing in closets or corners, where they are liable to be misplaced, and where to me they always look unsightly. Make a bag of dark colored muslin to contain them, and have it hung on a particular nail in the closet, or if there be no room there, in some vacant corner of the bed-room. Always place them there when removed from the feet, and teach the children to do the same (after having thoroughly cleansed them) and they will always be at hand when wanted. Then a bag for each sleeping room to contain soiled clothing for the wash, will contribute much to the tidy appearance of the premises. It is any thing but inviting to see a sleeping room strown with such articles, and I do not wonder that many families are so sensitive about allowing strangers to inspect their sleeping apartments, when they are so frequently adorned with the garments awaiting wash-day. My opinion is that our rooms should be kept as pleasant for our own occupation as for that of strangers who seldom visit us. I have also found it a great convenience to keep bags for the reception of patches, strings, buttons and all the etcetera which usually encumber the family work basket. It saves no little time to be able to go at once to the proper receptacle for such articles, and I also find that the articles themselves are much more likely to be saved against a time of need, if there be a convenient receptacle at hand to receive them. In the pantry there should be plenty of boxes with close fitting covers, to contain the salt, and various kinds of spices, but if these can not be conveniently obtained, then muslin or paper bags may be made to serve a good purpose, and prevent much inconvenience and waste. I do not believe in having much bag-gage when travelling, with which to annoy gentlemen, hack drivers, and myself, but in housekeeping I have found great saving of time and patience in having an ample supply, and therefore give the hint to those who may need it.

MARTHA.

The Clothes Line.

This is too often a source of annoyance to the "women folks" on washing days. Many a makeshift is resorted to, such as driving nails in the house or some out building, and stretching a line from that to the nearest fence, supporting the line in the middle with a crooked pole. Both nails and hooks are objectionable, on account of rust, and a rain, by shrinking the line, often snaps the nails or hooks and lets the clothes down into the dirt. Every housewife should have a nice "bleaching plot" of grass from 20 to 25 feet square, and around this let the clothes line be stretched on four corner posts. If one cannot afford turned, painted posts, set rough ones with a cross pin near the top to prevent the line from slipping, but the turned posts, with a round head and small neck are much more ornamental. Make them of durable timber.

The writer once fixed a clothes line very conveniently in a carriage house with a hole for the line to pass out, and over a series of wooden pulleys fastened to several posts. The line was coiled around an axle inside, with a crank and stop or ratchet wheel, to wind up by. Putting the rope through the hole and raising the ratchet stop, the end was passed through the several pulleys, and

finally fastened to the last pole. The poles may be in a straight line or around a square, as desirable. Having fastened the end securely, put down the stop to the ratchet wheel and wind up tight. To take in the line, simply untie the further end, and wind up with the crank inside. Where no building is convenient, a box containing the wheel or axle, with a water tight, projecting roof may be set upon a post, and will answer the same purpose. An illustration of such an apparatus was published in the *Agriculturist*, vol. xx, page 277, (Sept. No.)

Value of Illuminating Oils.

A few years have shown a wonderful change in our methods of illuminations. Outside of cities and towns where gas is furnished, we, as a general thing, depend upon some form of mineral oil. Under the names of Kerosene, Carbon oil, etc., a great number of products are sold and used, and as these are of various prices, it is a matter of interest to know which of them gives the most light for the money. The cheapest oil does not of necessity give the cheapest light, and unfortunately there is no ready way in which people in general can settle this point for themselves. The only way in which the relative value of two specimens of oil can be determined, is by ascertaining the quantity required to produce an equal amount of light. The following is the plan used by those who practically test these oils, and may be practised by those who have the means, and are curious in such matters: Take two lamps, the wicks of which are of equal size, place them upon a table which stands a few feet from the wall, set a broom or stick against the edge of the table nearest the wall, in such a way that the lamps will cast a shadow of the broom handle or stick upon the wall. The lamps being at equal distances from the object, the strongest flame will cast the strongest shadow upon the wall; turn down or raise the wicks until both lamps throw shadows of equal strength. The lamps being weighed at the beginning of the experiment, and being so adjusted that they give an equal amount of light as determined by the shadows of the stick, are allowed to burn for some hours and then weighed again. Of course the lamp which has lost least, contains oil of the greatest illuminating power.

Hints for the Sick Room.

The body enfeebled by disease is disturbed by influences so slight as to be unnoticed by a person in health, and hence there is much suffering in the sick room, which might be alleviated by attention to a few particulars which are often overlooked. The invalid should occupy the most capacious, airy and cheerful apartment in the house, if possible away from the noise made by household operations, and where the odors from cooking can be excluded. The smell of food is nauseating in many instances, and in others it stimulates a craving which it would be improper to gratify. Usually there is too great dread of fresh air for the sick. We have seen every crack in the doors and windows carefully stopped, when the hurried breathing, flushed cheeks and uneasy restlessness of the fevered sufferer plainly showed that the disease was aggravated by breathing the poisoned atmosphere. Draughts of air directly upon the person are to be avoided, but the sick, even more than those in health, require abundance of fresh pure air.

Plain ceilings are always preferable to papered walls for sleeping rooms, and especially for the sick room. The eye of the nervous invalid will be fatigued by following the figures of the paper, and very often the disturbed imagination of the sufferer will see in them the most grotesque and hideous forms. The room should be carpeted, or in summer it may be covered with India matting, which gives the appearance of coolness. The furniture should be convenient without superfluous articles, to avoid much dusting and arranging. Medicines and other articles incident to sickness should be kept out of sight; it is almost enough to make a well person

sick to see a long array of bottles, tea eggs, etc., upon the mantel shelf, or on chairs about the room.

Kind friends are frequently a great hindrance to convalescence of a patient. They want to see him, to express their sympathy, cheer him up, or perhaps to recommend some new remedy. Very few if any visits should be allowed in severe cases of indisposition, and none except with the consent of the attending physician. Such calls should be made in the morning, before the patient is fatigued, and the visitor should introduce only pleasant topics of conversation if talking be allowable. None but the most thoughtless would remark upon the ill appearance of the sick person, or endeavor to entertain him with an account of the visitor's sufferings under similar circumstances. The nurse especially, should maintain a quiet but cheerful demeanor. All unnecessary motions, such as rocking in the chair, trotting with the foot, and noise of rattling paper, coughing, blowing the nose, etc., should be avoided. The aim should be in every way to administer to the comfort of the sufferer, and thus keep him in the most favorable circumstances for recovery.

Aerated or Unfermented Bread.

A friend asks us what is the character of this bread which is so generally sold in cities. The Aerated bread is made by machinery. The dough of flour, water, and salt is worked in a cylinder in such a manner that the carbonic acid gas which the cylinder contains, is completely incorporated with it. The dough is then baked, and the gas which is entangled with it, expands by the heat and renders the bread very light. To those who like unfermented bread this is very palatable, though it is not at all to our taste, any more than the bread raised by the use of soda and cream of tartar. In this as in the aerated bread, the lightness is obtained without any change in the flour. When bread is fermented by means of yeast or leaven, the flour undergoes a change and gives off carbonic acid, and if the fermentation is arrested at the proper point by baking, the resulting bread has a sweetness and a peculiar flavor which all the substitutes lack. It is only from the fact that bread making is a rare accomplishment, that these substitutes are welcomed, they being preferred to poorly made fermented bread. In half the families where yeast bread is used, it is allowed to ferment until it gets sour, and then saleratus or soda added to correct the acidity, making a compound unfit to eat. We entreat those mothers who know how to make good bread, to teach their daughters how to do it, else in a few generations bread making will be one of the lost arts.

Beef Tea.

Nothing is more nourishing than properly prepared beef tea, and it is usually acceptable to the convalescent. The lives of many of our wounded might be saved, could they be sustained by this concentrated nutriment. To make it in perfection, select perfectly lean beef, cut it into small pieces, rejecting every particle of fat; put the meat into a bottle, a common junk bottle will do, set it into a kettle of cold water, put it on the fire and let the water boil for two hours. The juice of the meat will be extracted by this method in a very concentrated form. It may then be strained off and seasoned with salt, and other condiments to suit the taste or condition of the patient.

Plants in Sleeping Rooms.

A lady subscriber wishes to know if it is injurious to sleep in a room where plants are kept. Plants in the absence of sunlight give off a small amount of carbonic acid, and any considerable amount of this renders the air unfit for breathing. If the sleeping room is as well ventilated as every room of the kind ought to be, we should not apprehend

any danger. A single additional person or child even, would tend to vitiate the air vastly more than the ordinary number of plants kept in rooms.

Sealing Fruit Bottles with Putty.

J. C. Emory, Luzerne Co., Pa., writes to the *Agriculturist* that having tried the plan recommended in this journal of sealing the mouths of fruit bottles with a cement of rosin and tallow, he found it sticky and troublesome to manage, and hit upon the following substitute. From the small putty pans he cut a circular piece just large enough to enter the mouth of the jar and rest upon the shoulder. When the fruit was prepared, one of these tin covers was introduced, and confined in its place by a roll of putty about the size of a pipe-stem, pressed down tight around the edge of the tin and against the sides of the neck of the bottle. He found this method entirely satisfactory, as the fruit was well preserved, and it was much more expeditious and less troublesome than cementing with the ordinary preparation. [We doubt the general utility of this. The putty would not be strong enough to resist a little outward pressure that may chance to result from slight fermentation. The "Baker Jar" (made by Bodine) saves all cementing, and as it may be used year after year, it is cheaper in the end.—Ed.]

Hints on Cooking, etc.

Green Tomato Pickle.—Contributed to the *Agriculturist* by Mrs. Mary A. G. Weeks, Essex Co., N. J.: Slice the tomatoes, with one-eighth to one-sixth as many onions: lay them down in jars, sprinkling in fine salt at the rate of about an ordinary teacupful to 8 gallons of the sliced fruit. Let them stand over night, drain; add a few green cayenne pepper pods and nasturtiums. Chop until not larger than grains of corn; drain thoroughly; pack in jars, adding white mustard seed, unground cinnamon, and bruised (not ground) clover. Pour on cold vinegar, cover with a plate within the jar, to keep the pickle under the vinegar.

Pickled Cabbage.—Contributed to the *Agriculturist* by "Aunt Mary," Rochester, N. Y. Cut the heads into quarters, let them stand a short time in cold water. Chop them fine, together with nice celery, sufficient to season it. Fill small jars or glass cans, with these ingredients; make a sweet pickle of molasses and vinegar, season with plenty of red pepper and cinnamon, and other spices to the taste, boil all together a few moments and pour over the cabbage while hot. Cork the cans and place in the cellar. This should not be eaten under three or four weeks. It is a nice relish at any time after sufficient pickling, with cold meats, etc.

To Pickle Ripe Cucumbers.—Contributed to the *Agriculturist* by "Olivia." Pare the fruit, and cut it to any shape that may be fancied, and let it soak in salt water forty eight hours; then boil in pure water until quite tender. Thrust bits of cinnamon, mace, and cloves into each piece of fruit, pack in an earthen jar, and fill with boiling vinegar sweetened to the taste.

Hotch Potch.—Take any cold meat, chop or slice fine, season with salt and pepper or sage, if liked. Add to this half as much stale bread, or potatoes that have been hoiled. Stir the whole together and enclose it in a crust as for chicken pie, and put up the same way. Bake one half hour.

Home-made Hard Soap.—The following directions are communicated to the *American Agriculturist*, by Mrs. Abraham Brower, of N. Y. City: Boil together 9 quarts of water, 5 lbs., of cleau grease, 1 tablespoonful of salt, and 1 lb. "Concentrated Lye," to be had at any large drug store. Continue to boil until a little tried on a cool plate is found to be sufficiently hard. The above makes about 18 pounds of good hard soap. It can be cooled over night in a wooden tub or other vessel, then cut into cakes of convenient size.



A Lesson from the Wheat Field.

The lad in the picture is learning a lesson he will not soon forget. It is worthy to be remembered by every boy and girl, and would do no harm to a good many grown people. This boy had been walking with his father in the village street, where he was much pleased with the looks of a finely dressed young man who was strutting about with a consequential air, swinging a cane, and carrying his head very high, as though he owned half the place, and knew more than all the people in it. When the boy's father stopped to talk with an ordinary looking man, that was passing thoughtfully along with his head down, the little fellow grew quite impatient, and afterward said, "That man don't look smart, I'd rather be like the gentleman we saw a little while ago." They strolled out to the fields, and presently the father stopped near a plot of wheat, and requested his son to examine the heads on the different stalks. He soon found that those which stood upright were empty and worthless, while those filled with grain bent down toward the earth. "There," said the father "is a picture of the men you met this morning; the one who carried his head so high, was a foppish young clerk who spends all his earnings for dress; the other was Judge C., one of the most learned and respected men in the community." "You mean he is headed out well," replied the boy, for he understood the lesson and felt its force. "Yes," replied the father, "the more a man knows, the more humble he is likely to be, for the more he sees how many things there are yet to learn; while the ignorant are usually conceited, and carrying a high head is almost a certain sign there is little in it. We trust our young readers will strive to be "well headed out," as the boy expressed it, and that if tempted to show off how much they know, they will remember the lesson of the wheat-ears.

Coaxing Out Whiskers.

A correspondent of the *Agriculturist* relates the following: A young man who had recently entered a large village store as clerk, was very desirous to appear well in the eyes of the ladies. Being very vain, he naturally supposed he could best gain their attentions by adding to his personal attractions, and accordingly he was in great haste to raise a moustache and whiskers, which he thought would make him altogether irresistible. One of his fellow clerks, a mischievous wag to whom he had told his wishes, resolved to have some sport with him. Accordingly he informed the beardless youth that a friend of his, a physician, could furnish a preparation which would bring out the hair in an incredibly short space of time. The young man had seen advertisements of such compounds, and suspecting no trick, eagerly asked for a bottle of the mixture. A few days afterward, his companion brought him a vial, with directions to apply the contents carefully wherever he wanted hair to grow, but by no means to touch any other place with it, as it was very powerful. Upon retiring at night the young man gave his upper lip and chin a good dressing with the liquid, and turned in to dream of a splendid beard. Of course in the morning he at once looked at the glass to see the effect produced. But one look was enough, his lip and chin were stained black as a negro's, with a solution of nitrate of silver. In vain he washed and scrubbed; the color was fixed, and could only wear off. To add to his dismay, a loud shout greeted his ears, and he saw all his fellow clerks, who had been let into the secret, almost convulsed with laughter. Hastily dressing himself, he muffled his face, rushed to his distant home,

and concealed himself until his face resumed its natural color. This was a severe and unwarrantable joke, but it partially cured the young man of his silly ideas, and on the whole was a benefit to him. Whenever he assumed any airs, his father had only to ask if his whiskers were yet grown, to bring him to his senses.

Sagacity of a King Bird.

The writer was once walking near a cliff which overhung the sea, when a young King Bird (*Tyrannus Intrepidus*) started from the fence near by. The wind was blowing hard at the time, and I at once saw that his youthful wings were unaccustomed to buffet the fierceness of the blast. He arose easily as a kite would ascend. But when he had attained a few feet, the difficulty was to drop again to the earth. Indeed all his efforts only seemed to carry him higher. The wind lifted him up, until he was unable to fly against it. For a few moments he stood almost still in the air. His greatest exertions only serving to make him hold his own. Soon his strength failed and he gradually fell away as the wind bore him off toward the water. I watched, unable to help him, and trembling for his approaching fall. I knew that, like a helpless ship, he would soon be engulfed in the ocean. Faster and faster he was floating toward the deep. He had almost ceased to struggle, when all at once, as though another bird had fallen from heaven there appeared two, one behind him, beating him down with her wings. The mother bird had seen her offspring's danger, and coming to his aid, flapped him down with her wings, when only a few yards of earth separated him from the waters beneath. I breathed freer when I saw him safe, and left the mother to rejoice with her fledgling, thinking now often was a similar scene enacted in our own childhood.

A. H. G.

Boys' and Girls' Garden - No. 5.

In our last talk with our young friends we attempted to give them a general idea of the parts of the flower and their uses. As the space was limited, we gave a mere outline without going very much into particulars, knowing that we should be obliged to go over the ground again. It was stated that the Flax flower, which we took for our illustration, had two sets of leaves, making together what are called floral envelopes, the outside one being the calyx, and the inner one the corolla. The calyx in the Flax is made up of little green leaves called sepals. All the parts of the flower are to be considered as leaves adapted to serve a particular purpose. Some of the parts look very much unlike leaves; but having seen how different from the common leaves are the cotyledons or seed leaves, you will have no difficulty in understanding that the leaf may differ still more widely from its ordinary shape to serve the purposes of the flower. The parts of the calyx are so like common leaves that it is easy to see what their real nature is. Next within the calyx is the corolla, which, in the Flax, consists of five distinct petals. These are usually of some other color than green, and are of a different shape, and of much more delicate texture than ordinary leaves. Still the botanist looks upon the petals as leaves in a peculiar condition, and the fact that flowers are sometimes found with green leaves in the place of petals, shows that this view is correct. If you pull the Flax flower apart you will find that the petals are all separate and distinct, but if you take the flower of the Tomato (fig. 21), you will not be able to pull off any separate petals. You will see that this flower differs from the Flax in having the petals united or grown together part way up. When the flower of the Tomato is pulled apart, the corolla comes off in one piece. We have taken the Flax as a starting point from which to illustrate the structure of the flowers in general. By altering the shape of the petals, making them broader or narrower, blunt or pointed, a great many shapes would be got from a flower



Fig. 20.—FLAX.



Fig. 21.—TOMATO.

in other respects like the Flax. When the petals are united at the edges, as in the Tomato, we get other kinds of flowers. This union of the petals may extend only part of the way as shown in the Tomato, or they may be united for their whole length as is seen in the Morning Glory (fig. 22). The corolla of the Morning Glory is all in one piece, and looks very different from that of the Flax. By carefully examining the corolla of the Morning Glory, you will see five lines or seams, showing that the corolla is of five parts which are all united together by their edges in one piece. Flowers which like the Tomato and Morning Glory, have the petals more or less united, are called *mono-petalous*, meaning one petaled, or rather that the petals from being joined together appear as one, while those which have the petals separate like the Flax, are called *poly-petalous*, or many petaled. The flower of the Pea looks very different from that of the Flax, and at first sight there does not seem to be much similarity between them; it is a very irregular looking flower, but when we pick it to pieces we see that there are five parts to the corolla, but they are of such different shape and size as to give the flower a very odd appearance. Fig. 24, represents the flower of the Pea. Beginning at the upper side of the flower, there is a very large petal, which is so much bigger than the others that it seems to make up the largest part of the flower. In flowers which are made after the same pattern as that



Fig. 22.—MORNING GLORY.

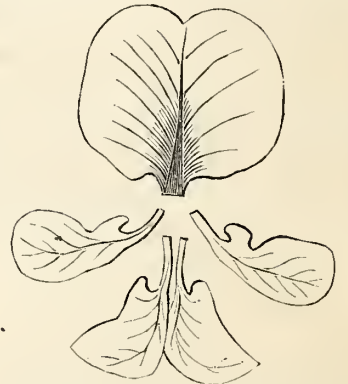


Fig. 23.—PEA BLOSSOM SEPARATED.

of the Pea, this petal is called the *banner*. Just below this and placed at the right and left are two smaller petals which are called *wings*, and between the wings is a rounded body looking something like the prow of a boat, and for this reason is named the *keel*. If the keel is removed and opened it is found to be made of two petals joined by their edges, but separated below as they are shown in fig. 23. We have illustrated four flowers widely differing in appearance—the Flax, Tomato, Morning Glory, and Pea—yet they are all made upon the same plan. The parts of the corolla are in fives, (except the Tomato which has from 5 to 10 parts) and however they may be disguised by uniting with one another, or by having some parts larger, or of differing shapes, the general plan is the same. Though we have shown the variations in only four flowers, any one who has thoroughly studied the structure of these, will have but little difficulty in making out the nature of all other flowers. The parts of the Flax are in fives, which is perhaps the most common number, but other flowers are in fours or threes. When we look around among flowers, we find an infinite variety, and it would seem at first sight that they are made upon widely different plans, but with the Flax flower in view, and the variations that have been shown, we think you will have little difficulty in understanding the structure of all *single* flowers. We shall speak of the double ones at another time. You have learned where to look

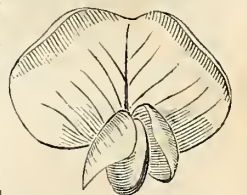


Fig. 24.—PEA BLOSSOM.

for the calyx and corolla, and have seen that the corolla can be united in one piece as in the Tomato and Morning Glory, or that its parts may be very unequal in size, and two of them be united, as in the Pea. By following out these changes, a great variety of forms can be produced. This study of shapes is called *morphology*. You have seen a little of the morphology of leaves, and have had illustrations of leaves which though differing widely in form, still performed the same office. In the flowers spoken of above, you have seen how the shape of the parts may be changed and yet they still occupy the same relative position and serve the same purpose. This is one of the most interesting things in the study of plants; to see how wonderfully the parts may be varied and yet be essentially the same. Leaves might have been all alike and the flowers all the same shape, and the great purpose of vegetation would have gone on the same. It would seem that the Creator had introduced this wonderful variety merely to please our senses and gratify the love of the beautiful that he has made a part of our nature. When, after admiring flowers we begin to study and examine them, we are still more impressed with the skill which planned them, and wonder at the infinite variety that can be wrought in a few simple materials. We see illustrations of morphology in the common objects about us. The log cabin is not essentially different from the costly dwelling; both have four walls and a roof, and these differ in shape and materials in accordance with the wants and means of the owner. Our articles of dress are changed in fashion every year; the coat, hat or gown of five years ago looks odd to us now, yet it is the same as worn at present, only differing in the shape of its parts. The changes which a hat assumes illustrate very strikingly the subject of morphology. The simplest form of hat is a mere bag with a string around it to fit it to the

Upon being reminded that she ought not to forget her prayers, she half opened her eyes and dreamily murmured, "Now I lay me down to sleep, I pray the Lord"—and then adding "He knows the rest," she sank upon her pillow, in His watchful care who "giveth his beloved sleep." It was a fine illustration of faith.

New Puzzles to be Answered.

No. 47. *Illustrated Rebus*. Something often forgotten.



No. 48. *Arithmetical Problem*. Contributed to the *Agriculturist* by J. McCulloch, Logan Co., O. A person has a distance of 46 2-13 miles to go and return, and has but 3 hours to do it; he travels 60 per cent. faster in going than returning. What rates per hour does he travel in going and returning?

No. 49. *Arithmetical Problem*, by the same contributor. Two men, A and B, worked separately on a job; first A worked 2/3 of the time that B would have taken to do the whole job, then B finished the whole job; now had they both worked together, it would have been done two days sooner, and A would have done only half what he left for B. In what time could each do the job separately?

Answers to Problems and Puzzles.

Answers to Problems and Puzzles in July number, (page 217.) No. 44. *Illustrated Rebus*. "A w R knot the vest hat dogs bark at," or, "All are not thieves that dogs bark at." No. 45. *Curious Sentence*. Wright, write rite right. No. 46. *Arithmetical Problem*. Answer: A should receive \$171 99-331, B should have \$98 232-331.

The following have sent in correct answers; the numbers indicate the problems, etc., answered by each: Thos. R. Newton, 40, 43; T. R. S., 40, 41, 43; Ruel L. Smith, 41; Charles Munger, 40, 41; Fred. E. Parker, 41; Jessie E. Bradley, 41, 43; C. A. K., 41, 42; Eleanor H. Risdon, 40, 41, 43; H. S. Anderson, 44; Thomas S. Monroe, 44; C. Coggeshall, 43; S. Emma Barker, 46; Annie M. Low, 44; J. W. English, 44, 46; Lizzie S. Bundy, 44, 45, 46; B. B. Baum, 44; Sarah Roley, 44; James M. Cox, 44, 45, 46; Luey H. Lazear, 44; Mary Ida Lazear, 40, 41, 43; James Dilts, 44, 45; George A. Goodrich, 44, 45; I. Hoffman, 44; Wirt C. Williams, 44.

Editorial Correspondence.

Gettysburg Battle-Field.

Gettysburg, Pa., Thursday, July 7, 1863.

On learning of the great battles of July 1, 2, and 3, I determined to abbreviate my agricultural tour, and hasten here to see with my own eyes, the field of the greatest conflict that has yet occurred on this Continent, and one which has seldom been equalled in the Old World during modern times. In its results, it is scarcely less important than any battle in the world's history. Just a year ago I passed over the field of Waterloo in Belgium, where the armies of Europe settled the fate of empires and the form of governments for ages to come. As I now write, my eye takes in at a glance the wide field where, within a week past, nearly or quite two hundred thousand men were engaged in mortal strife, upon the result of which, it would now seem, is to depend the future of the people of this western world. Had the scales turned decisively the other way, it would have materially changed the style of American society and civilization in this country. If, as it is hoped, the victory at the close of the contest last Friday morning, is the turning point of the war that has desolated our country for more than two years past, this field will indeed be memorable in future history. Emotions too deep for utterance, fill my mind as I look over the surrounding valley and the dozen hills in sight, almost every foot of which was but last week trodden by armed hosts. I will not attempt to describe the scene or the occurrences, but will jot down a few items that may interest the readers of the *American Agriculturist*, so many of whom had sons, or brothers, or husbands, or fathers, among the heroes who fought and perhaps bled and died here, and all of whom are so intensely interested in the consequences of the contest.

I arrived here at daylight on Tuesday morning, in company with some of the delegates of the "Christian Commission." We immediately went to the largest hospital camp, that of the Second Army Corps, which is located some 3 1/2 miles south of the village—the wounded of this corps having been taken to that point during the progress of the battle, to be out of reach of the flying missiles of death. The camps of the other corps are

similarly located at different points. Very few of the thousands of visitors constantly arriving and departing, find their way to these camps, where are to be seen the real evidences and the more marked results of the strife. The main army has followed in pursuit of the retreating enemy; the driving rain of yesterday has smoothed the surface of the ground that was disfigured by the plowing shot and shell, and by cannon-wheels and horses' hoofs. With here and there an exception, the dead lie covered beneath the ground where they fell, and the rain has flattened the hastily-made graves of the enemy, so that near observation is required to find them, though numbering many hundreds, if not thousands, scattered all over an area of five miles long, and nearly two miles wide—sometimes in groups of three, five, and up to fifty, but oftener one in a place. The graves of Union soldiers are generally banked up, and are mostly marked by a board, giving the name, company, regiment, and State. This enables friends to find their remains, and the work of removal has already begun. The graves are in the fields, on the hillocks, in the groves, etc., and one sees but a few from any single stand-point. The most visible signs of the contest are the demolished fences over a thousand or more acres; the hastily-thrown-up breastworks (of rails, stones, and earth, here in 20-foot semicircles, there in long lines; yonder in little mounds as rifle-pits; the thousands upon thousands of guns, military equipments, and clothing thrown away in flight, or dropped by killed or wounded soldiers, and the solid cannon-balls, or exploded or unexploded shells that strew the ground. The rain has entirely washed away all blood, and covered most of the smaller missiles, though half a million cartridges and musket-balls could doubtless be gathered. In a dozen groves, there is hardly a tree that is not scarred by bullets or cannon-balls, while from many, a branch or two is lopped off, or the trunk is severed at some point above the ground. The most visible effects, however, are the unburied carcasses of horses, the bodies swelled to double size, and already white with maggots. From the sight and smell of these, one can hardly escape, go where he will on over a thousand acres. At one point, close by the little board dwelling where Gen. Meade had his headquarters at first, I counted fifty dead horses within the space of half an acre. The building itself is shattered in a dozen places by pieces of shell. A looking-glass hanging in front of the General's writing-desk, was struck by a shell fragment. A piece of this glass is among the few mementoes I have picked up. At the tower end of a gully, I noticed at least three wagon-loads of clothing, blankets, cartridge-boxes, scabbards, etc., that had been washed there by the rain-torrents that poured down all Wednesday forenoon with a violence never before known by the oldest citizen.

But all the above are feeble evidences of war, as compared with the camps. I visited and worked in three. I went to look at them, but there were too many suffering ones, friends and enemies, needing a cooling or stimulating draught, a little bread, or a change of position, to allow of time spent in gratifying curiosity, and I gladly joined hands with my brother agricultural editor, Mr. Spangler, and with the few members of the Christian Commission who had found their way through mud and rain, bearing food, raiment, stimulants, etc. No one who could witness the relief afforded by a warm, clean garment, a taste of wine, brandy, or extract of ginger, would ever after give with a sparing hand, or indulge his own appetite for luxuries, while soldiers are lying wounded in hospitals, and camps. In the 2nd Corps camp alone, we found nearly or quite three thousand wounded men, about one third of them of the enemy, who left behind thousands upon thousands of the worst wounded, but left no surgeons, and none of their more slightly injured, who could have aided the others. Our surgeons were hard at work, and had attended to most of their own men, but many of the enemy were still lying on the ground in the rain, their wounds untouched, five days after the battle. Their own destruction of roads and bridges rendered it utterly impossible to get in supplies or nurses for them at once. I am glad to say, that yesterday afternoon, and this morning, hundreds of men, and tons of supplies have arrived from the Christian Commission, the Sanitary Commission, the Firemen, and Adams' Express Commission of Baltimore, and many other city and town associations, so that at this hour, every man, friend or enemy, is being cared for. But oh! the sad spectacle I witnessed yesterday morning as I went round among three thousand wounded men, giving a cup of water here, a stimulating draught there, a piece of soft bread to this one, some tanna to that one; now shifting the position of one who had grown stiff from lying days and nights in the same place, and now helping to move another from a pool of water gattering around him. The broken and shattered limbs, the torn bodies, the busy surgeons in that grave! The scene will never fade from my memory. I have often read of these things but no pen can give even a faint idea of the reality. I spent my time mainly with the fallen enemy, for these were most

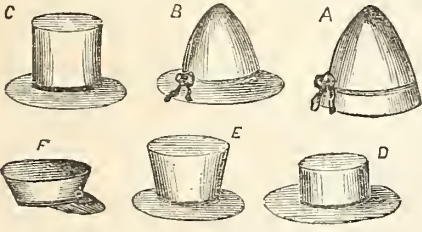


Fig. 25.—CHANGE OF THE HAT.

head of the wearer, as shown at A. This would answer the first use of a hat: to keep the head warm. By turning out the portion below the band as shown at B, we get a brim which also shades the face, and here we have all that is required in this article of dress. To please the fancy we press out the crown and stiffen it so as to take the common shape C. By slipping the band further up, the brim is widened and the crown shortened as shown at D. If the crown is spread out above, we get the "bell crown" E, worn by our grandfathers. The cap, one form of which is shown at F, is only a low crowned hat with the greater portion of the brim cut away, leaving the visor or plate. These illustrations might be carried on to a much greater extent, so as to show that every style was

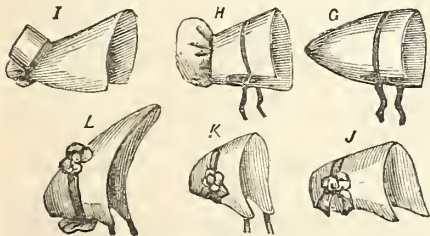


Fig. 26.—CHANGE OF THE HAT.

a simple modification of the simple hat shown at A. Our original hat is capable of other changes: lay it on its side, untie the bow of the band, and cut out an opening for the neck and you have G, a very rude form of a bonnet; the ends of the band form the string which will serve to tie under the chin. If the crown is swelled out as at H, we get a not unusual style of bonnet. By varying the shape of the crown we produce the shape shown at I, which is a style worn within our recollection, and by reducing the crown and swelling the front the more modern styles J, K, and L, are obtained. If you have had any amusement in tracing out these shapes of the hat, recollect that we have given them only to help you to trace out in the various *single* flowers you meet, the variations from the Flax flower which was taken as a pattern or starting point.

HE KNOWS THE REST.—A little girl was carried to her room at night and laid upon her bed, while half asleep.

in need. How their sufferings wipe out the remotest feeling of enmity! Most of them were from North Carolina, and in bitter tones did they complain of those who had brought on this war, and forced them to take part in a strife for which they had no heart—a strife to break up a Union which they loved.

Exhausted by labors in which I had been stimulated to exertion far beyond ordinary endurance, and relieved by hundreds of fresh hands, I left the camp to-day, and have this afternoon walked and ridden around the battle fields to gain some idea of the contest. I have not time, strength, or space for more than a brief description.

I write sitting upon a marble shaft broken by a cannon ball in the cemetery, on a hill, the summit of which is about on a level with the tops of the church steeples in the village of Gettysburg, 75 to 100 rods north of me. A gentle valley about a mile wide comes in from the east, bends around north of the village, and runs west, then southwest, and nearly south. High ground extends from this cemetery to the southwest, and a low broad ridge gently slopes off into the valley, and terminates in a bluff of bare rocks facing the west, beyond which is a high round-topped hill. Back of me (south) is low ground, followed by alternate ridges and valleys. On the right (southeast) are several hills partly wooded, with hollows between. Directly east is the valley first described. A hundred rods or so southwest of me is the little house at first occupied by Gen. Meade, with a grove on this side. Just back of my left is another little grove. Away beyond the valley, on the north, northeast, northwest, and west, are a succession of elevated knolls, forming almost a continuous ridge. Woods upon some of these, and in the hollows beyond, form apparently a continuous grove, which screened the movements of the enemy in transferring corps and brigades, from wing to wing. The low hills around the northern side of the whole semi-circle were occupied by the batteries of the enemies' cannon, which sometimes concentrated their entire fire on the spot where I sit, and the shells went over and across, often falling in the valleys for a mile or two south. Their effects are seen in the dead horses and the scattered graves. Part of our troops were placed upon this point (Cemetery Hill) and along the high ground a mile southeast, and three miles or so southwest, while others were in the valleys to the south, and were moved to the left or right as required by the exigencies of the battle.

The first day (Wednesday) Gen. Reynolds' Corps marched through the village to the hills northwest, where they discovered the enemy before concealed by the hills and woods. After a sharp contest this Corps were overwhelmed, and retreated through the village to the Cemetery Hill. During the night the rest of our army came up from the south, and the balance of the enemy came in from Chambersburg, at the northwest, Carlisle at the north, and York at the northeast. All day Thursday and Friday, was spent in attempting to drive our men from their position, or break through their lines. More than a hundred cannon upon the circle of hills, with occasional intermission sent a shower of shells over the valley. Now on the right, and now on the left, large bodies of men would come dashing through the valley, and attempt to force their way through our ranks. The moment they appeared in sight, our shells began to fall upon them; when from $\frac{1}{2}$ to $\frac{3}{4}$ mile distant, canister shot mowed down their fearful swaths; when almost up to the canon, long lines of men rose from behind stone fences, or extemporized breast-works of rails and earth two to three feet high, and rained in upon them myriads of minie balls, and in every case the shattered columns though almost up to our men, were sent flying back through the valley in disorder. Sometimes they threw into confusion and retreat a small body of our men advanced far into the foreground, but ere they reached the established lines, the quick eye of the General had observed it, and a reserved force was sent forward, who had been until then concealed in the low ground or woods at the rear (south) or engaged in the other wing, and these turned back the tide. At the left, where are two groves, the battle moved back and forth several times. A farm-house and barn at this point are shattered by shells and canister shot, from garnet to cellar. (I have in my pocket a canister shot that went through the door, through a partition, and lodged in the plastering on the opposite side of the parlor.) Thirty graves of the enemy's officers are seen near the barn, marked by head-boards. In a wheat field close to the woods out of which our men emerged in one of these counter charges, I counted on a space less than 100 feet square, forty-nine bodies of the enemy, unburied two hours ago. The grand final attempt was made on Friday toward evening. A body of men (in solid ranks as far as the eye could see, says a slightly wounded soldier by my side) came driving across the plain or valley a little west of the village, on our left center. They were determined to break through by force of numbers. But, as in other cases, they were hurled back, thousands of them falling dead or wounded, (only one out of eight or ten who are hit, is killed). In the confusion thus produced, a column of

our men concealed in a hollow, and by bushes a little further south, closed in around some 3000 of the broken mass, and took them prisoners. The rest retired again over the valley, and thus ended the three days' strife. With a bold show in front, the enemy retreated, concealed by the hills and woods, on Saturday and through the night. As our own men entered upon the vacated ground, the wounded enemy were found in fields and groves for miles away, and they are yet being found and brought in. The churches and almost every house in the village are filled with wounded, in addition to the hospital camps, though none of the latter are so large as that of the 2nd Corps above referred to. Strange to say, though tens of thousands of missiles were hurled over and around the village, very few houses show any marks, and the inhabitants in part remained in safety, as all could have done.

But I must close, for I have already provided for filling all the spare columns. As I sit here and take in the field of contest at a glance, and think of the results to flow from it in the long future, I can not refrain from sending these few items to our readers. It were worth a long pilgrimage to come here, not to gather relics, but to contemplate on the ground itself the stirring events which have so recently transpired on this Waterloo of America, this triumphant battle field of American Freedom.

Business Notices.

Eighty Cents a Line of space.

Pure and Economical Articles for Family Use.

**Pyle's Cream Tartar,
Pyle's Saleratus,
Pyle's Baking Soda,
Pyle's O. K. Soap.**

Housekeepers will find these articles reliable, and the cheapest in the end. Sold by Grocers everywhere.
JAMES PYLE, Manufacturer,
350 Washington-street, corner Franklin, New-York.

The Avoidable Causes of Disease,

Insanity, and Deformity, Marriage, &c., by John Ellis, M. D.—two volumes in one—is the most interesting and useful book of the age, and every farmer should have it; for the health and lives of his wife and children are of more consequence than horses, cattle, sheep and farmers. This volume will be sent by mail, postage paid, for \$1.25. Address Dr. John Ellis, 47 West 29th-street, New-York. Dealers may apply to the Publishers,
MASON, BROTHERS,
5 & 7 Mercer-street, New-York.



THE CRAIG MICROSCOPE.

This is the best and cheapest microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters, or 10,000 times, and is so simple that a child can use it. It will be sent by mail, postage paid, on the receipt of \$2.25, or with six beautiful mounted objects for \$3, or with 24 objects for \$5. Address HENRY CRAIG,
180 Centre-st., New-York.
A liberal discount to the trade.

Lands—To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from \$15 to \$20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information sent free.

The Markets.

AMERICAN AGRICULTURIST OFFICE,
New-York, Saturday Morning, July 18, 1863. }

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days this mth	552,000	2,874,000	2,769,000	48,000	28,500	1,255,000
25 days last mth	560,000	3,162,000	3,294,000	27,000	58,000	1,610,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days this month	411,000	2,929,000	2,856,000	98,000	11,000	11,000
25 days last month	375,000	3,256,000	3,631,000	82,000	56,000	

2. Comparison with same time last year.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days 1863	552,000	2,874,000	2,769,000	48,000	28,500	1,255,000
23 days 1862	654,000	3,239,000	2,355,000	73,000	43,000	447,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
24 days 1863	411,000	2,929,000	2,856,000	98,000	11,000	11,000
23 days 1862	642,000	4,726,000	3,052,000	132,000	6,000	

3. Exports from New-York, Jan. 1, to July 13.

	Flour.	Wheat.	Corn.	Rye.	Oats.
Bbls.	Bush.	Bush.	Bush.	Bush.	Bush.
1863	1,339,192	7,904,527	5,871,353	318,103	114,889
1862	1,552,583	8,045,042	6,612,533	849,983	22,023

4. Receipts at Albany, by Canal, each of the last three seasons, to July 14.

	1861.	1862.	1863.
Canal opened May 1.			
Flour, bbls.	345,500	561,700	491,700
Wheat, bush.	9,764,900	9,649,100	7,090,900
Corn.	5,889,000	5,671,100	9,167,100
Barley.	135,800	419,700	5,900
Oats.	1,938,000	1,454,500	3,427,700
Rye.	264,500	318,500	121,000

CURRENT WHOLESALE PRICES.

	June 18.	July 18.
Flour—Super to Extra State	\$4 75 @ 6 05	\$4 00 @ 5 50
Superfine Western.	4 75 @ 5 00	4 00 @ 4 50
Extra Western.	5 50 @ 9 50	5 00 @ 9 00
Extra Genesee.	6 10 @ 7 75	5 60 @ 7 25
Super, to Extra Southern.	6 25 @ 9 50	5 80 @ 9 00
RYE FLOUR—Fine and Super.	3 40 @ 5 25	3 40 @ 5 20
CORN MEAL.	4 25 @ 4 55	4 00 @ 4 40
WHEAT—All kinds of White.	1 60 @ 1 75	1 40 @ 1 60
All kinds of Red.	1 17 @ 1 55	1 08 @ 1 32
CORN—Yellow.	78 @ 81	76 1/2 @ 79
Mixed.	75 @ 78	64 @ 66
OATS—Western.	78 @ 81	73 @ 75
State.	80 @ 81	75 @ 76
RYE.	1 03 @ 1 05	90 @ 1 03
BARLEY.	1 00 @ 1 25	Nominal.
BEANS—per bushel.	2 00 @ 3 15	2 00 @ 3 30
COTTON—Middling, per lb.	57 @ 58	@ 60
HOPS, crop of 1862, per lb.	15 @ 22	14 @ 21
CATTLE. Live Cattle, p. lb.	43 @ 50	48 @ 50
SEED—Clover, per lb.	8 1/2 @ 9 1/2	Nominal.
Timothy, per bushel.	2 00 @ 2 25	Nominal.
FLAX, per bushel.	2 45 @ 2 60	Nominal.
SUGAR—Brown, per lb.	9 @ 12 1/2	9 @ 12 1/2
MOLASSES, New-Orleans, p. gal.	38 @ 50	35 @ 48
COFFEE, Rio, per lb.	28 1/2 @ 31 1/2	27 @ 29 1/2
TOBACCO. Live, p. lb.	12 1/2 @ 31	12 @ 30
Seed Leaf, per lb.	13 1/2 @ 42 1/2	10 @ 40
Wool—Domestic fleece, p. lb.	60 @ 80	65 @ 80
Domestic, pulled, per lb.	48 @ 75	55 @ 75
Wool, California, unwashed.	22 1/2 @ 50	25 @ 55
TALLOW, per lb.	31 @ 11 1/4	9 1/2 @ 10
OIL, CARB, per tub.	47 50 @ 50	35 00 @ 45 00
PORK—Mess, per bbl.	12 75 @ 13 00	13 75 @ 14
Prime, per bbl.	11 50 @ 11 75	11 00 @ 11 25
BEEF—Plain mess.	9 75 @ 11 75	9 50 @ 11 75
LARD, in bbls, per lb.	9 1/2 @ 10 1/2	9 1/2 @ 10
BUTTER—Western, per lb.	16 @ 19	14 @ 17
State, per lb.	16 @ 22	15 @ 21
CHEESE.	8 @ 11	9 @ 11
Broom Corn, per lb.	8 @ 10	8 @ 10
EGGS—Fresh, per dozen	15 @ 17	18 @ 20
POULTRY—Fowls, per lb.	9 @ 12	10 @ 16
Ducks, per lb.	16 @ 18	16 @ 18
Geese, per lb.	6 @ 8	5 @ 8
Turkeys, per lb.	18 @ 10	8 @ 10
POTATOES—Dyck, per bbl.		3 00 @ 3 50
MERCERS, per bbl.		3 50 @ 4 00
TURNIPS—Ruta Baga, per bbl.	75 @ 1 00	1 50 @ 1 75
ONIONS, Red & Yellow p. bbl.		3 00 @ 3 25
CABBAGES, per 100.		4 00 @ 6 00
CUCUMBERS, per 100.		1 00 @ 1 25
DRIED APPLES, per lb.	3 @ 6	4 @ 6 1/2
DRIED PEACHES, per lb.	15 @ 16	15 @ 16
CURRENTS, per lb.		3 @ 4
GOOSEBERRIES, per bushel.		2 50 @ 3 50
HUCKLEBERRIES, per bushel.		2 50 @ 3 00
BLACKBERRIES, per bushel.		2 00 @ 2 25

Business in all articles of Domestic produce has been restricted, during the past month. Lee's invasion of Maryland and Pennsylvania, early in the month, occasioned great alarm, and a partial suspension of all other than military operations. His speedy defeat by Meade, and the glorious news of the capture of Vicksburg, Port Hudson, and Chattanooga, restored public confidence. Gold accordingly fell off rapidly, closing as low as 125 1/2 c. @ 126 c., or at the reduced premium of 25 1/2 c. @ 26 c. per cent. This sharp reaction of course brought about a corresponding decline in the market value of most kinds of produce, particularly Breadstuffs; and made holders very eager to dispose of their supplies, rather than take the risks of the future. Buyers, however, have been reluctant to purchase freely, especially for export, owing to the great depression in the market for Sterling Exchange Bills, which are usually governed by the price of Gold. At present, all parties are sorely puzzled to determine what to do. Holders are unable to discover any encouragement to reserve their stocks, while purchasers are afraid to buy more than they immediately require, as the probabilities are in favor of a further depreciation in prices. The opening of the Mississippi River is not regarded as of so much advantage to commercial interests, as to the National arms, in a military sense. Trade on the river, during the present war, it is argued must be attended with extraordinary hazard, and therefore can not become very extensive or prosperous, before the return of peace. It is true that the impoverished people of the valley, within the limits of the rebellious States, must need and doubtless procure supplies of food; but any demand, beyond this, is not looked for immediately. As a means of conveying produce to the seaboard for shipment thence, the Mississippi can not be relied upon, until hostilities shall have been brought to a close. The Canals and Railroads of the loyal North will consequently continue to the end of the war to enjoy a monopoly of the forwarding business. New-York will continue to receive the bulk of the produce coming eastward from the interior, and stocks in this market will be likely to keep in excess of the actual wants of the trade of the port, which will depend for its volume and prosperity, very largely on the premium which gold will command. If gold should continue to decline, merchants apprehend a sweeping derangement of business, temporary it is true, but, nevertheless, decidedly injurious. As it is, the fall of 25 @ 30 per cent. has had a most depressing influence on all commercial interests, and caused unusual irregularity

in prices of many descriptions of merchandize. Almost every agricultural product is much cheaper than it was a month ago, and still tending downward.

N. Y. Live Stock Markets.—The Cattle markets were well supplied with animals for the first two weeks following the last report in the *Agriculturist*, and prices remained quite uniform; then we had 5,304 beeves for a single week, and a decline of 1/4c. to 1c. per lb. was the result.

Veal Calves.—Weekly receipts 1,190 and prices are 1/4c. lower; the best calves selling for 7c. per lb., five weight and pretty good ones 6c; Demand good.

Sheep and Lambs.—The average receipts amount to 10,526 per week. They are 1/4c. lower than a month ago, and are coming forward quite as fast as wanted, the numbers being largely in excess of last month's receipts.

Live Hogs.—Receipts average 10,000 for the past four weeks, and the market continues quite uniform at rates last quoted, or 5 1/2c. @ 5 3/4c. for corn fed and 4 1/2c. @ 5c. for still fed hogs.

The Weather.—Has generally been favorable for growing crops, during the past four weeks, though rather dry at first, and latterly too wet to give farmers a good opportunity to secure their grain.

Thermometer at 6 A. M., New-York.
[Observations carefully made upon a standard Thermometer (Fahrenheit.)—r indicates rain—s, snow.]

Table with columns for dates and temperature readings for June and July.

Circulation of the Agriculturist.
Beyond all doubt or controversy, the circulation of the American Agriculturist to regular subscribers, is many thousands greater than that of any other Agricultural or Horticultural Journal in the World, no matter what its character, or time or place of issue.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion):

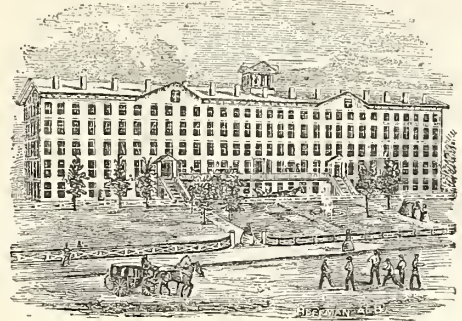
WANTED TO BUY a small farm in the neighborhood of New-York. Address with terms, etc., J. H. SNYDER, Box 1663, New-York P. O.

For Sale Cheap.

240 acres of good No. 1, Prairie land, ten acres of which is broke, adjoining timber, 2 1/2 miles of Flouring Mill, 3 miles of Saw Mill, 13 miles from two rivers, by which there is water communication with St. Joseph, and St. Louis, being but about 80 miles from the former. Situated in Fremont Co., Iowa. Terms \$7 per acre, half down, half in one year—if all down, fifteen per cent discount on one half. For particulars Address J. C. CHESNEY, P. M., Abingdon Illinois.

SNUG FARM FOR SALE.—70 acres with good House, Barn and Well—high soil, no stones; 5 1/2 miles from Saratoga Springs—Price, \$1,400 cash, including crops and implements. Title unexceptionable. Enquire of CHAS. EDMONDS, 80 Nassau-st., New-York.

AUCTION SALE of SOUTH-DOWN ASHES. On Wednesday, Sept. 2nd, 1863, I will offer at Public Sale, at Thorndale, without any reserve, One Hundred South-Down Ewes and Rams. They are all either imported or directly descended from recent importations from the flocks of the late Jonas Webb, Duke of Richmond, and Henry Lazar. It can hardly be necessary to refer to the superior Mutton and Wool producing qualities of this breed.



Fort Edward Institute.

Brick Buildings.—Best sustained boarding Seminary in the State. Fall Term August 20th. Board and common English 14 weeks for \$40. Special arrangements for ladies. Languages, Sciences, Music and Painting, at low rates. Also a complete Commercial College for young men. For catalogues, address REV. JOSEPH E. KING, Fort Edward, N. Y.

A Teacher accompanies students from New-York.

GRANVILLE (OHIO) FEMALE COLLEGE.—Thirtieth year will begin September 10th. The highest educational advantages are afforded in Intellectual, Physical, and Moral Culture; also in Vocal and Instrumental Music, Painting and Drawing. "It ranks among the first Female Colleges in the West." Charges very low. Send for a Catalogue, to W. P. KERR, A. M.

Trembley's Union Seeding Strawberry.

Those at the late great Strawberry Exhibition at the office of the Agriculturist, who were so desirous to obtain plants of this very superior variety, may obtain them by applying to Martin & Fullerton, 107 Beckman-st., H. B. Lane, 151 Nassau-st., or by addressing S. R. TREMBLEY, Bergen Point, N. J., at 50 cents per dozen, or \$2.50 per 100.

Delaware Grapes.

After some years of experiment, the subscribers have adopted a mode by which they can produce plants of this valuable grape with abundant fibrous roots at the following very low rates:

1st Class, \$25 per 100. } 2nd Class, \$15 per 100. } \$200 per 1000. } \$100 per 1000. } Of these one year old, they can furnish 50,000 deliverable in October and November.

Seed Wheat and Rye, best Quality & above the Standard Weight.

L. G. MORRIS, of Nonnt Fordham, Westchester Co., N. Y., will have ready for delivery as soon as it is properly cured to be threshed, his entire crop raised on the Herdsdale Farms. It will be sold at wholesale to dealers, and retail to farmers; forwarded as desired, purchasers paying freight and cost of the bags or barrels. Price will be set as soon as it is ascertained what it should be at seed time, or it will be inserted in the next issue of this paper. The wheat is "Red bearded," the Rye what is termed "White Eye."

Russell's Prolific Strawberry.

Plants of this superb variety carefully packed and sent by mail or Express at \$1.50 per dozen. Descriptive Catalogue of over fifty varieties of Strawberries sent free to all applicants. Address FRANCIS BRILL, Newark, New-Jersey.



UNIVERSAL CLOTHES WRINGER.

Table listing prices for various models of clothes wringers: No. 1 Large Family Wringer \$10.00, No. 2 Medium \$7.00, No. 3 Small \$6.00, No. 4 Small \$5.50, No. 8 Large Hotel \$14.00, No. 18 Medium Laundry \$18.00, No. 22 Large \$30.00.

MR. JUDD, of the American Agriculturist says of the Universal Clothes Wringer:

"From several years' experience with it in our own family, from the testimony of hundreds who have used it, and from the construction of the implement itself,—we feel certain that it is worthy a place in every family where the washing is done at home. A child can readily wring out a tubful of clothes in a few minutes. It is really A CLOTHES SAVINGER! A TIME SAVER! and A STRENGTH SAVER! The saving of garments will alone pay a large percentage on its cost. We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! There are several kinds, nearly alike in general construction, but we consider it important that the Wringer be fitted with Coes, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS' CONSTANT USE."

ANTI-FRICTION HORSE POWERS, AND BURR STONE MILLS,

which may be driven by HORSE, WATER, or STEAM POWER. Send for Circular to E. H. BENNET, 42 and 44 Greenest., New-York.

Saratoga Springs Remedial Institute.

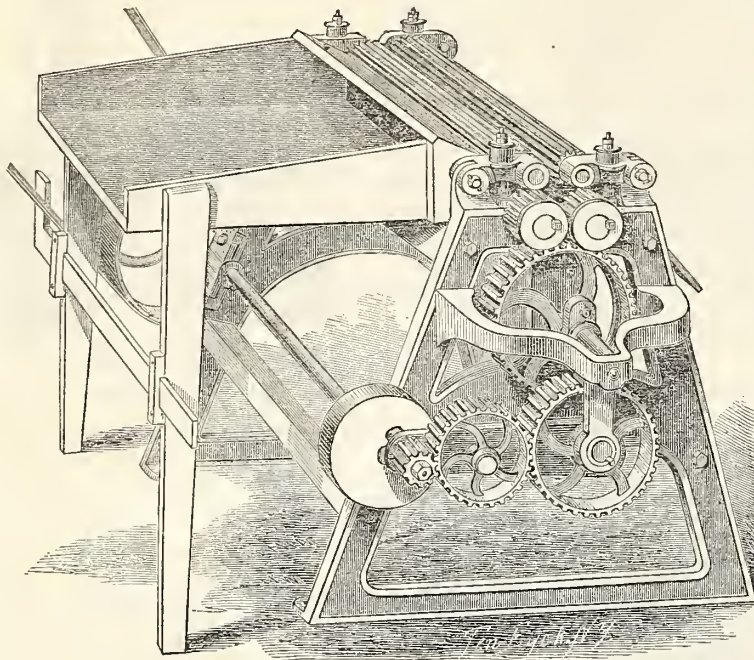
THIS INSTITUTION WAS ESTABLISHED TO MEET the wants of a class of Patients who feel the necessity of leaving their homes for medical aid. Its location was chosen in view of the medicinal advantages of the Springs. Since graduating at the New-York Medical University, we have availed ourselves of the facilities found only in our large cities for the study of disease, and have given special attention to those of Women; also, of the Throat, Heart, and Lungs. As medical practitioners we treat all diseases; but Chronic Affections claim our principal attention. While this is not a Water-cure, the invalid will find a good gymnasium, and all the facilities of a well-conducted scientific Hydropathic Establishment. The home reputation of a physician should be the basis of public confidence. For a fuller knowledge of the Institute, we refer to our Circular, and the reliable citizens of our Village. The medical profession are invited to acquaint themselves with the Institution. S. S. STRONG, M. D., Saratoga Springs, N. Y. REFERENCES.—Rev. Bishop E. S. James, D. D., New-York; Rev. Bishop M. Simpson, D. D., Evanston, Ill.; Rev. E. North, D. D., LL. D., President of Union College, Schenectady, N. Y.; Rev. Abel Stevens, LL. D., N. Y.; Rev. John Woodbridge, Saratoga Springs, N. Y.; Hon. J. B. McKean, Saratoga Springs, N. Y.

ITALIAN QUEEN BEES. FOR SALE BY L. L. LANGSTROTH & SON, Oxford, Butler County, Oio.

SANFORD & MALLORY'S
 PORTABLE
FLAX AND HEMP DRESSER.

Date of Patents, Sept. 16, 1862, and April 28, 1863.

Over Fifty of these Machines have been in practical use during the past season, and so great is the demand for the coming Fall that we have adopted the following plan, viz.: That we will only make to order. Many have already sent in their orders for



Those who desire to use our Machine in dressing the crop of the present season, would do well to send their orders without delay, as all Machines are delivered according to the date of the order.

Made and Sold by
MALLORY & SANFORD,
 HARLEM RAILROAD BUILDING,
 Room No. 26, in White-st., near Centre.

Our terms are Cash on delivery of shipper's receipt or bill of lading, and persons ordering can send draft on New-York, or Treasury Notes, to some person here whom they know, or by Express, to be delivered to us on our delivery of bill of lading for shipment of Machine. Price at our Factory, at Paterson, New-Jersey, for
No. 1 Machine, (capable of dressing 2,500 lbs. of Flax Straw in ten hours.) \$255.
No. 2, \$255. No. 3, Hand Machine, \$155.

FIRST.—A machine capable of dressing 2,500 pounds of flax straw in ten hours, can be sold at the factory, ready for shipment, at \$355; and the second size capable of dressing 1,500 pounds of straw at, \$255. A third size, capable of dressing from 600 to 800 pounds of straw per day, at \$155. The smallest size weighs about 300 pounds and can be run by hand.

SECOND.—The yield of flax fibre by the use of this machine, in proportion to the weight of flax straw dressed, EXCEEDS BY AT LEAST ONE-FOURTH that obtained by any other machine or process.

THIRD.—The fibre, dressed by this machine, is much more valuable than that dressed in any other way, on account of the greater yield over the hackle.

FOURTH.—This machine is so simple in its construction and operation, that the liability to derangement is very slight.

FIFTH.—This machine does not require in its use any peculiar skill. It can be operated by boys or girls, and does not involve any risk to the hands or arms of the operatives, while the ordinary machines require the use of skilled labor, and as experience has proved, are always attended with risk to the operatives.

SIXTH.—This machine can be driven by any of the horse powers in use, and as it can be operated by ordinary farm labor, it enables the farmer to dress and prepare for market, at little expense, the flax raised by himself, thus opening to him a new and profitable occupation.

SEVENTH.—This machine is small, the largest size occupying only about four feet square, and weighing not over 1,100 pounds.

As there is a demand for larger machines for hemp, the proprietors are building such, capable of dressing two and-a-half tons of hemp straw per day.

The amount of flax fibre produced in the United States in the year 1850 was 7,806,809 pounds. Had the straw from which this amount of fibre was taken, been dressed by the Sanford & Mallory Machine, the yield would have been not less than 10,409,073 pounds. The increased product or the flax saved, at present prices, would be worth \$650,542.

When it is remembered that in many of the Western States an immense quantity of flax is raised for the seed alone, the straw being destroyed or wasted as of no value, it will readily be seen that the introduction among farmers and manufacturers of a cheap and effective machine, capable of converting what would otherwise go to waste, into an arti-

cle of great value, can not fail to produce the most important results.

It is well known that flax can be successfully cultivated in all the Northern States. In addition to the value of the seed—sufficient of itself to pay the entire cost of cultivation—the straw can be made a source of large profit, a wide field of successful industry will be opened.

That the statements here put forward as to the efficiency and value of the Sanford & Mallory Machine, and especially as to the great saving effected by it over any other machine or process known, are rather below than beyond the fact, will abundantly appear from the subjoined reports and letters from practical flax-workers and dealers. Nothing need be added to their direct and positive testimony.

Over fifty of these machines for flax and hemp have been in successful use during the past season, in different parts of the country, and the demand for them is now large—consequently, orders for them should be made early, as the coming crop of flax and hemp will soon be ready for dressing.

The demand for flax during the past year and-a-half has quite doubled its price, and it is now used for many purposes to which it was never before applied, and for which it is found to be superior to cotton and other materials before in use. Whatever, therefore, may be the future product of cotton, the demand for flax will not diminish, but, on the contrary, increase with its new and useful applications. It is now largely mixed with woolen goods of almost every description; is used for paper, wadding, batting, belting, druggets, delaines, ealicoes, stockings, felt hats, and carpeting. Should the experiments for cottonizing flax, for which Congress has made a large appropriation, succeed, the already large demand for it would not only be enormously enhanced, but made practically unlimited.

Take a given quantity of Flax Straw, either over or under retted, and pass it once through this Machine and it will invariably have lost four-fifths of the shoove or woody part, without the least fibre of tow. The Machine requires two men, or boys, to tend it, and runs from eighteen to twenty hundred lbs. of straw in ten hours. There is no risk whatever to life or limb of the operator.

A dry or wet day makes no difference with this Machine, with reference to its result in the saving of Fibre.

The Machine can be seen in operation any day at room No. 26, Harlem R. R. Building, corner of White and Center Streets, New-York City, or at Mr. Harvy Wilcox's Flax Mill in Union Village, Washington County, N. Y.

This Machine with one-horse power will also run from four to six hundred lbs. of Hemp stalks per hour; leaving the fibre perfectly clean and straight, with not one ounce of tow to the ton.

Those desiring Machines this fall should order at once, as we shall supply according to the date of orders.

TESTIMONIALS.

LAKE, Washington Co., N. Y., Nov. 7th, 1862.

MESSRS. MALLORY & SANFORD:

GENTLEMEN.—On the 6th of Nov. I took two lots of very tender straw, as nearly alike as possible, each weighing 26½ lbs. One lot I had dressed at a neighboring flax mill (as good as the average of mills in this country), and the yield was 2 lbs. 13 oz., dressed flax, and 2½ lbs. of tow. I then had the other 26½ lbs. broken in your brake, and scutched in the usual way—the yield was 5 lbs. 5½ oz. dressed flax, and no tow of any amount. I can assure you I was much surprised at the result. To-day I have seen, at the mill of Mr. Harvy Wilcox, a very thorough experiment, testing the relative working of your machine and the old brake. 50 lbs. straw broken in your machine weighed after breaking 21½ lbs. The same quantity broken in the old brake weighed after breaking 38 lbs. A lot of 350 lbs. was then broken in your machine and scutched with the following results:

Time of breaking.	1h. 36 min.	Yield of coarse tow....	10 lbs.
“ “ scutching.	1h. 36 min.	“ “ fine tow....	2½ lbs.

Yield of dressed flax...79½ lbs.

A lot of same quality and weight was then broken in the old brake and scutched:

Time of breaking.	1h. 23 min.	Yield of coarse tow....	26 lbs.
“ “ scutching.	1h. 23 min.	“ “ fine tow....	6½ lbs.

Yield of dressed flax...64 lbs.

I have been engaged in the flax mill business nine years, and have experimented a great deal in flax dressing, and from what I have seen of your machine, I am confident that with skillful use it will yield, when tender straw is dressed, at least 10 lbs. of lint to 100 lbs. of straw, more than any other machine in use—and when straw of average quality is dressed, the saving will average at least 6 lbs. to the 100. And I think the coarse tow from your machine is worth full one cent per pound more than that from the old mode of dressing, while the flax dressed is invariably softer, longer and freer from shoove than any I have ever seen from the old process. Another feature of your Machine is, that it can be worked without the slightest risk to the operator. I have this day ordered from your Agent, Mr. Wilcox, two of your machines for my Mill.

Yours truly, ENOS DURHAM.

LAKE, May 11th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN—I think that I promised you that I would write you and let you know how the brakes work after having the new gear put on, and now (after working them two months) I think I can safely say that they are perfect. They work perfectly easy, that jerking noise is entirely done away with; consequently there is little or no strain on the gear, and not liable to get out of order. In regard to the working of the brake I have seen nothing to alter my mind since last Fall, after running them six months; on the contrary, I have become confirmed in what I stated last Fall, have tried them in opposition to the old brake several times, and always with nearly the same results. I will give one or two specimens. I was at Wm. McMillen's mill last winter, and we were in conversation about your brake. We finally agreed on a test. Accordingly, he selected two bundles (nine and one-half pounds each), first quality of straw, and east lots, by turning his back, &c. The bundle that fell to him was dressed in his mill, and made two pounds, six ounces, of lint; the other I brought home and broke it with your brake, and dressed three pounds of lint. The tow we paid no attention to in either case. This morning I took a bundle of straw that weighed eight pounds, ran it through the brake, and it weighed three pounds, four ounces. I then dressed it, and got two pounds of flax and four ounces of tow, not very heavy coated. I think with good quality of straw, well-rotted and dry, it will take out nine-teuths of the shives. I do not want you to think that flax can not be wasted after your brake; on the contrary, I know that hands do waste a great deal of flax that might be saved by good management, but that is no fault of the machinery. I suppose you have forwarded a machine to Richardsou in Iowa. I hope so.

Yours truly, ENOS DURHAM.

“ROUGHFORT, Ireland, April 9th, 1863.

“DEAR SIR,—I have to report to you on the merits of Mallory & Sanford's American brake, which has been at my scutch mill for the last three weeks. I have tried it on various kinds of straw, and find the results as follows: On very poor and hard straw I found a gain of one pound per hundred weight over the same broken by ordinary rollers; on medium quality of straw a gain of two pounds, four ounces per hundred weight, the yield by your brake being eighteen pounds, four ounces against sixteen pounds on same straw broken by ordinary method; on very tender straw, over-watered, the gain was three and a half pounds per hundred weight, the yield by your brake being fourteen and-a-half pounds against eleven pounds by ordinary method. I find the flax from your rollers easier scutched, and the yield softer to feel and quality improved over that rolled in the ordinary way.

Yours truly, JOHN WILLIAMSON.

“Mr. ALEX. GUILD, Belfast.”
 SPRINGFIELD, Clark County, Oblo, May 5th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have tried one of your brakes, and I have run through thirty-one hundred pounds in ten and one-fourth hours, which was well broken, and every way satisfactory. I am, gentlemen, yours respectfully,

E. MEEK.

Descriptive Circulars sent free on application to
 MALLORY & SANFORD,
 Corner White and Center-Sts., New-York.

RANDALL'S FINE WOOL SHEEP HUSBANDRY.

Will be ready to deliver to those who order, on the first of AUGUST. Price 75 cts. Sent free of postage.

Address C. M. SAXTON, Publisher, New-York.

CONTENTS:

- Varieties and Sub-Varieties in Spain. The French Merino. The Saxon Merino. The Silesian Merino. Introduction of Merinos into the U. S. Their Success. Prices of Wool since 1824. The American Merino. Introduction of the French Merino. Comparative Profitableness of Varieties. Housing Sheep to preserve Yolk on the Wool. Early Shearing. Breeding. Present course of Breeding in the U. S. The Future of fine Wool in our Country, &c., &c.

BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the Agriculturist at the prices named, or they will be forwarded by mail, post paid, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may be procured by any one making up a library. Those we esteem specially valuable, are marked with a *.]

Table listing various books for sale, including 'American Bird Fancier', 'American Farmer's Encyclopedia', 'American Florist's Guide', etc., with prices listed for each.

BONE MANURE.

Order early. The supply is limited. We sell a pure article. GRIFFING, BROTHER & CO., 60 Courtland-st, New-York.

STRAWBERRY PLANTS By Mail.

Will be ready in August and September—Choice plants for malling—being stout and strong.

Triomphe de Gand, Great Austin or Shaker, and Wilson's Seedling. The very best for family use and marketling.

For a remittance of \$1.30c, 100 plants of either kind, or a 100 assortment will be sent to the Post Office address of those ordering.

100 plants grown as I direct, will produce over 3 bushels of fruit. Good Plants \$6 per 1000.

J. C. THOMPSON, Tompkinsville, Staten Island, N. Y.

Strawberry Plants.

Triomphe de Gand, Wilson's Albany, Hooker, Fillmore, Bartlett, Ward's Favorite, and forty other varieties in large quantities, at low rates, at wholesale and retail. Catalogues gratis.

FRANCIS BRILL, Newark, New-Jersey.

FRUIT AND ORNAMENTAL TREES. RARE CHANCES OFFERED.

200,000 Choice Fruit Trees, Vines, etc., for sale, of varied size to suit customers.

The subscriber calls attention to his unusually large stock of well grown trees now on hand, and especially to the present stock of the STANDARD FRUIT, APPLE, which is the largest and finest ever offered at these Nurseries.

With twenty years of experience, by careful observation and judicious selections, he believes he is able to judge and furnish what will suit his customers, as well as the varied soils and localities, in which trees may be wanted. There is also special attention paid to local varieties, adapted to Southern and Central Pennsylvania, many of which have proven themselves more valuable, than sorts originating in a climate differing so widely from these sections.

He is also preparing a list of ELN PRIERS for those who purchase direct from the proprietor, offering rare inducements for neighbors to join together and get trees considerably under the regular retail prices.

This mode is adopted for those who may not have an opportunity to purchase from his regularly authorized agents, and hold a mistrust towards the too numerous tree vendors spread over the land.

The frequent use made of his name and establishment by strangers, to effect sales where the reputation of the nursery is known, compels him to warn all not to purchase—as coming from these Nurseries—stock offered by PRETENDERS, who do not hold an authority from the proprietor.

Local or stationed agents will be accepted, but neither traveling nor stationary agency inquiries will receive notice, unless the parties produce satisfactory reference as to their honesty in dealing with customers and employer. Send for Catalogues and Price Lists, which contain inducements not before offered by him. ABUNDANT AND TRUSTWORTHY REFERENCE WILL BE FURNISHED TO ALL WHO ARE STRANGERS TO THE ESTABLISHMENT.

Address DAVID MILLER, JR., Cumberland Nurseries, Carlisle, Pa.

GRAPE VINES.

Our Stock of all the new and leading kinds is unsurpassed anywhere. Our New Price List will be issued September 1st, and sent to all applicants free of charge.

J. KNOX,

Box 155, Pittsburgh, Pa.

GRAPE VINES.

Planters and Dealers will please send to WM. PERRY & SON, BRIDGEPORT, CONN., for their price list for 1863. CONCORD and DELAWARE Vines of superior quality, at low rates.

Turnip Seed by Mail.

In consequence of the increased reduction of postage on Seeds, I will mail the following varieties of Turnip Seed to any address in the Union upon receipt of the prices annexed. 1 ounce, 10 cts.; 4 ounces, 30 cts.; 8 ounces, 50 cts.; 1 pound, 75 cts. Early Dutch, Snowball, Red Top Strap Leaf, White Top Strap Leaf, White Globe, White Norfolk, Yellow Aberdeen, Yellow Finland, Robertsons Golden Ball, Orange Jelly, Teltau or small Berlin, Long White French, White Tankard, Long White or Cow's Horn, Waite's Eclipse, Dale's Hybrid, Laing's Improved Rutabaga, Skirving's do, Stamblic Swede, Also Chinese Winter Radish, 25 cents per ounce. Winter Spinach, same price as turnip seed. Please Address B. K. BLISS, Springfield, Mass.

SEEDS.

White Flat, Red Top Flat, White French, Yellow Swedish, Yellow Stone, Yellow Aberdeen, and other Turnip Seed.

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Wholesale and Retail by

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Just How to Grow it.

Every particular, from the selection of the Seed, and preparation of the ground, to the Gathering, Curing, and Marketing the Crop, is given in a work issued by the Publisher of the American Agriculturist, and sent post-paid for 25 cents. This work consists of a selection of the best fourteen out of eighty-five Essays, prepared by eighty-five different cultivators, residing in various parts of the Northern and Middle States. In each of the Essays contained in this work, the writer tells, in a plain, practical, straight-forward manner, just what to do, and how to do it. Any item omitted by one is given by another, so that the information is full and complete. Several engravings illustrating the method of drying, packing, etc. The work is worth its weight in silver to every one growing even a small plot of tobacco.

STRAWBERRIES! !

The Subscriber will send any of the following choice Strawberry Plants, post paid, to any part of the United States (where there is postal communication), east of the Rocky Mountains, on receipt of price, and will also insure their safe arrival at destination.

Table listing various strawberry varieties and their prices per dozen, including Anstin or Shaker, Albion White, Autumnal Galande, Alpine Red, Belle de Vibert, Belle Artésienne, Bicolor, Belle Borelaise, Burr's New Pine, Blak Prince, Bonte de St. Julien, Bartlett, Cutter, Crimson Favorite, Crimson Queen, Downer, Deptford White, Due de Malakoff, Puc (River's), Fillmore, Filbert Pine, Georgia Mammoth, General Scott, Garibaldi.

For price of plants in larger quantities, and description of the above and many other varieties, see our new Strawberry Catalogue, which will be ready the first of August, sent free to all applicants who inclose two one-cent stamps. Address ANDREW S. FULLER, Brooklyn, N. Y.

Strawberry Plants by Mail.

FOR ONE DOLLAR,

We will send to any Post Office address in the United States or Territories, safely packed and post-paid,

One Dozen Plants

of each of the following kinds, Triomphe de Gand, Wilson's Albany, and Burr's New Pine (the best early).

FOR THREE DOLLARS,

We will send in equal quantities (33 of each) 100 Plants of the above kinds: or for

FIVE DOLLARS,

300 Plants (100 of each).

The above embrace the different seasons of ripening, and are all favorites with us. For further particulars send for our Strawberry Circular, which will be furnished free.

J. KNOX,

Box 155, Pittsburgh, Pa.

New and Splendid Strawberries.

The prize berries of Europe, Empress Eugenie, Margarite, and Princess Frederick William, plants \$1 per dozen.

Russell's Great Prolific. One of the most promising of the American seedlings, berries produced this season, 6 1/2 inches in circumference; it is more prolific than the Wilson, superior in flavor, and a splendid market berry, \$1.50 per dozen, or \$9 per hundred.

Lenning's White, Albion White, White Pine Apple, and Deptford White. These are great acquisitions, berries very large, fine flavored, and very productive, at \$1 per dozen.

La Constante. We would call attention to this variety, as one of the most promising sorts in cultivation, at 50c. per dozen, \$1 per hundred.

Oscar, Victory, Wizard of the North, River's Eliza, Bonte de St. Julien, Crimson Queen, Wondrous, Filbert Pine, Prince Imperial, Due de Brabant, Boyden's Mammoth, and Due de Malakoff, at 50 cents per dozen.

Triomphe de Gand, Great Austin, Jenny Lind, Bartlett, Felton, or Chilian, at \$1 per hundred, \$6 per thousand. Berries of the great Austin were produced this season, weighing 1 1/2 ounces. We think the Austin better than the Wilson, and more productive. Plants delivered in rotation as ordered. All orders addressed to WM. S. CARPENTIER, 329 Greenwich-st., New-York.

Green Prolific Strawberry.

Produced from "Kitley's Goliath" and "Hovey's Seedling," by Seth Boyden Esq., and is one of the parents of his famous seedling "AGRICULTURIST" which astonished the natives at the late exhibition in New-York. In many points equal to this wonderful new variety. Decidedly one of the best in cultivation. Strong Plants \$1 per dozen. For a descriptive circular or plants, Address FRANCIS BRILL, Newark, New-Jersey.

Or any of the following Agents.

- Andrew Bridgeman, 878 Broadway, New-York. C. B. Miller, 634 Broadway, New-York. Jas. M. Thorburn & Co., 15 John-street, New-York. Wm. Elliott, 27 John-street, New-York. Fleming & Davidson, 67 Nassau-street, New-York. Jas. Hingerty, Poughkeepsie, N. Y. H. A. Dreer, Phila., Pa. Jno. Stair & Son, Cleveland, O. Wm. Thorburn, Albany, N. Y.

STRAWBERRIES.

We will issue on the 1st of August a circular, giving varieties of strawberries that have proved the most valuable this season, with prices of plants, and other information, which will be sent to all applicants free of charge.

J. KNOX, Box 155, Pittsburgh, Pa.

Strawberry Plants.

All the standard old varieties, as well as the best new ones, for sale at low rates, and warranted true to name. Send for a Catalogue gratis to FRANCIS BRILL, Newark, New-Jersey.

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LAWRENCE & GOULD PATENT RAILWAY CHAIN HORSE POWERS,

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Plantation or Lever Horse Power,

FOUR HORSE OR SIX MULE GEAR;

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Overshot Threshers and Separators, Circular and Cross-Cut Sawing Machines, Clover Hullers, Feed Cutters, Horse Rakes, Horse Forks, & other Farming Machines.

CIRCULARS, containing list of PRICES, and FULL DESCRIPTION, and CUTS of each MACHINE, with statements of their capacities for work, will, on application, be sent by mail, postage free.

☞ Liberal discounts are made to dealers.

Responsible agents are wanted in sections where we have none. Address

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Hay Presses, Rock and Stump Extractors, Cider Mills, and Wrought Iron Screws.

These are tried machines, and are offered to the public at reduced prices. Having recently improved and taken out patent on press for baling, I am confident of its capabilities to bale one ton of hay, per hour, and put it in less space than any other press in use.

Rock Lifters, that do the work at small expense, requiring only one man and a boy to do the work effectually.

There is but one way to make fine cider. The grater mill is the only one to be relied on. I have been making these mills for the past 25 years, and can refer to different persons who have used the same mill for the last ten years, without extra expense, grinding from 15 to 20, and as high as 30,000 bushels in a season. One of these mills will grind perfectly fine 100 bushels in 40 minutes. They can be attached to any power, are simple and cheap, and, with wrought screws, will make a barrel of cider from six bushels of apples.

Also on hand, one large iron power press of 500 tons pressure, in perfect order, suitable for compressing hay or cotton, or for paper mill use, for wet or dry pressure, or for bookbinder's use, having a moving table, 30 by 48 inches.

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CHICHESTER'S combined Hilling, Hoing and Potato Digging Machine. Price \$25.
BYRAM'S combined Potato Digger and Double Mould-board Plow. Price \$7.

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This work comprises in 32 pages all the particulars for successful Onion Culture, from Selection of Seed to Marketing the Crop—being the practical directions given by seventeen experienced Onion Growers, residing in different parts of the country. Price 20 cents (or 7 stamps), sent post-paid. Address Publisher of *Agriculturist*.

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The subscribers will pay cash for any quantity of wrought or cast scrap iron, old boilers and old iron machinery; delivered at their Warehouse 28, 30 and 32 Terrace-st., Buffalo, or at their Rolling Mill and Nail Factory, Black Rock, N. Y. Buffalo, N. Y., July 1865. PRATT & CO.

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Eggs, Poultry,

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Seeds, Petroleum,

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Can have them well sold at the highest prices in New-York, with full cash returns promptly after their reaching the City, by forwarding them to the Commission House for Country Produce, of

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32 Jay-street, New-York.

N. B.—The advertiser has had abundant experience in this business, and trusts that he will continue to merit patronage by the most careful attention to the interest of his patrons. The articles are taken charge of on their arrival, and carefully disposed of promptly to good cash customers, and cash returns made immediately to the owner. (The highest charge made for receiving and selling is five per cent, fruits and vegetables excepted.)

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☞ Cash advanced on consignments of Produce.

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TO THE LADIES.

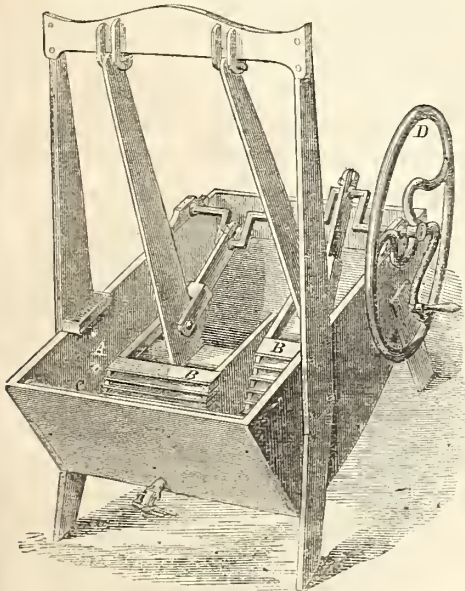
We desire to call your particular attention to MASON'S PATENT SELF SEALING FRUIT JARS AND CANS. An experience of six years has proved them the most perfect Jars for preserving fruits and vegetables. Sold by all dealers. Made only by the SHEET METAL SCREW CO., 214 Pearl st., New-York.

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 Dividends to Policy Holders..... 640,900

The dividends are paid in the life-time of the assured, thus aiding them to pay future premiums. Premiums may be paid annually, semi-annually, or quarterly, when the policy is for life, and the annual premium amounts to \$10 and over. From 40 to 50 per cent. may be paid by notes.
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 Is the only entirely reliable machine in use. It has been before the public two years, and has not in any instance failed to give satisfaction. It saves two-thirds the labor and time required in hand washing. It is a squeezing machine, and will not injure the finest clothing. A girl of fourteen years can operate it. It will not get out of order. It is recommended by Mr. Judd, the proprietor of this Journal. Prices: No. 1, \$12. No. 2, \$16. No. 3, \$20. Send for free Circular to OAKLEY & KEATING, 73 South-st., New-York.

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 BREEDER OF
WEBB SOUTH DOWN SHEEP,
 Would announce to his old customers and others, that he is now ready to supply a very superior lot of yearling rams, and ram and ewe lambs, besides a few breeding ewes, at private sale; also 5 rams to rent. For particulars send for circular.
 Buy the best. If you buy a poor plow, when worn out you may buy another very superior. Not so with breeding animals; like produces like. If you begin your flock right, your increase will be right. My flock has no superior in America or England.

The great Want supplied.
FAMILY WINE AND CIDER MILL,
 WITH PRESS COMBINED.
 (HUTCHINSON'S PATENT.)

Costs but \$18. Grinds 6 to 8 bushels APPLES, 10 to 12 bushels GRAPES or CURRANTS per hour.



The Machine, excepting the curb, is made wholly of Iron, prepared so that it does not affect the juice. It is easily handled and worked by one man, and takes up no more room than a chair.

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The Mill and Press complete, with a pamphlet containing full directions to make wine and cider in the best manner, will be forwarded upon the receipt of the price, \$18, by J. B. BROWN & CO., PEESKILL, N. Y.

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 At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canada for the past six years has proven them to combine most valuable qualities, among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufacture. Sizes from 50 to 5,000 lbs., costing two THIRDS LESS than other metal, or 15 cents per pound at which price we warrant them twelve months. Old bell metal taken in exchange, or bought for cash. Send for a Circular to the Manufacturer, JOHN B. ROBINSON, No. 190 William-street, New-York.

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Is of more general practical utility than any invention now before the public. It has been thoroughly tested during the last two years by practical men, and pronounced by all to Be Superior to any Adhesive Preparation known.

Applicable to the useful Arts.

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Its Combination.

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Jewelers.

Families.

It is a Liquid.

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It is composed of FINE RAW BONE and NIGHT SOIL, free from all impurities, dried and ground to a fine powder, making it quick in its action, as well as permanent in its results.

For Buckwheat, Turnips and Winter Grain, no manure can be found of equal value for the amount invested.

It is put in new Barrels, 200 lbs. in each. One and a half barrels will manure an acre.

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LAST MONTH

OF THE SPECIAL

Barometer Premium.

Our contract with Mr. Wilder, for supplying the "Woodruff Barometer" at premium rates, expires Aug. 31, and every one who can, should secure this extraordinarily liberal premium the present month. For general use it is the best and cheapest mercurial barometer to be obtained, even at the regular prices, while our offer makes it cost next to nothing. A person sending in 20 names at \$1 each, would get the \$12 barometer cheaply, even if he actually gave away to his friends and neighbors twelve of the copies subscribed for. But this need not be necessary. A little effort will obtain the full 20 persons, who would find the dollar invested in the paper a very good outlay. (Every one of them will come in for a share in the distribution of the New Strawberry Plant, page 240, next year, by adding the 5 cents for postage and packing material.) It only needs some one to exhibit the paper to them, and show its value, to induce many to subscribe; the barometer is offered as payment for their time to those who take the trouble to thus show the paper.

Its Value.—A good barometer is not only an interesting instrument, but it is also a very useful one in every house. The interest on \$8 or \$12, is only 50 cents to \$1 a year, and there are many times when it will repay this cost. After a little experience in observing a barometer, one can judge with a good deal of certainty, upon the land as well as upon the sea, with regard to the prospective weather. A sudden large fall of the mercury indicates a short, violent storm. A slow, steady sinking of the mercury, continuing through a day or two, indicates the approach of a long storm, even though the skies may then be clear. On the contrary, no matter how threatening the skies may appear, if the mercury does not fall, we may confidently look for the absence of storms. Other general rules, and exceptions, accompany each barometer, on a printed card. The instrument aids materially in deciding when to cut grass, grain, etc., and when to gather or leave them exposed in the field; when to undertake this or that work; how to dress for a day's journey, and in most other cases where it is desirable to decide upon the probable weather just ahead. Mr. Woodruff's newly invented mercury cup, the improved mode of packing in double boxes for carriage, and the low price of a good, reliable instrument, place these barometers first. They are carefully and neatly made, and are even ornamental. The two instruments shown in the engraving, are about 3 feet in length, and cost \$8 and \$12, the main difference being in the casing, which is more ornamental in fig. 2 (\$12), and this is the preferable instrument, both have thermometer and vernier. Mr. Wilder, the manufacturer, guarantees the safe carriage of each instrument we order sent direct by him as premiums. The terms on which we offer them are very liberal, and can not be continued beyond Aug. 31st.

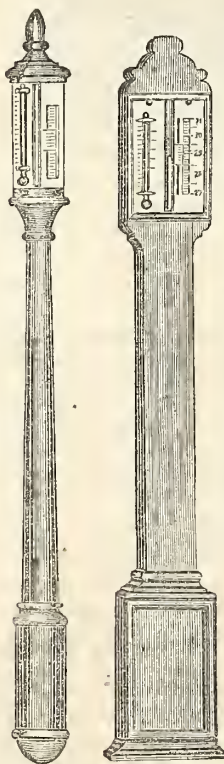


Fig. 1. Fig. 2.
 The \$8 form (fig. 1) we present to any person sending us this month 14 subscribers at \$1 a year.

The \$12 form (fig. 2) we present to any person sending this month 20 subscribers, at \$1 a year.

N.B.—Subscriptions for the above premiums are to date Jan. 1st, or July 1st, 1863.—Back numbers supplied.

Paying the Strawberry Premium.

Special Notice to those entitled to Strawberry Plants.—During the last of August and early part of September, we shall send out the Strawberry Plants offered as premiums during the past few months. Those entitled to them will please notify us by letter which of the kinds offered below they may desire. After watching the results this year, we find nothing superior for general culture to the *Triomphe de Gand*. There are others which will perhaps prove superior, but the plants can not yet be obtained in sufficient quantity. We shall therefore send the *Triomphe de Gand* where the Bartlett or Austin is not preferred. Those who have the *Triomphe* already, may choose either the Bartlett or the Austin. We are much pleased with the *Bartlett*, which has borne freely, a large well formed berry. From a plot 1 1/4 rods wide, and 5 rods long, set only last season, we this year commenced picking a family supply June 12th: on June 14th, gathered a measured bushel; and continued a daily picking, up to July 1st. All the berries we could spare were eagerly taken at our place by dealers, at 18 cents per quart, for the unstemmed fruit. We do not place it before the *Triomphe*, though superior in some respects. It will make a good one for an assortment.

The *Austin* has proved better than we anticipated. It is a large vigorous grower, very productive, and continues bearing over a long season. We began picking on June 13th, and had from the same plot a fair picking on July 4th. The fruit is very large, which in part makes up for the want of high color, as a market berry. It is, however, better adapted for a home fruit than for marketing at a distance, as it is not firm enough to bear so severe handling as some others. We have reports of extraordinary crops and enormous market profits. Take it all in all, the *Austin*, though not the first, takes a pretty high rank, and is worthy of a place in every home garden.

Where premium plants are due for more than one subscriber, a part of the plants may be chosen from either two of the above three varieties. The premium offer closed July 31st, though we shall not be particular as to a few days in the limits of time, as the distribution will not commence until the latter part of August, the time depending upon the weather, and the localities to which the plants are to be sent.

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We have complete sets of Vols. 16, 17, 18, 19, 20, and 21, both unbound, and bound in neat covers with gilt lettered backs.

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American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARDS and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

The Editors are all PRACTICAL WORKING MEN.

The teachings of the AGRICULTURIST are confined to no State or Territory, but are adapted to all sections of the country—it is for the whole AMERICAN CONTINENT.

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Postage anywhere in the United States and Territories must be paid by the subscriber, and is twelve cents a year, if paid in advance at the office where it is received.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD, 41 Park-Row, New York City

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FOR THE

Farm, Garden, and Household.

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NEW-YORK, SEPTEMBER, 1863.

NEW SERIES—No. 200.

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Suggestions and Notes for the Month.

September might properly be placed first in farmer's Calendar. Although each month brings its labors, this witnesses the commencement in cultivation of the great crop of the world, wheat, which for ages has taken pre-eminence among cereals, and upon which more than any other depends the most important interests of society. No man could estimate the results of the entire failure of this grain for only a single year: it would incite greater revolutions than history has yet recorded. The farmer may with honest pride often revert to the fact that he moves the great balance wheel of society, and it should be his constant endeavor to labor with a zeal and an intelligence befitting his station. Success in his calling is not merely a matter of personal gain, it brings a benefit to society, and its influence is felt in every sphere, from the mechanic in the workshop, to the statesman in the National Council. The progress of agricultural science, though slow compared with achievements in other fields, has contributed very largely to the present position of America among the nations, and enabled her thus far to resist a revolution which would have torn many other existing commonwealths to fragments. While we have bread to eat and to sell, our strength is untouched, though temporary reverses attend our arms.

The sower should go forth cheerfully at this time. The past three years have yielded unprecedented plenty. Scourges of drouth, of insects, and other inflictions ruinous to the wheat crop, have been confined to limited areas, the great aggregate has filled to overflowing the store-houses of the world, and the pockets of the producers. He must be perversely blind who fails to see in this the hand of that Providence

that guides the affairs of nations. Without such abundance the aspects of our great inter-necine struggle might have been very different. Foreign nations have not cared to raise their arms against a power to which, from scarcity at home, they were compelled to look for bread. It may perhaps be too much to expect that another abundant harvest will fill our granaries and coffers. Yet, whether this be decreed, or it shall occur that the land shall withhold a large increase, there is every reason for sowing wheat largely, for improving every acre that can be well tilled. The prospects abroad are darkened with a gathering storm of war. Should it burst upon Europe, then what was experienced during the Crimean campaign will be felt again; the demand for our breadstuffs will absorb all the surplus we may raise. In view of this contingency, and also of the fact that there are rarely four successive years of plenty, we advise a large investment in this direction. It should not be forgotten that effort may often be more profitably directed to securing increased return from the number of acres usually cultivated, rather than by enlarging the area put under cultivation. The former course requires less capital, less labor, and at the same time prepares the land for better returns in future. One hundred dollars properly used in draining, or other needed improvements, may increase the yield from ten to twenty per cent for a term of years.

Work for the Farm, Household, etc.

There will be little leisure on the farm this month. In addition to sowing winter grain, in many sections the corn will be ready to be cut up by the ground, early potatoes to be dug and marketed, and early apples to be gathered and disposed of. At the West, the great sorghum crop will demand attention, and those who have cultivated tobacco will find ample employment in cutting and curing. Much labor and vexation will be saved by having all necessary buildings and implements in readiness for each crop. The markets should be closely watched at this season, to determine when to dispose of grain, wool, etc. Very favorable contracts for future delivery may often be secured during the present month. Taking one year with another, it is safe to accept a price which will give a good profit on capital and labor invested.

Barns, and Outbuildings, particularly those in which hay and grain are stored, should be frequently examined, to secure their contents from injury by storms, vermin, etc. A good coat of paint will pay more than the interest of its cost in the preservation of wood-work exposed to the weather, and in the improved appearance of buildings. Autumn is a good time to apply it. Keep all buildings well insured, and protect houses and barns with lightning rods.

Beans properly harvested will command a good price. Cure and save the haulm or straw and the unripe pods for feeding to sheep.

Buckwheat should be harvested before ripe enough to waste by shelling. Save the straw for litter; it is of little value for feeding. If there be a good mill in the vicinity it will usually pay to have the grain ground for market.

Butter made this month and next, if properly worked and packed, may be kept for use or for marketing any time before next Spring, when it will command better prices. A good milk-room, clean utensils, good salt, and sufficient working are the essentials. Much labor will be saved by the use of a good butter worker.

Cabbages.—Market those which are mature, and keep the late crop well hoed to promote rapid growth and early heading.

Cattle.—Keep them well fed, especially milch cows, and those intended for fall beef. Give them corn or millet from the soiling patch, roots and tops from the beet and turnip field, and extra leaves from the cabbages, etc. Commence stall feeding early. The same amount of grain will make from ten to twenty per cent more flesh, if fed out before cold weather requires a large part of it to be used in keeping up the animal heat. Salt at least once a week, and allow free access to water.

Cellars.—Thoroughly cleanse and prepare for the reception of roots, apples, etc. Make rat proof by cementing the floors. Where many vegetables are to be stored, it is desirable to have a cellar under the barn for them.

Cisterns.—Cleanse before the fall rains, and if good well or spring water be not obtainable introduce a filter. Clean rain-water, even unfiltered, is the most wholesome for all purposes, and after a short experience is agreeable to the taste.

Corn.—Mark the earliest and most productive stalks to be reserved for seed, and leave it to fully ripen. Cut the stalks by the ground as soon as the grain is glazed, cure the stalks for fodder, and store under cover to be husked when time allows. See article on page 269.

Draining.—Attention is called to this item month by month, because it is believed to be one of the most desirable and best paying improvements to be introduced on most farms. It will be beneficial, not only by reclaiming swamp lands, but it will render any compact soil more productive by taking out the surplus water, giving access to the air which will bring nourishment to the roots of plants, and making the soil lighter, so that the rootlets can more easily make their way through it in their search for food. Try it according to plans described from time to time in former volumes, upon a single acre, if no more, and note the results. Finish off all winter grain fields with deep draining furrows to carry off surplus surface water.

Eggs.—Pack in salt those laid now, for winter use, and for selling about the holidays, when they are in large demand at the best prices.

Fences and Gates.—Cut timber for new ones needed. Replace all unsound posts and stakes before the high winds of Fall and Winter have prostrated them. Char the bottom of gate posts before setting, or give them a good coating of gas tar.

Flax should be pulled as soon as the stalk is of a yellowish tinge, the leaves having mostly fallen, and the center seed boll become of a brown color. Read articles on pages 76, 110, (March and April.)

Grain.—Thresh as soon as practicable, and store in secure bins, or market if prices are satisfactory. Carefully cleanse from weed seeds etc. Some dealers re-screen much of the grain received, and make a good profit by the improvement in quality. If good seed has not already been secured, select from the best growth before threshing, or procure it from reliable parties, and keep secure from vermin.

Hogs.—Commence feeding early, with refuse grain, bran, and unsound corn, and finish off with old corn if there be any on hand. Early made pork costs less and usually commands the best price. Keep the pens clean and well supplied with muck, weeds or straw, to absorb manure.

Manure-making and money-making are almost synonymous on old farms. Provide an abundant supply of muck for use in the stables and yards the coming winter. Secure the weeds, wild grass etc., from waste places, for the same purpose.

Plow at once for winter grain, if it be not already completed. Deepen the soil by going an inch below the last plowing. This can be done with less risk for winter grain, than with spring crops.

Potatoes not wanted for immediate marketing are better left in the ground as late as can be safely done without danger from frost. When dug they should be hosed as soon as practicable, and not left exposed to the sun. A potato digger (see description of one in August *Agriculturist*) is well worth its cost to those who raise this crop on a large scale. After digging, plow under tops and weeds, unless the latter have ripened seed, in which case they should be gathered and burned.

Poultry that have had the range of grain fields, are in good condition for early fattening for market. Confine and feed them liberally, and allow plenty of water, with dust or ashes to wallow in. Promote the laying of hens that are shut up, by feeding with scraps of refuse meat.

Root Crops.—Keep the soil well stirred, and allow no weeds to interfere with their growth. If standing too thickly, thin, and feed the surplus to cattle.

Rye.—Sow after oats, or a second crop may be taken from the same ground, if the land is in good heart. Sow a little later than wheat. The white variety has proved excellent in this vicinity.

Sheep.—A small allowance of grain occasionally will bring them into good condition to winter well. Salt regularly and allow plenty of water. Examine to discover any signs of foot-rot, and if it appears, apply remedies promptly, and separate diseased sheep from the rest of the flock.

Soiling Crops.—Feed to stock as needed, or cure for winter fodder if pasture be abundant.

Sorghum.—Cut as soon as the seed is ripened, and press and boil immediately. Improved apparatus will pay in convenience, and in quality of the syrup. Experiment in making sugar with a small portion, by manufacturing before the seed has ripened. Remove the seed from all before grinding.

Timothy.—Sow with winter grain for meadow, or it may be sowed alone; in the latter case increase the quantity of seed. A top-dressing of fine manure, after covering the seed, will be beneficial.

Weeds.—Allow none to scatter their seed for next year's crop. Cut and burn—or add to the compost heap such as are not nearly ripe.

Wheat.—The earlier sowed has uniformly succeeded best in standing the exposure of Winter, and in escaping injury from the midge. Drilling, where practicable, is every way preferable to sowing broadcast. Wheat growers should notice the

International Wheat Exhibition to be held at Rochester, September 8th, 9th, and 10th. Full particulars were given last month, page 236.

Orchard and Nursery.

The prospects are that the crop of fruit will be at best a moderate one, and the greater care should be taken in picking and marketing, and in drying and preserving any not otherwise disposed of. Those who send fruit to city markets, ought to know that it is sold almost entirely by its appearance. A lot of apples of indifferent quality, carefully picked and packed, will sell for more than a greatly superior fruit which has been beaten from the trees, and comes to market bearing evidence of carelessness in its preparation. Where the fruit runs unevenly, it is better to assort it, and make two qualities; a higher price for the whole will be realized. Let the quality of the fruit be uniform throughout the barrels or baskets. Those who practice the deception of topping off their packages with a few selected specimens, soon establish a bad reputation, and they get a lower price in the market. Barrels are now mostly examined through.

It requires some judgement to know just when to pick the early fruits, as there is but a short period between maturity and decay. Peaches and Fall pears especially, must be picked while still hard and able to bear carriage without bruising. Pick carefully, and avoid hruising in handling.

Budding is still in season with peach and other late growing trees. Look to those huddled last month and loosen the handages, if the growth of the stock has rendered them too tight. Where the buds have failed, the stock may be rebudded, if the bark still peels. Use well matured huds.

Drying Apples.—Well dried apples and peaches are likely to be in demand next season. Commence with the Autumn fruit; pare carefully and remove all the core; dry as rapidly as possible in order to get a bright light colored, saleable article.

Hoeing will still be required in the nursery rows. In running the plow or cultivator between the rows be careful not to injure the trees or roots.

Insects.—Those which are forming their cocoons and preparing their winter lodgings should be removed. If saw-dust is seen around a tree, search for the borer and follow him to the end of his hole with a wire or slender piece of whalebone.

Labels will be needed to mark trees sent out this Fall. Prepare a stock of these and of stakes during the season of comparative leisure.

Lands intended for Fall planting may be cleared up and prepared now by manuring and plowing.

Pits of peaches and plums may be buried in a hole, or placed in boxes of earth, for planting next Spring. Save from the fruit of healthy trees only.

Preserve a good supply of peaches, pears, plums, etc., in hottles or cans. See our previous volumes.

Pruning, if not finished last month, may be done now upon young trees, to form good, low heads.

Seeds of ornamental trees and shrubs should be gathered as fast as they ripen, and rightly labeled.

Seed Beds will need thorough weeding and copious watering, if the weather be dry.

Kitchen Garden.

The unusually hot weather, with frequent and copious rains have, in this vicinity at least, made a great "growing time." The crops not only grow with unusual vigor, but the weeds are forwarded with a rapidity almost appalling. The garden should at all times be kept free of weeds, and where the plants get too large to hoe conveniently, hand pulling must be resorted to. Now that the products of the garden are rapidly perfecting and crowding on in such profusion, care should be taken that nothing goes to waste. The surplus must be taken care of, and what can not be used should be either stored, marketed, or otherwise disposed of. Noth-

ing should be left to decay, merely because there is an abundance. Every thing should be cleared up, and all refuse find its way to the hog pen, cattle yard, or compost heap.

Beans.—Pick the late string beans before they become tough, and salt or pickle as directed last month. Save the earliest Limas ripe for seed, and shell and dry the green ones for winter use.

Cabbages and Cauliflowers.—The late plantings will need frequent hoeings. Where it is desired to winter plants over in cold frames for planting in early spring, the seed may be sown this month.

Celery.—After the plants are 8 or 10 inches high, the earthing up should commence, and it will have to be repeated every ten days or two weeks according to the rapidity of the growth. It is an operation which should be carefully performed, a bungler by breaking the leaves and getting earth into the crowns of the plants, may thus spoil half the crop. Where the leaves spread much, it may be necessary to bring them together and tie them at the first earthing. If tied, it should be done with a slender piece of bass matting, or a string so weak that it will break away as the plant grows. The earthing up should be done when both plants and earth are quite dry.

Corn.—As soon as the early crops are gathered, cut up the stalks and cure them for the cattle or feed them out green. Save always the largest and finest for seed. Dry an abundance for winter use.

Cucumbers.—Select for seed as directed last month. If the weather is dry, water in order to prolong the fruiting season. Go over the vines every day and gather for pickles. Cucumbers that are ripe or nearly so, may be made into sweet pickles, according to note on page 247 (last month).

Endive.—Forward by hoeing and liquid manure. Tie up for blanching when the plants are dry.

Kale for wintering over may be sown this month.

Manures.—The supply for next year's use should now be accumulating. The compost heap should grow rapidly at this season.

Melons.—Pick as soon as ripe, which may be known by the stem readily parting from the melon by a well defined line, and coming off with a very gentle pull. Keep them from contact with the ground as directed in last month's Calendar. Secure seeds from the earliest and best flavored specimens.

Onions.—Pull as soon as the falling off the tops indicates that they are ripe. Seeds for sets may be planted early in the month.

Parsley sown early this month will form plants for next Spring. They may be kept over by means of a covering of straw or litter.

Pickles.—The garden now supplies an abundance of material for the pickles; cucumbers, tomatoes, peppers, beans, green melons, cauliflowers, nasturtiums, etc., should be gathered before toughening.

Seeds.—Much of the success of next year's garden will depend upon the careful and judicious saving of seeds this month. We have in former numbers spoken at length on this subject. Of biennials—like beet, parsnip, salsify, etc.—preserve the finest specimens for setting out to produce seed next Spring.

Spinach.—Make preparation for early greens next Spring, by sowing early this month. Thin out as soon as large enough, keeping the bed clear of weeds.

Squashes.—Clear off the vines after the crop of summer varieties is taken. The Marrow will soon be fit for use. The Hubbard may be used, and will be found good, even when quite green.

Tomatoes.—These are now in the greatest plenty. Bottle a full supply for winter use and make catsup.

Turnips should now be growing finely. Keep well hoed and thinned.

Weeds.—See that no seeds of these are saved for another crop. One plant pulled green, or burned if ripe, may save the labor of destroying thousands of weeds hereafter.

Winter Cherries.—Gather as they ripen and pre-

serve, or pack in cotton with the hulls on for winter. These are not as well appreciated as they should be. They are easily cultivated, and make a "sauce" but little inferior to strawberries.

Fruit Garden.

Here fruit is to be gathered, weeds to be exterminated, and preparation made for new beds.

Blackberries.—As soon as the fruit is off, the old canes are to be cut out. Remove the superfluous new shoots, leaving only one or two to each root for next year's fruiting.

Grapes.—The early varieties will be ripening this month. Pick for market with the greatest care, and handle by the stems only. Shallow boxes or crates are better than baskets for sending to market. See great Grape Exhibition announced elsewhere.

Raspberries.—Follow the directions given for Blackberries above, and also last month's Calendar.

Strawberries.—New beds may be made this month. Read article on page 241 August *Agriculturist*. Cut the runners from those cultivated in hills, remove weeds, and keep the soil loose.

Flower Garden and Lawn.

The borders should be bright with the gorgeous colors of the Autumn blooming flowers. These have not the tender beauty and delicate fragrance of our Spring favorites, but they come with a richness of bloom that accords with the season of ripeness and maturity. New grounds may now be laid out and prepared for Fall planting. Draining can be done and walks laid out at this season.

Bulbs.—The latter part of this month is the best time to set out bulbs for spring blooming. See article on page 275, for general directions.

Bedding Plants.—Those which it is desirable to preserve, such as Fuchsias, Lantanas, Geraniums, etc., may be taken up and potted preparatory to putting into a cool part of the green-house or the cellar, to remain during Winter.

Chrysanthemums need to be carefully staked. Cut out all weak shoots and a finer bloom will be the result. Pot for house blooming.

Cuttings.—Put out a good stock of Petunias, Verbenas, and other bedding plants for winter keeping.

Dahlia's.—These are now in full bloom, and will require constant care to keep them from being injured by the winds. If any strong limbs are in danger of breaking, put down extra stakes and tie them. Cut off the flowers as soon as they have passed their prime, marking the choice hills.

Evergreens.—These may be planted this month, though with more risk than in Spring. See precautions in August *Agriculturist*, under Orchard.

Flower Pots.—Construct or repair and have ready for the reception of plants. Where there is no green-house, a great many tender plants may be safely carried through the winter in a cold frame.

Gravel Walks.—These are still liable to the intrusion of weeds, and need to be raked and rolled.

Lawns will still need an occasional mowing, and thin places may have a liberal sprinkling of seed. See article on Lawns on page 274.

Seeds.—Care should be observed in saving these from only the choicest flowers. Do not trust to memory, but label as soon as gathered. Hardy annuals, like Phlox, Larkspur, Clarkia, etc., may be sown now. With a little litter thrown over them, they survive the Winter and give an early bloom.

Verbenas and Petunias.—Layers and cuttings may still be made, and those already rooted may be potted off, to flower during the Winter season.

Weeds.—There must be no abatement of vigilance with these until the frost stops their growth.

Green and Hot-Houses.

If it has not been already done, no time should be lost in putting the houses in a perfect state of readiness to receive the plants. Painting, glazing, fumigating, and cleansing generally, should be done at once. The flues and hot water apparatus should

be tested, and all necessary repairs made before the plants are brought in. Many of the tender things will require to be housed this month, and the paint should be hardened, and the dust and muss all over beforehand. Before the pots are brought in, they should be cleansed from dirt and moss, and the plants cut back into shape. All plants ought to be housed before the cool nights check their growth.

Air should be given freely every day, and the plants be gradually accustomed to the change from the open air to the confinement of the house.

Bulbs may be potted and kept in a cool place to be brought forward into bloom later in the season.

Camellias need repotting. Give frequent waterings while they are making their new growth.

Potting.—All the materials necessary for the Winter's potting, should be accumulated beforehand—pots, stakes, tags, leaf mold, loam and sand, all under cover and ready for immediate use. Many of the plants have become pot-bound during the Summer, and will need shifting. Those which were set in the borders, will probably need to have both root and branches cut back when potted. Give them shade and water after the operation.

Apiary in September.

Prepared by M. Quinby—By Request.

Bees having no poor neighbors around them, will not be apt to get into the despicable habit of robbing. It is not necessary that a hive should be nearly destitute of stores to make it poor; it may contain all the honey needed for two or three families, but if without bees to defend it, it is not rich. A rich hive contains both bees and honey in proper quantity. Bees have no better faculty than men to resist temptation. As long as they can attain all they want from flowers, they are content; but flowers fail now, and poor hives must suffer from the rich. The bee-keeper who is determined to keep about him a healthy tone of morals, will remove as far as practicable, all temptations to evil. Remove the poor hives at once. Examine carefully to determine which they are.... Do not put out any refuse honey. If you have such to feed, put it in a box and give it to some needy colony where others can not get it. New swarms strong enough to defend themselves, and yet not suitable for Winter, may stand until next month for the brood to hatch, before being taken. Old stocks containing foul brood, should be looked to now. There is great risk in letting them stand, because if robbed by colonies to be wintered, the seeds of disease are taken there for another year. Much mischief often results from neglecting this. The bees of such may be given to a queenless stock, if needed, but should not be introduced until they stand long enough after being driven out, to consume all the honey taken with them from the diseased hive. Some of the combs will be filled with the brood and honey mixed together, these should be cut out and buried entirely away from the bees. The healthy bees should not get a particle, unless scalded and skimmed. The top and side combs are usually clean, and may be strained out for use.... The Italians so far, have proved almost exempt from this disease. Will not any one, having the Italians, in districts where it exists, watch this point, and report.... All honey in the surplus boxes, not sealed, is now taken below. If you would secure it, take it as soon as the flowers fail. To keep it from dripping out of the cells, turn the boxes right side up, as soon as the bees are out.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed upon our tables since our last report:

FRUITS—*Currants*: Versailles, Cherry, Red Grape, Short-Bunched Red, Prince Albert, White Grape, and Champagne, shown by E. Williams, Mont Clair, N. J. ... *Red Provence*, Red Angers, La Hative, Versailles, Cherry, Victoria, Glorie de Sablons, Champagne, White Grape, Golden Cherry Plum; A. S. Fuller, Brooklyn Nurseries, N. Y. ... *Raspberries*: Improved Black Cap, Orange, Hudson River Antwerp; E. Williams, Mont Clair, N. J. ... *Catawissa*; W. S. Carpenter, Rye, N. Y. ... *Blackberries*: New-Rochelle, new variety of pink color, also new black kind, from France; Wm. F. Heins, Morrisania, N. Y. ... Dorchester, New-Rochelle, and a new American Seedling; E. Williams, Mont Clair, N. J.

... *Gooseberries*: Lincolnshire, large; Jas. Hunt, Flat-bush, N. J. ... *American Seedling*; E. Williams, Mont Clair, N. J. ... *Apples*: Early Harvest; Alexander McDonald, Mt. Vernon, N. Y. ... *Curious double apple*; Jas. Brush, Brooklyn, N. Y. ... *Pears*: Osborn and Bourre Giffard; Wm. S. Carpenter, Rye, N. Y. ... *Figs* grown out-doors, very fine; Thomas Caruly, Washington Heights, N. Y. ... *Mulberries*: S. Tuttle, New-Haven, Conn. ... *Lenon*, very fine, one of 40 on same tree; Mrs. S. Craft, Glen Cove, N. Y.

FLOWERS, ETC.: Collection of Seedling Double Carnations, and Gladioluses, very fine; A. P. Cummings, Westchester Co., N. Y. ... *Chinese Trumpet Lily*; Alex. Marshall, Paterson, N. J. ... *Plant of Lavender*; Anton Strahm, Pearl-st., New-York. ... *Bloom of Abranthus roseus*; Wm. Allison, Brooklyn, N. Y. ... *Dahlia's*: R. Cunningham, Brooklyn, N. Y. ... *Cut Roses and Dahlia's*; C. S. Pell, New-York Asylum. ... *Larkspurs, Carnations, Gladioluses, and splendid Collection of seedling Phloxes*; Wm. F. Heins, Morrisania, N. Y. ... *Blooms of Magnolia Soulangiana*; W. S. Carpenter, Rye, N. Y. ... *Double Dahlia*; Mr. Jacobs, Bergen, N. J. ... *Double Balsams*; A. Edwards, Shrewsbury, N. J. ... *Pigmy Marigolds*; H. T. Haviland, Brooklyn, N. Y. ... *Double Zinnia*, Dr Peyton, New-York City. ... *Cut Flowers*; O. Judd, Flushing, N. Y. ... *Splendid Collection of Gladioluses*, 54 varieties; Andrew Bridgman, 878 Broadway, New-York.

VEGETABLES, ETC.: New species of Cucumber, white, and curious Tree Tomato; G. M. Usher, Port Richmond, N. Y. ... *Long Blood Beet and Early Turnip*; J. W. Perkins, Central Park Hospital, New-York City. ... *Cucumbers*; Barney Williams, Bath, N. Y. ... *One bunch Tomatoes, weighing 9½ lbs.*, Apple and Fig Tomatoes, and enormous growth of *Maitinea*; Wm. F. Heins, Morrisania, N. Y. ... *Mandrake*; Israel Thornell, Metuchen, N. J. ... *Red and White Wheat*, grown near St. Louis, Mo.

The Great Strawberry.

IMPORTANT EXPLANATIONS.

A number of persons appear not to have read carefully through what was said last month about distributing the wonderful New Strawberry. At least, so we judge from the tenor of many letters received. Owing to the absence of the Publisher, perhaps his intentions were not so fully explained as they might have been. To save writing letters, and to make the matter understood, we explain:

1.—As the New Strawberry (now called the "*Agriculturist Strawberry*," appeared to far excel both in size and intrinsic value anything ever before produced, it was decided to purchase all the plants, to multiply them, and to distribute them free among the subscribers to the *Agriculturist* for the year 1864 (Volume 23).

2.—There were but few plants in existence; we bought all but one which is in the hands of an amateur friend, and we are cultivating and multiplying them with the greatest care. We can not spare one this year for love or money. A hundred dollars for one plant have been offered by some cultivators who would like to get up a stock for sale, as they would bring a high price. We intend to keep them out of market, and distribute them free. Each plant will, perhaps, on the average, produce, 200 others for distribution next year. The Green-House will be brought into requisition as soon as the out-door multiplication ceases. So, then, the many who earnestly solicit "just one plant now," will see why we can not grant the favor and excuse us from writing them in reply.

3.—As some plan of distribution is necessary, we adopt the following: The plants will be sent to all paying subscribers for 1864 (including exchanges), if we can produce enough, and if there be not enough, then as far as they go, beginning in order with the first who pay in their subscriptions for 1864. (*Exception.*—Some have sent in their applications, saying they intended to subscribe. As the matter was not definitely understood last month, we have entered these names in order, on a separate list, and when the subscriptions come in, we will check off the names for the plants, if the subscribers will refer us to their application, giving about the date. Those applying whose subscriptions already extend into 1864, are entered for the plants.) *HEREAFTER*, to avoid trouble and mistakes, and to save much extra labor, we must ask that the application for plants come along with the subscription for 1864. We do not desire to hurry up renewals, though every name now booked up for next year, by so much diminishes the severe labors of December and January, when the great bulk of subscriptions are generally received. We hope to have at least one plant for every subscriber, but can not promise them positively, and therefore adopt the rule of "first come, first served."

4.—No difference is made between single subscribers, club subscribers, or those coming on premium lists, or from Agricultural Societies. The plants are designed for all regular (paid up) subscribers alike. Voluntary agents or dealers can have the plants for their customers, on the same terms as others, that is, when we receive the subscription price for 1864. We can not supply plants to those who buy only by the single number, as any copy taken thus may be the last one.

ABOUT THE FIVE CENTS.—The purchase, cultivation, and distribution of the plants will cost \$3000,

or more, besides postage and packing material. The smallest parcel will require at least three cents worth of oil cloth, and two cents for postage. This five cents is a trifle for each, while if we paid it, it would amount to several thousands of dollars. Our paper is too low priced to afford profit for so much extra expense. It is a matter of necessity, therefore, to ask each one desiring the plants to enclose *five cents* for packing material and postage.

If this New Strawberry turns out as well as it promises, and as well as every one who has seen it believes it will, it will be a magnificent acquisition to the country, and the subscribers receiving the plants will get the first benefit at very trifling cost or risk, while the whole country will soon be supplied, at a cheap rate. Had we not secured them, they would have been offered at a dollar or more each, and thousands of persons would have paid \$5 to \$10 a dozen before they became generally disseminated. Indeed we could to-day sell our plants for \$3000 cash.

Great American Grape Exhibition.

THE NEW-YORK FRUIT GROWERS at their meeting, August 13, decided to hold a Public Exhibition devoted entirely to *Grapes*, at the *Agriculturist* Rooms, 41 Park-Row, on **October 1st, 2nd, and 3rd.**

The following gentlemen were appointed a Committee of Arrangements: Peter B. Mead, Esq., Ed. Horticulturist; R. G. Pardee, Esq.; Dr. I. M. Ward; Wm. S. Carpenter, Esq.; A. S. Fuller, Esq.; and Dr. C. W. Grant. The Committee report as follows:

PRIZES.

NATIVE GRAPES.

- A.—Best Native Seeding Grape that has never taken a prize—of superior quality, and ripening in open ground not later than Sept. 20th.—Satisfactory proof of time of ripening to be furnished. \$10
- B.—For the Best Collection of Native Grapes, (amount and quality both considered,) not less than 12 kinds, 5 bunches of each. 10
- C.—For Second do do do 5
- D.—For Best Six Varieties, 5 bunches of each 4
- E.—Second do do do 3
- F.—For Best Four Varieties, 5 bunches of each. 2
- G.—For Second do do do 2
- H.—For the Best 5 bunches of Native Grapes of any kind, quality to rule. 2
- I.—For the Best 5 bunches of Delaware 2
- J.—For the Best 5 bunches of Diana 2
- K.—For the Best 5 bunches of Catawba 2
- L.—For the Best 5 bunches of Isabella 2
- M.—For the Best 5 bunches of Concord 2
- N.—For the Best 5 bunches of Hartford Prolific 2
- O.—For the Best 5 bunches of Heribemont 2
- P.—For the Best 5 bunches of Elsingburgh 2
- Q.—For the Best 5 bunches of Creveling 2
- R.—For the Best 5 bunches of Union Village 2
- S.—For the Best 5 bunches of Anna 2
- T.—For the Best 5 bunches of Allen's Hybrid 2
- U.—For the Heaviest bunch of any kind. 2

FOREIGN GRAPES.

- V.—Best Six varieties, 2 bunches each 5
- W.—Second do do 3
- X.—Best 2 bunches Black Hamburg. 1
- Y.—Best 2 bunches Muscat of Alexandria. 1
- Z.—Best 2 bunches Grizzly Frontignan. 1
- aa.—Best 2 bunches of any other kind. 1
- bb.—Other Special Prizes to be awarded by the Judges, for extra specimens not included anywhere above.

REGULATIONS.—1. The Judges will be requested to test specimens by actual taste, and to make all other points subordinate to that of quality, except in Prize U. They will disqualify all lots not meeting the terms of the schedule, including the number of bunches called for (except in prizes B and C.). All bunches above the required number must be laid aside until after the judges have given in their decision, when the exhibitors may add to their specimens at their pleasure.

2.—Exhibitors should give at least 3 days' notice of the space required, that room may be provided for them.

3.—All specimens to be on the tables by 11 o'clock A.M. Thursday, Oct. 1st. The Judges will have exclusive use of the rooms from 12 to 2 o'clock, after which the public will be admitted. After the awards, the Prize specimens will be labeled. Exhibitors may then put on their specimens their cards, place of business, etc. No fruit will be removed before 4½ o'clock P. M., Saturday, without special permit. The fruit of course will belong to the several exhibitors, at the close of the Exhibition.

On behalf of the Committee,
PETER B. MEAD, Chairman.

The above report was presented and adopted at the Fruit Growers' Meeting, Aug. 20, and appointment made of the following excellent committee of

JUDGES FOR THE GRAPE EXHIBITION.

- HON. MARSHALL P. WILDER, Dorchester, Mass.
- CHARLES DOWNING, Esq., Newburgh, N. Y.
- JOHN E. MOTTIER, Esq., Cincinnati, Ohio.
- A. W. HARRISON, Esq., Philadelphia, Pa.
- Dr. J. B. CHAPIN, Providence, R. I.
- T. T. LYON, Esq., Plymouth, Mich.
- JOHN DAILEDLOUZE, Esq., Flatbush, L. I.
- ISAAC BUCHANAN, Esq., New-York City.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Mailing Strawberry Plants due for Premiums.—These will be mailed soon after Sept. 1st. (The dry season prevented an earlier development of well rooted plants.) The *Triomphe de Gand* will be sent where the Bartlett or Austin have not been specially called for. As soon as they arrive, remove the covering, and bury the roots in moist earth, if not ready to plant at once. (See directions for culture in August *Agriculturist*, page 241). Let the soil be made mellow and deep, and contain plenty of black earth, or woods mold, or well rotted manure. Spread out the roots well; set so that on settling the crowns will be fully as high as the general surface with no dirt on the central leaves; water only as needed—not drowning them; put a little rotten manure around each plant, and water through this, which will work in some of it, and stimulate the plants to active growth. All this, if the best results are desired. Rich manure in Spring promotes rapid growth of plants at the expense of fruit. With care in planting and a good autumn season, quite a number of new plants may grow, ready for spring planting. If set well apart, and well treated, 10 plants set now ought to produce at least 500 by next August. We could easily make 1000.

The Fruit Growers' Meetings, which were partially interrupted by hot weather, by the mob excitement, etc., are again in active operation. It will pay to drop in at 41 Park Row, on Thursdays, at 1 P. M.

The Great Grape Exhibition announced in another column is worthy of attention. The show will doubtless be one of the best, if not the best ever seen in this country.

The Premium Grape Vines, Due, can not be mailed until the new wood ripens, several weeks hence. The time of sending will be announced.

Fine Show of Gladiolus.—Our exhibition tables are blooming like a garden, with a splendid collection of over 50 varieties of gladiolus from the grounds of A. Bridgeman, 878 Broadway. The colors range from pure white with purple markings, to deep scarlet. We have never seen a finer collection. The gladiolus is one of the most desirable ornaments of the garden; it blooms in midsummer, and continues to flower until late in the season. Most of the sorts are hardy, and the bulbs only need taking up to divide them.

A Supplement to Ure's Dictionary of Arts, Manufactures, and Mines.—New-York: D. Appleton & Co. Ure's Dictionary has long been a useful hand-book of reference to those having an interest in the subjects on which it treats. This supplement, edited by Robert Hunt, and comprising contributions from numerous well-known authors, is a valuable work. It gives an exposition of all the latest improvements in manufactures, and embodies a mass of information not to be found elsewhere. Messrs. Appleton & Co. are issuing several scientific works of a high order; they will receive the thanks of all lovers of good books.

Flowers for the Parlor and Garden, by Edward Sprague Rand jr., Boston, J. E. Tilton & Co. We have a natural antipathy to works in which the chapters are headed by a poetical quotation. We confess that we opened this book with a prejudice against it, but we have given it a careful perusal, and must say that it contains much useful information for the amateur cultivator. There are some errors in botanical nomenclature which are evidently oversights, and should be corrected in another edition. The work is beautifully executed, and is not dear at the price, \$2.50. We shall place it on our book list.

A Good "Notice."—We do not feel at liberty to occupy much space in printing the good things said concerning this Journal by other Journals, and by our readers in their letters. It may gratify the members of the great *Agriculturist* family, however, to state that thousands of kind and appreciating notices appear every year, in which the merits of this paper are spoken of in the highest terms. We are gratified by such expressions of appreciation, and are thus stimulated to greater exertions. We give one example from a recent number of the "*Medical and Surgical Reporter*," of Philadelphia, one of the best and most widely circulated weekly Med-

ical Journals in the world. Praise from such a source is truly worth having. The Reporter says:—"The *American Agriculturist*, published by ORANGE JUDD in New-York, is one of the best and most practical, as it is the cheapest paper issued for the use of agriculturists. As many of our readers are, to a greater or less extent, agriculturists and horticulturists, we unhesitatingly recommend it to their notice. The *Agriculturist* is an uncommonly promising opponent of quackery in medicine, refusing to advertise for quacks at any price, and devoting much space to a practical exposure of their tricks. Each number contains something to amuse and instruct children as well as grown persons. The price is but one dollar a year, and each number is worth the money."

Fine Wool and Sheep Husbandry.—A work bearing this title is just being issued by C. M. Saxton. It consists of an essay by Henry S. Randall, L. L. D., read before the New-York State Agricultural Society, Feb. 12, 1862, and contains sundry matters of interest to breeders of fine sheep. A large part of the work is occupied with the history of different importations into this country, and a comparison of the values of the several breeds of fine-wooled sheep. It also contains practical suggestions upon the breeding and management of sheep. We can send it post-paid upon receipt of the price, 75c.

New Use for the Wringer.—Geo. M. Usher, of Port Richmond, informs us that he finds the Clothes-Wringer of great use in squeezing the juice from currants. The fruit is put into a bag, without being stemmed, and the whole is passed between the rollers of the Wringer. Mr. U. says he can thus make a barrel of juice as soon as he could a gallon in the ordinary manner.

The Barometer and the Church Bell.—Rev. B. F. Sharp, Geauga Co., O., last year secured a premium barometer by obtaining subscribers to the *Agriculturist*. He writes that it has proved entirely satisfactory to himself, and of no little benefit to his neighbors. During haying and harvest, when the instrument indicated approaching rain, he notified his parishioners by ringing the church bell. One of them informed him that he saved five loads of hay in one day, by attending to the warning thus given.

Poisoning by Mercury Vine.—"W. T. P.," Monmouth Co., N. J. If you will tell us what the "Mercury Vine" is, we may publish the recipe. Is it the Poison Ivy described on another page?

Corn Blossoms.—City Subscriber, N. Y. If you read the Boys and Girls' Garden for this month you will better understand our answer. The Tassel is a collection of staminate flowers; the Ear a great number of pistillate ones. The silk of the corn is the long pistils, each thread of which comes from a pistillate flower that, after receiving the pollen from the tassel above, becomes a kernel. The staminate flower is much like the oat flower figured in the lesson. The structure of the pistillate flower is a little difficult to explain to one who is not a botanical student. You must take our word that it is so.

Fruit Notes.—Isaac Hicks, an experienced fruit grower in Queens Co., L. I., sends us the following:
PRIMATE APPLE.—We have had this superior summer apple several years under the name of Tart Bough. It was introduced from the vicinity of Syracuse, is nearly as early as the Harvest, and a much better grower, and more productive and valuable. It is very tender and juicy, and ripens gradually on the trees, so that it is in use three or four weeks.

CHERRIES.—Gov. Wood is the finest cherry we have yet tested, of about 30 varieties. All our Early Richmond and others of that class are nearly destroyed by the knot. Cutting off the knots as soon as they appear will prevent the spread of the disease if all your neighbors will pursue that plan, but if not, the labor is in vain.

DORCHESTER BLACKBERRY.—Of little value compared with New-Rochelle—thrown away after two years' trial.

STRAWBERRIES.—It is time the attention of the public was turned more to the *flavor* of this fruit, for any person that visited the Show at the *Agriculturist* office must be convinced that we have produced berries large enough. A strawberry that is rich and sweet enough without sugar, and of course productive too, is what we want now. Friend Fuller has succeeded in producing a seedling that approaches the mark, and Wm. E. Burgess, has a new variety that is very near what I desire, and can safely recommend, after visiting the grounds of the gentlemen above named in strawberry time, these seedlings to those who prefer *flavor* to size alone. We thought they were the best of the many varieties we tasted, and thrifty and productive also.

GRAPES.—Pick off one half of your Hartford Prolific grapes, and they will be more than twice the better for it

Mummy Wheat.—J. M. Shaw, of Lee Co., Ill., sends us a sample of wheat "said to have originated from that found with an Egyptian mummy some years ago," and asks what are its qualities. We have not the least confidence in the mummy story; it is one of the popular errors. The wheat sent, has a remarkably long and black beard. The head is short, but well filled. The grain is plump, but from inspection merely, we should not think it would make the best quality of flour. We have no knowledge of this variety, and should be very glad if Mr. S. can answer his questions from experience.

Chewing Tobacco.—We have had numerous inquiries as to the method of converting leaf tobacco into the manufactured or chewing tobacco, but can give no positive information on the subject. We only know, in a general way, that the tobacco is sprinkled with water sweetened with molasses or liquorice, and sometimes flavored with vanilla or some other aromatic. It is then rolled into balls and submitted to strong pressure, which forms it into cakes. The manufacturing is usually done on a large scale by those who buy the leaf, and make a business of it, the same as with cotton or wool.

What is Muck?—City Farmer, Buffalo, N. Y., says that we often mention the use of muck, and he confesses that he does not know what it is. If we were to call it swamp mud, perhaps he would know it. It is the deposit found in low swampy places where partly decomposed vegetable matter has been accumulating for ages. When dug out and exposed to the air, it partially dries and becomes a valuable absorbent of gases from manure, and is of itself an excellent manure from the large amount of vegetable matter it contains. There are few farms of any extent that have not deposits of muck or black earth at some point.

Sex of Eggs.—Charles H. Grower, of Long Island, says in reference to Mr. Genin's plan for determining the sex of eggs (given in the June *Agriculturist*), that wishing to have a number of cocks, he put a dozen eggs with rough ends under a hen, and two males and seven females were hatched out. Seeing it stated in Bennett's American Poultryer, that if the air bubble is in the centre of the end of the egg, a male bird would be produced, and if slightly at one side the egg would give a female, he tried 15 eggs selected as male, and the result was 7 males and 6 females.

Canada Thistle.—The Legislature of Pennsylvania in 1862 passed a law requiring owners or occupiers of lands on which Canada Thistle may be growing, to cut the same, so as to prevent it from going to seed, and the seed from ripening, under a penalty of \$15; and providing further, that if any such person shall neglect or refuse, after receiving five days' notice in writing, to cut and destroy such thistles, it shall be lawful for any person aggrieved, or believing themselves about to be injured thereby, to enter on such lands, and cut and destroy such thistles, and recover compensation therefor from such owner or occupier, at the rate of \$2 per day. A similar law was recently enacted in Michigan.

How Can I Destroy Horse-radish? asks F. M. Abury, Washington Co., Pa. We know of no other way than to actually dig it out. The ground must be spaded up and forked over at least two spades deep, and all the roots, even to the smallest particles picked out. It is a difficult task, but we have successfully accomplished it. Horse-radish should never be planted except where it can remain permanently.

Yellow Daisy.—M. R. Campbell, Columbiana Co., Ohio. We do not know what plant you refer to. Send us a specimen.

Kerosene on Plum Trees.—In the February number of the *Agriculturist* we published a note from M. A. P. Richardson, of Norfolk Co., Mass., to the effect that he had kept his trees free from curculio by the use of kerosene oil applied to a band of cotton surrounding the tree. We have had several letters from those who have tried it and killed their trees. We published this as we do other items which come to us apparently in good faith. We cannot try every recipe and experiment ourselves. We deeply regret that any trees have been destroyed by what would seem to be a safe application. We shall be glad to hear if Mr. Richardson continues the practice with safety, and if he can account for its success with him and its disastrous effects in other places.

Tree Peddlers.—W. W. Beck, writing from Montgomery Co., Ind., says all we have written of itinerant tree vendors is true. His neighbors have patron-

ized them, and generally lost half their trees—in some cases all of them. He ordered and paid for one standard pear and two apple trees. The pear proved a pomr, forked dwarf, and the apples were not the variety ordered.

Shade Trees Free from Span Worms.—I. C. Brooklyn, L. I. Few trees, save the Ailanthus, are exempt from worms, in badly infested localities like yours. On account of this freedom, and its rapid growth, even in poor soil, we often advise planting the Ailanthus along the streets of cities. The Sweet Gum (Liquid amber) is a pretty tree, on rich soil, and tolerably free from worms. The Linden is one of the worst preyed upon, and the Elm and Maple come next.

Gang Plows.—A. D. Henry, Lycoming Co., Pa. Gang plows of various patterns are in use in different sections of the country, particularly at the West, but they are not as common as we think they might be with advantage. Perhaps some modification in the present construction is needed to make them satisfactory. We are not prepared to name the best. Hildreth's is a good one, though not having seen it advertised recently, we cannot say where it is manufactured or for sale.

Hubbard Squash.—John A. Allen, St. Louis Co., Mo., has had much trouble from the destruction of the flowers of his vines by the squash-bug. The only remedy we can suggest is to begin early in the season, and look over the vines every day and destroy the insects. By killing those which come early, before they lay their eggs, much may be gained. The eggs are deposited on the under side of the leaves: these and the young insects, and in fact those in every stage of growth must be crushed. We know of no preparation or application which will keep them off.

Treatment of Raspberries.—T. W. Kingsbury, Pike Co., Ill., forks in a good dressing of manure in the Spring, and when the fruit begins to ripen he cuts the new shoots back to let the sun in, and also to include side branches. The canes are in hills, four together, tied to a single stake. As soon as the fruiting is over, he cuts out all the old canes and the weak growth of the new, and forks in more manure. By this method he gets strong shoots for fruiting the following year.

Preserving Figs.—C. Pell, Wayne Co., N. Y. In the South of Europe the figs are simply dried in the sun, or, in wet seasons, in a heated room. They are turned frequently to insure equal drying. You think fresh figs insipid; we do not. The taste for them is partly an acquired one like that for tomatoes. We should like to breakfast with you if you could give us fresh figs and cream,—you would not be troubled to dry them.

Hardiness of Plants.—John Walling, Clinton Co., Mich. The *Catalpa* is barely hardy here, and will probably not stand your winter. It depends upon the sort of magnolia you plant, whether it will endure. *Magnolia acuminata* and *glauca* may stand, and though we should not like to insure them, they are worth trying. It is impossible to predict about plants without actual experience. We have seen the Southern Cypress quite hardy in your State, while plants which naturally grow much farther north were killed. Clematis Virginiana grows wild in Michigan, and is hardy.

The Wistaria.—"J. W. R." Bath—(State not given.) If in Maine, the Winter is too cold in your locality. Try laying down the vine next Fall, and covering it with some litter and a few inches of earth.

Two Very Long Iron Bars!—We write this item in Central Iowa, at Grinnell, the farthest point west to which the Mississippi and Missouri Railroad is yet completed. Before our window lie two parallel heavy bars of iron, the ends meeting other bars eastward in one continuous line all the way to New-York City—over the prairies, through cities, winding among the hills, and crossing rivers on substantial bridges. A car loaded with the products of these fertile prairies can go through to the great Metropolis on the Atlantic, without being broken in bulk. We can step on board, and in 51 or 52 hours, traverse the whole distance, of 1196 miles! We occupied two weeks in coming here, as we made frequent digressions, but always returning to the main route. Here is the route: From Grinnell to Davenport, by the Mississippi and Missouri R. R., 120 miles; thence by the Chicago and Rock Island R. R. to Chicago, 182 miles; thence by the Pittsburgh, Fort Wayne, and Chicago R. R., to Pittsburg, 468 miles; thence by the Pennsylvania Central R. R. to Harrisburg, 249 miles; thence by the Lebanon Valley, the Eastern Pennsylvania, and the New-

Jersey Central Railroads, to New-York City, 177 miles. All these roads join so as to form a continuous line, and the trains connect, so that if in haste, one need not stop night or day, except to eat, for which time is allowed at suitable intervals. Commodious sleeping cars are provided in the trains running at night, and we have found a very commendable effort, on the part of all employed in running the trains, to make their passengers comfortable. It is worth a trip over this route to see the broad country on the way, and to see and enjoy these magnificent prairies. Thanks to the skill, and enterprise, which laid down these two very long iron bars!

Keeping Grapes.—S. Mitchell, of Steuben Co., N. Y., gives in the Rural New-Yorker his experience with several modes of packing Isabella grapes. They were all put in boxes one foot square and six inches deep, to admit three layers of clusters, and kept in a cool, dry cellar, so cool that water froze. Those packed in colored sheet-wadding—a layer of grapes, then wadding—kept tolerably well until the middle of December, when they began to rot and mould. Others packed in fresh-grape-leaves kept nice and plump until the last of December, improving in the meantime. They then began to mould badly. The best results were with grapes packed between alternate layers of newspapers. By changing the papers and repacking he kept grapes plump and fresh until used up March 15th.

Hybridizing Strawberries.—G. Pillsbury, Rockingham Co., N. H. This operation, which should properly be called crossing, is performed by cutting out the stamens of the flower to be fertilized, as soon as it opens, and then applying the pollen from the flower with which you wish to cross, by means of a camel's-hair pencil. If not familiar with the structure of flowers, the Boys and Girls' Garden for July will explain.

Mulching Strawberries.—W. H. Morgan, Harford Co., Md. The winter covering of strawberries should not be more than one or two inches thick over the crowns of the plants. Perhaps with you a very thin covering would answer as a protection against sudden changes of temperature. This Fall covering is designed not only to protect the plants during Winter, but to keep the ground around the roots moist during the Spring drouths, and also to keep the fruit clean and the weeds down. Forest leaves answer an excellent purpose as a winter protection, and we have known tan-bark, saw-dust, and shavings from a planing-mill, to be used with good results. The last-mentioned articles are disposed to pack closely, and should be put very thinly over the crowns of the plants. Strawberries do not so much need protection from the severity of Winter as they do from frequent freezing and thawing.

Cobaea Scandens.—Jos. Marsh, Wis. This is grown as an annual, but it is a perennial in the green house. You will be more apt to get flowers by starting new plants than by any treatment of the old ones.

Mushrooms.—J. Wickersham, Ind., is referred to the Sept. *Agriculturist*, 1861, for full directions for cultivation. The spawn may be had at the seed stores.

Stuffing Birds.—"Ignoramus" will find a brief article in the *Agriculturist* for October, 1862. The skinning is not difficult, but the setting up depends upon one's natural taste and eye for form. He can learn more from seeing an experienced taxidermist work a few hours than he can from any printed directions.

International Wheat Show.—We again call attention to the International Wheat Show, to be held at Rochester, N. Y., Sept. 8, 9, and 10th, at which samples from any part of the world will be admitted for competition. The large premium list, amounting to five hundred and forty dollars, is well worthy the attention of wheat growers. As there will also be an opportunity of selling good wheat at extra prices for seed, the inducements to contribute to the exhibition are in themselves sufficient to warrant a large show, aside from the fact that the interest of farmers generally will be greatly promoted by a comparison of the different varieties of wheat, and the selection of that best adapted for culture in the United States.

Fair of the American Institute.—The Thirty-fifth Annual Exhibition of this Institution is announced to be held at the Academy of Music in this City, commencing Sept. 3d, and to continue three weeks. A Horticultural Exhibition is to be had in connection with the general Fair, during the last week. Articles of every kind are admitted, provided they are of American manufacture. Inventors and manufacturers have an opportu-

nity at this gathering, of exhibiting their wares to very large numbers of visitors, and they usually avail themselves very largely of the facilities offered, so that in general the show is well worthy a visit.

Brakes in Pastures.—C. Crocket, Penobscot Co., Me., and several other subscribers. We know of no other way of getting rid of brakes, short of grubbing them up. The long root-stocks or underground stems are very indestructible; we have turned them up after they had been plowed under for several years, and they seemed to be as sound as ever. Drainage would doubtless render the land less suitable for them. There are but few ways in which any particular plants can be killed. The land can be rendered uncongenial as regards moisture; they can be crowded out by cultivated crops; they can be exhausted by repeated mowings, and they may be grubbed up root and branch. Besides this, thistles and burdock may be poisoned with salt. This is the extent of our present knowledge about exterminating particular plants. If our readers have any facts on the subject, we should be glad to learn them.

Marble Dust as a Fertilizer.—Wm. C. Chipman, Barnstable Co., Mass., and others.—Limestone, marble, and chalk are alike in composition, for they are each composed of lime and carbonic acid. The main difference in composition is the presence of a very small quantity of iron, or other metal, which darkens the limestone, and shades some beds of marble. The compactness, the degree of crystallization, and other causes, give a different physical appearance to the three forms of carbonate of lime. Burn limestone, marble, or chalk, to drive off the carbonic acid, and in each case you have caustic lime remaining. Grind or pulverize them, and in each case you have a powder which is chiefly carbonate of lime. On some soils entirely deficient in lime, the unburned powder may be beneficial, but we suspect not greatly so, from the fact that on soils filled with limestone, and even partly made up of the detritus of limestone, good results are derived from burning a part of the limestone, and applying it in this state to the soil. The expulsion of the carbonic acid leaves the caustic lime in a state to act more energetically as a neutralizer of acids in the soil, and as a decomposer of organic materials to fit them for plant food. The fact that air-slaked-lime, which is in a measure re-carbonated, is somewhat beneficial, would indicate that very finely powdered limestone, or marble, or chalk, should be of some value, though its comminution is infinitely less than when disintegrated by fire. Marble dust may be used on heavy soils as an ameliorator to change the physical condition, and to ultimately affect the chemical constitution.

Lambert or Weevil-proof Wheat.—Jos. Henderson, Mifflin Co., Pa., writes to the *Agriculturist* that this variety of wheat, which has been highly extolled in some quarters, has proved very inferior in his locality. Four years since, he and several neighbors procured and sowed 50 bushels. The heads were short and loose, and where the straw appeared as heavy as the Lancaster Bearded variety which stood beside it, the yield was at least one-third less. The latter kind is almost the only wheat now sown in that section.

Stock for the Michigan Agricultural College.—We were recently gratified by a short visit from our friend Dr. M. Miles, the Professor of Zoology, etc., in the above institution. He has been among the celebrated herds of the Eastern breeders, purchasing stock for the farm of the College. He purchased from Samuel Thorn, Esq., of Thorndale, the short-horn bull Fatalist and the cow Dicytra, and from F. M. Rotch, Esq., Otsego Co., N. Y., the short-horn heifer Ilaze. Also the following Devons from the herd of E. G. Failes, Esq., West Farms, N. Y.: the bull Cherokee and the heifers Zuleika 2d and Eveleen 5th. We are glad to learn that such valuable stock has been acquired by this College, an institution which has every element of success except the hearty appreciation of the farmers of Michigan, and this we bespeak for it.

Insects.—"J. T.," of Southport, Conn., sends us an insect which he says cuts off the leaves of his fig-trees. The insect is one of the Tree-Hoppers, and judging from the rather imperfect specimens, is not a species common about here. We think that the leaves must be eaten off by something else, as these insects live entirely by sucking the juices of leaves and tender twigs. The young insects live in the ground, upon the tender roots of the tree, and it is in this state that they do the most damage. No remedy has been proposed, to our knowledge.John Chislett, of Alleghany County, Pennsylvania. The insects were, as you supposed, the too common Rose Bug. As the eggs are laid in the ground and the grub subsists there until it comes out a perfect beetle,

there is no time at which it can be successfully fought, save in its perfect state. Jarring them from the trees on to sheets and then destroying them, is the only feasible remedy we have seen proposed. If half the insects destroyed in this way are females, the crop for the next year will be much diminished. Birds destroy many of them, and they are devoured by fowls as they are about to enter the earth to deposit their eggs....The specimens from A. L. Child, Cass Co., Neb., were *Doryphora decemlineata*, or the Ten-striped Spearman. It is a beetle which has of late become very troublesome in Iowa, Nebraska, and other far-Western States. They are particularly fond of the potato and tomato, but in the absence of these will devour any green thing. The eggs are of a red color and are laid upon the leaf, and the sluggish grubs which come from them, eat with great avidity. Several generations are produced in a season. The grub undergoes its transformation in the ground, and comes out a perfect beetle, about half an inch long and about as broad, of a pale yellow, with 10 black lines on the wing-covers. The principal damage is by the larvæ. Mr. C. finds that by hand-picking he is able, with great labor, to reduce their number. We as yet know of no other way to treat them.

Insects on Wheat.—John McKibben, Walworth Co., Wis., M. H. Taylor, Walworth Co., Wis., and W. E. Abbs, Fond du Lac Co., Wis. The insects forwarded are the grain aphids, which appeared in countless numbers upon grain, especially oats, in many of the northern States, last year. They do considerable injury by sucking the sap of the plant and making the grain shrivel. This year they do not appear to be as abundant. We know of no means to prevent their ravages. They have several natural enemies to keep them in check, the principal one of which is the small insect known as the lady bug, or lady bird (*coccinella*.)

Lice on Cattle, etc.—Demarest, of Essex Co., N. J., finds that the "Insect Powder" commonly sold, destroys lice on cattle. He rubs it along the back of the animal and works it down to the skin, and in the same way on the head and face. It is also good for fleas on dogs, and to keep lice away from setting hens; for the latter purpose he sprinkles it over the nest several times during the period of setting. This powder, which was formerly put up by some parties as a secret article, is now for sale in bulk at the drug-stores. It is mainly, if not wholly, the powdered leaves of a European species of *Pyrethrum*.

Slobbering in Horses.—Francis E. Rumford, Newcastle Co., Del., writes to the *Agriculturist*, that cabbage leaves fed to horses occasionally, with a little salt, will remedy slobbering.

Hardiness of Apple Trees in Illinois.—"J. H." writes us from Washington Co., Ill., that of an orchard of 3500 trees set out in 1859 and '60 he found about 600 damaged by frost. Perpendicular cracks, 1 to 3 inches long, appeared at the base of the trees, and some of them had three or four of these cracks, and the bark apparently dead for ten inches above the ground. He filled up the dirt to the height of 12 to 18 inches around each of the diseased trees and, by the middle of July, new bark had formed under the old, and by this treatment he saved all but some 50 or 60 of the affected trees. The varieties which suffered most were Prior's Red, Roxbury Russet, and Caroline Red, the latter being injured badly. Rawles' Jannet, Summer Queen, Fall Pippin, and Wine Sap were slightly injured, and Red June, Early Harvest and New-York Pippin were all sound.

Pears which Rot at the Core.—Mr. H. Morgan, Harford Co., Md., asks if there is any remedy for pears which become "mushy" while they are fair outside. This is one of the faults of otherwise good pears and there is no help for it. Better graft the trees over with sorts which are free from this bad habit.

Crops and Things in Decatur Co., Indiana.—John W. Smith says: It has not been so dry here for several previous years. Our wheat crop was good; our corn would make a pretty fair crop if it had rain; our oats were very good; our early potatoes are good but late ones are poor; peaches and apples are plenty; no quarreling among neighbors; our Union men are in the best of spirits; our Copperheads down in the mouth; our ladies industrious and—pretty of course.

Soap Suds for Blackberries.—L. Farnsworth, Ashland Co., O., writes to the *Agriculturist* that last season Lawton blackberries were almost worthless from a severe drouth occurring as they were about maturing. This year drouth occurred again in that vicinity, but he gave the blackberries the suds left after wash-

ing every week, and the yield was superior to any thing of the kind he had ever before seen.

Fuller's Seedlings.—C. Saunders, Mo., asks our opinion of the Col. Ellsworth and Monitor Strawberries, as he saw they were not noticed at our exhibition. These berries had already been exhibited at two shows, and Mr. F. having other new sorts, did not care to bring in the above varieties. The vines are all devoted to making plants, and are not allowed to fruit.

"Minnesota Flax."—Richard Chute, Minn., sends us a sample of a fibre with the above name, the product of a native plant which we cannot name, without leaves and flowers. The fibre is quite fine and strong. We have no means of judging of its market value. That probably could not be told until its value had been tested. The sample given to a party interested.

Plants for Names.—L. H. Andrews, Marshall Co., Ind. *Connelyna Virginica*, which may be called Virginian Day-flower, for a popular name. Also *Hypericum prolificum*, Shrubby St. John's Wort—a fine plant, and worth cultivating....Mrs. S. B. Morris, Portage Co., Ohio. The plant, as near as can be judged from the specimen, is *Neurenbergia gracilis*, a good bedding and house plant. The "Flowering Maple" she asks about is probably the *Abutilon*, figured on another page....J. H. Ferguson, Rensselaer Co., N. Y. The plant sent is the Trumpet Creeper, *Tecoma radicans*, (called *Bignonia* in the catalogues.) It is one of our most beautiful climbers, and is a native of Pennsylvania and southward. It is quite hardy around New-York. The specimen came in perfect order, being nicely packed in a tin case....J. G. Foster, Riley Co., Kansas. The specimen is *Ipomœa leptophylla*. As it is not generally known, it has no common name. It might be called Willow-leaved Morning-Glory. It is a perennial species of Morning-Glory with a large fleshy root. We should be glad of a few seeds....G. Hurd (place not given) sends *Similax Pseudo-China*, a species of China Brier.

Lemon Buds.—J. C. Laing, Tuscola Co., Mich. You can get them of almost any good florist. Isaac Buchanan, of this city, would furnish them.

Sending Insects.—We frequently receive insects to be named, but they generally arrive in such a crushed condition that it is impossible to make them out. We again ask those who send us insects, to enclose them in a small box or in a goose quill. Those arriving in good condition will be reported on as soon as practicable.

Do Dahlias Change Color?—So asks John W. Cook of Ottawa Co., Mich. We never knew a self colored dahlia (i. e., all of one color) to change, but we have known a purple tipped with white to produce flowers all purple and all white, especially among the first blooms of the season, and this may doubtless happen with other marked sorts.

A Non-blooming Rose.—A Lady Horticulturist in Utica, N. Y., says she has a Giant de Batailles rose which will make nothing but vigorous shoots and leaves, and asks what is the reason. As all her other roses do well, we cannot suppose soil and situation have anything to do with it, and venture the guess that she planted a budded bush, that the budded portion died out, and that the rampant portion sprung up from the stock.

Room in an Ice-House.—H. H. Bechbel, Juniata Co., Pa. Schooley's patent preservative, described in the *Agriculturist* volume 17, page 120 (April No.) is an arrangement by which a room in an ice-house is kept cool for the preservation of provisions, fruit, etc. This or some modification of it would probably accomplish the object you desire.

Wine-making.—We have several letters asking for directions for Wine-making. In September, 1862, we published an article on this subject as full as our limits would allow. In the present crowded state of our columns we cannot republish it, but have extra copies on the usual terms. The subject is too extended for a paper like this; we should be obliged to devote all our pages to it, in order to describe all the details. To those who wish to go into wine-making extensively we say that they cannot do better than to buy "Haraszthy's Grape Culture and Wine-making." This gives all the European processes, and though the price is rather high, they will perhaps save by it in the end. Price \$5, for which we can send it post-paid. It is fully illustrated.

Work on Bees.—C. J. Atwater, Ontario Co., N. Y. Quinby's "Mysteries of Bee-Keeping" is a good, practical work on the subject. We can forward it post paid on receipt of the price, \$1 25.

A Visit to the Largest Farm in Our Country.

The latter part of July we visited, near Bloomington, Illinois, our friend Albert Todd, who was formerly connected with the N. Y. Daily Times, but who has partially laid aside the pen, and is now knowing from actual experience what it is to be an independent western farmer. (We almost envy him his beautiful prairie home, his great corn fields, and his sleek corn-consumers that grow in flesh and money value, while the proprietor sleeps, as well as when he is awake.)—Among other things planned by friend Todd, for our pleasure and profit, was a visit to the great farm of Isaac Funk, a few miles southwest of Bloomington. Everybody knows Isaac Funk, the plain farmer, whose soul-stirring, impromptu eloquence, so electrified the Illinois Senate last winter. That speech has since been printed in hundreds of newspapers, and tens of thousands of copies, on cards and handbills, have been circulated all over the country, and are yet posted up in thousands of shops East as well as West. It did us good to grasp the hand of the Kentucky-born farmer, who, like President Lincoln, wandered in early life to the wild prairies of Illinois, there built up a fortune, and in these latter days has gained a wide reputation by his noble stand for the preservation and perpetuity of our glorious Union.—Fortunately, as we set out on the day's trip, we met Mr. Funk, in Bloomington, bound homeward, and had the pleasure of riding with him in his plain farm wagon. In the familiar conversation on the way, we learned from him the history of his early life, his struggles with poverty, and his gradual success, from the time he emigrated to Illinois nearly forty years ago, with but a few dollars in his pocket, until now, when his landed estate covers an area of full *forty square miles* (25,650 acres!)

We have space but for a few of the more interesting items. Mr. Funk arrived in Illinois, and commenced work in 1824. In 1826, he gathered up 110 head of cattle, and started with them for a market in Ohio, about 450 miles distant, much of the route through the woods of Indiana, and Western Ohio. They were 31 to 32 days on the road. The drivers rode on horseback, carrying their provisions, and camping out with the drove. The first price realized for the cattle was \$9½ per head, and afterward it gradually rose to \$12½, and then to \$15, and the droves were increased to from 200 to 250 head. To make up these droves, several settlers turned in their cattle and received an agreed price, or a proportion of the sales, on the return of the drover.

As fast as the results of these enterprises, and of raising and feeding cattle, furnished the means, Mr. Funk purchased land at the government price of \$1.25 per acre, and about one-third of his present estate was secured on these terms. The other two-thirds have been purchased of others, at prices ranging from \$2½, up to \$30 per acre. Mr. F. has paid the Illinois Central R. R. Company alone, some \$80,000 for portions of their land lying adjacent to his original purchases. We entered upon the main farm some six or seven miles southwest of Bloomington. This consists of 20,500 acres, in one tract, longest from East to West, with farms owned by others jutting into it at several points. (The balance, about 5000 acres, is located a few miles east and northeast of Bloomington.) The general character of the main farm is prairie, but there is abundant timber along Sugar Creek, which runs through the estate in a southwest direction,

and which, with its branches, furnishes an abundant supply of living water for the stock, throughout the dryest seasons. The surface is rolling, and the sloughs (pronounced sloos), are so located that nearly the whole can be drained; indeed they are so inclined that nearly the whole surface is naturally drained. This feature, together with the woodland, the running water, and the general fertility, render the whole tract one of the best in the State.

About 3000 acres are devoted to corn, and a small portion to other crops, including improved grasses; the great bulk is in natural grass pasture. The corn land is mostly let out on shares. The cultivators usually return two-fifths of the crop for the use of the land, including certain other privileges, and Mr. Funk then buys their three-fifths. This is generally taken in the field, unhusked. A few average shoeks are selected by the two parties, and husked, and the whole number of shoeks are then counted, and reckoned in bushels by the product of the husked ones. The price is fixed by the average price of corn in the country, for 8 or 10 miles around, or at 2 to 3 cents per bushel below the value of *shelled* corn, at the nearest market town.

The main business of the farm is the pasturage and feeding of cattle for beef. These are purchased from the surrounding country, pastured for a season, fed with corn in the winter, and the next season sold to dealers to go to distant markets—usually N. Y. City. Mr. Funk says he finds it most profitable to buy only the best cattle. Generally, however, he is obliged to take them in lots. In this case the best are fitted for market first, and the smaller and poorer animals are kept a year longer. A few cattle are raised on the farm. We noticed one "little bunch" of 150 cows with their calves. The calves run with their dams, and have all the milk. Only good cows are used for this purpose; the sires used are ¾ or ¾ Durhams (Short Horn). Generally, Mr. F. buys cattle to use up most of his pasturage, but sometimes, when cattle are high, and the future price of beef quite uncertain, he takes in a few hundred or thousand cattle to pasture, at 30 to 50 cents each per month. He keeps four to five hundred hogs, or just enough to eat up the waste corn left by the cattle, to which the corn is fed on the stalks. He has only eight or ten hundred sheep at present, and some 300 horses and mules. About 60 mule colts are raised each year. The breeding mares are not put into harness at all.

The cattle are sorted into droves of similar ages, about 200 in each drove. The pasture fields are so arranged as to have running water in each. The animals are salted twice a week; the salter taking two or three barrels upon a wagon, drives out to the herds, and scatters the salt upon the ground, spreading it so much that the weaker animals shall have free access to it. Though we are accustomed to see three or four thousand head of cattle in the yards on market days, we were much interested in observing a herd of two or three hundred come scampering across a field at the familiar call of "po-o-o, po-o-o," to receive their expected salt rations. And such fields! 500 acres in one; 1000 acres in another; 1500 acres in another; and 2500 acres (2 miles square, or 4 square miles,) in another single field! That is certainly farming on a large scale. As a rule, we believe in small farms—50 to 100 acres is as much, as most men will or can cultivate with the highest profit—but it is gratifying to, once in a man's life, see a farm like Isaac Funk's. If an agriculturist himself, one feels that he belongs to a class which

numbers its princes and magnates. Mr. Funk says he has done buying land—feels that he has *enough!* He has eight sons and one daughter to share his possessions, and will be able to give each one a "right smart" farm. Two or three of these are erecting dwellings on the estate. The father retains his simple habits and dress, is social and familiar in conversation, and still occupies the plain frame dwelling which has been his homestead for twenty four years past. He is enthusiastic in the belief that our great country is to be restored to its former Unity.

We shall not soon forget the pleasant day passed on the great prairie farm.

Free Homes—Who may get Them, Under the Homestead Law—How to Do it.

An article in the July *Agriculturist* upon the working of the Homestead Law, having called out a great many written and personal inquiries, we requested a friend in the Department at Washington, to make us a plain and brief statement of the provisions of the Law, which we publish for the benefit of those who wish to take up homesteads upon the public lands.

I. The persons entitled to free homes, on unappropriated public lands, are: Any person who is the head of a family, or who has arrived at the age of twenty-one years, and is a citizen of the United States, or who shall have filed his declaration of intention to become such, as required by the naturalization laws of the United States, if he has never borne arms against the United States Government or given aid and comfort to its enemies; and any loyal person, of whatever age, who has rendered not less than 14 days' service, during actual war, in the Army or Navy of the United States.

Proof of these conditions to be made by affidavit before the Receiver or Register of public lands, in the section where it is desired to make the location. The names of these officers can be readily learned in any desired locality.

II. Any such person may take up, for the actual occupancy by self or family as a homestead, not more than 160 acres of public lands valued at \$1.25 per acre, (or 80 acres valued at \$2.50 per acre,) located in one body, and the boundaries agreeing with the usual subdivisions of public surveys—as follows:

1st, Select the land that is regularly surveyed, and present the following application, with \$10 to pay survey, and usual fees (about \$1), to the Receiver, who will administer the proper affidavit and receipt the money.—On presenting these, the Register will enter the application and file the affidavit.

Form of Application.—"I, [A. B., of town, County, and State,] do hereby apply to enter, under the provisions of the Act of Congress, approved May 20, 1862, entitled "An Act to secure homesteads to actual settlers on the public domain," the — of section — in township — of range —, containing — acres."

These blank forms, and necessary information, are furnished by Receivers and Registers.

2d, Not less than 5, nor more than 7 years after entry of application, the applicant will make proof by affidavit and two witnesses, of residence on or cultivation of such homestead for five successive years after the application—that no portion has been sold or otherwise parted with—and that the applicant remains loyal—when a certificate for a full ownership deed (or patent) will be granted by the Register, on payment of the usual fee (about \$1); the deed may then be procured from Washington, D. C.

3d, In case of the claimant's death, the widow or lawful heirs are entitled to the homestead by completing the conditions. If the heirs are infant children, it may be sold for their benefit. But it can not be sold at any time for any debt contracted before the patent (or certificate) was granted. Any abandonment of the homestead by the applicant, for more than six months at a time, forfeits the claim for the patent.

CROP REPORTS FOR JULY, 1863.

Gathered by the United States Agricultural Bureau.

Table with columns for various crops: WINTER WHEAT, SPRING WHEAT, BARLEY, OATS, CORN, TOBACCO, FLAX, COTTON, WOOL, SORGHUM, GRASS & CLOVER, POTATOES. Rows list states and territories with data on injury, appearance, and yield.

In the accompanying tables, the injury is represented directly, thus: 1 means an injury to the extent of one-tenth of the crops—1/2 means one-half of one-tenth; instead of 9 and 9 1/2. The injuries were so small in most cases as to be but fractional parts of one-tenth, and in order to present them more directly to the reader, the change was made.— In the appearance of crops, the former method is preserved. Thus: 10 being an average, 9 is one-tenth below it, and 11 one-tenth above it. The amounts of the crops of Wheat, Barley, and Wool, are not given, as they will be reported more fully in succeeding months, when the results of the harvest are more fully and definitely ascertained.

The Crop Prospects—Unusual Weather.

At no other time within our recollection has it been so difficult to form a correct estimate of the actual condition of the growing crops, or of the actual yield of those just harvested. This difficulty arises from the fact that the season, thus far, has been remarkable for the variety of weather in different parts of the country, and even in localities but a few miles apart. Within the boundaries of a single State there was an abundance of rain all through the Spring and Summer, while at points but little distant, a parching drouth dried up the grass, and kept back the corn and the grain crops. Again, in some parts of Ohio, for example, the harvest weather was as fine as could be desired, while in portions of New-York it was next to impossible to gather wheat and oats, and the later hay crop, for want of a few drying days. The difference referred to above, was very marked in going a distance of 1,200 miles westward from New-York City, to the centre of Iowa. At one point the corn was in most vigorous growth, while less than a hundred miles further on, it was tasseling out near the ground, through lack of moisture to carry the stalks up to the usual height. It would require too much space to specify the condition in each locality. The accompanying tables, which give the results of a large number of observations, gathered from all over the country, will afford some idea of the crops, etc., up to the close of July. The last column in the second table shows a remarkable difference in the rain-fall in the several States. Thus, in Connecticut it was over 11 inches, while in Minnesota it was but five-eighths of one inch, and in Kansas less than one-eighth. Throughout New-England the rain fell in July 7 to 11 1/2 inches, while in the Western States it seldom reached 4 inches, and was generally below 3 inches. In Kentucky nearly 7 inches fell. In New-York there were 18 very wet days reported for July alone.

Of the crops as a whole, judging from personal observation, and from information gathered from a great variety of sources, we estimate the yield of wheat (Winter and Spring) to be but

FRUIT REPORTS FOR JULY, 1863.

Gathered by the United States Agricultural Bureau.

Table with columns for FRUIT REPORTS FOR JULY, 1863. Rows list states and territories with data on appearance, injury, and price for grapes, strawberries, raspberries, apples, and peaches. Includes a 'Notes on the Weather' column with rain measurements.

NOTE.—The explanations to the table above, apply equally to this.—The Weather Notes are of especial interest.

a trifle below the average of other years, but the deficiency not equal to the amount of last year's crop still on hand, so that there is enough to meet all home requirements and the probable foreign demand. This last item is very uncertain. If peace continue in Europe, the call upon us for breadstuffs will not be very large. Should the present disturbances in regard to Poland result in a war between Russia and the Western Powers, it will lead to a large demand for our Agricultural products, and materially affect prices here. At present the prices at the seaboard are dependent mainly on the rise and fall in gold, as noted on page 282 of this paper. At present the nominal prices of nearly all agricultural products, especially grain and wool, are tending downward quite rapidly, the price of gold having fallen from 174 to 124 since the first of March last. The prospect for an early and successful close of the war is still further reducing the gold premium.—The Oat crop has

turned out better than was feared at one time, though poor as compared with former years. In some places oats have failed almost entirely. The warm weather and frequent showers of August thus far, have pushed forward corn very rapidly, and if early frosts do not interfere, the general yield will be fully up to, if not above an average. Potatoes are filling up well in the hill. Beans are much more largely planted this year than ever before, and bid fair to turn out a good yield. Hay will be abundant in some localities; in others there will not be enough to winter over the usual amount of stock. It would be desirable to transfer part of the neat cattle from the latter to the former sections of the country. We recently saw large numbers of sheep in Iowa brought from the drouth regions of Michigan. The Apple crop, though very good in a few places, will be quite below the average throughout the country; there will be a good demand for all that can be saved by drying.



The New Tea Substitute—or “New-Jersey Tea.”—(*Ceanothus Americanus*.)

Several readers ask for some account in the *Agriculturist*, of the plant which has been spoken of in other papers as affording a good substitute for tea. We intended to do this before, but a press of other matter has crowded it out until rather late in the season. The plant in question is *Ceanothus Americanus*, or “New Jersey Tea.” We are not able to trace out the meaning of the botanical name, *Ceanothus*, but its common name, New-Jersey Tea, is given it for the reason that it was used in New-Jersey as a substitute for tea, during the war of Independence. It is one of the common shrubs of our dry woodlands, and is found throughout the Northern States. In Europe it is cultivated as an ornamental plant, and if it should prove to be an object, there is no doubt that plantations might be readily established. Our engraving represents a flowering branch of the shrub, which is low and bushy, and from one to three feet high. The stem is of an olive green below, striped with markings of brown, while the young shoots are of a lively green which turns to brown on drying. The leaves are 2 to 2½ inches long, by 1 to 1½ inches wide, with three strong ribs; they are on short foot-stalks, and are smooth on the upper surface, and a little downy on the under side. The flowers are very small, and are borne in dense white clusters at the end of long downy foot-stalks, which come from the axils of the upper leaves. The flowers are followed by a dry three-sided pod, which bears three seeds. As mentioned above, the leaves were formerly used in place of tea; now that the high price of tea and coffee leads those accustomed to these articles to look for some substitute, it is quite natural that the New-Jersey

Tea should come again into notice. We trust that our engraving and description will enable those who wish to try the experiment, to identify the plant. As to the quality of the article, the only special information we have is from John Salmon, Esq., of Clinton Co., Pennsylvania. He considers it equal to the imported tea. He says that in one township in his county there is a manufactory which employs a Chinaman to manufacture the “tea,” and that they now have about a thousand boxes on hand; that he has used it for a year past, and considers it equal to the best black tea from China. Mr. S. thinks that if adequate capital and skill were engaged in the business, we should be able to produce our own tea. We give the statement as it comes to us, without any further knowl-

edge on the subject than what is presented above. Except for old tea-topers, this substitute may answer as a “warm drink.” We frequently hear from those who profess, and doubtless think that clover tea is more delicious than anything from China.

Plan of a Farm House.

The accompanying plan of a house, which has some good features, was contributed to the *Agriculturist* by “W,” of Mount Hope, N. Y., who writes: “Having built a house about a year ago, I am aware of the difficulty one has in selecting a good plan. At least in my case it was difficult, for I wanted the most rooms and in the most convenient positions, at the lowest cost. I examined such works as Downing’s, Backus’s, etc., as well as my files of the *American Agriculturist* and *Country Gentleman*, but found none that would suit my views without costing more than I felt willing to pay. I very soon came to the conclusion that the nearer square a house is built, the easier can it be divided and retain the great advantage of easy access to the different apartments. Every step saved to the women is so much less wear of patience and disposition. In the accompanying plan, the hall is in the centre and runs from the front door, (which in my house has two long glass panels), to the kitchen. Opening off the hall on the right is the dining room or living room; while opposite, on the left is the parlor. The parlor is only 14.2x13.9 to admit of having a good sized bedroom in the rear of it—for I hold that the parlor is generally the most useless room in the house, if the living room is properly attended to, that is, for us who reside out of town. The bedroom has a door from the parlor and also

one into the kitchen. The dining room has one door from the hall and one into the kitchen, and the kitchen has one from the hall, one opening on the back stoop, and also a store room about 7x6, and a water closet 5x6 opening off from it. This last arrangement was greatly objected to by many, in fact nearly all who saw the plans, or the house while building [and for good reasons, we should say.—Ed.] In practice I have found no trouble, but great convenience from

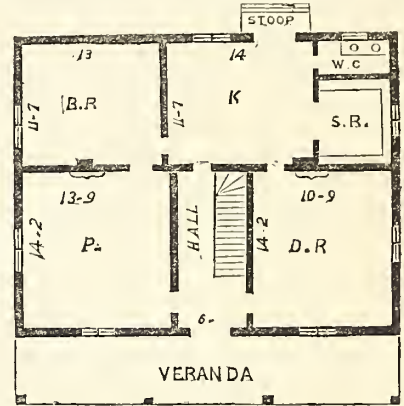


Fig. 1.—GROUND PLAN.

the arrangement. I had the foundation wall left open for about 4 feet and built so as to come under the double partition between the water closet and the store room, forming the sides of solid masonry, and the bottom also was made of stone. The opening of the foundation wall is fitted with a door and casing, and it has earth thrown in every week or two, and the entire vault cleaned out once a month, and the contents removed into the manure shed. With this method there has been no manner of offence to the eye or nose. The inside is lined with water cement—and, as said before, the partition between the closet and the store room, is double. The stairway from 1st to 2d floors has a closet under it—though if the cellar was under the whole house I should have the cellar stairs there. I had a small cellar built for my house, the wall crossing the house under the partitions between the bedroom, kitchen, storeroom, and the parlor, hall, dining room—also serving to support the two chimneys which are made so as to have a flue from each room for stoves, and also one for ventilators.—There are four good

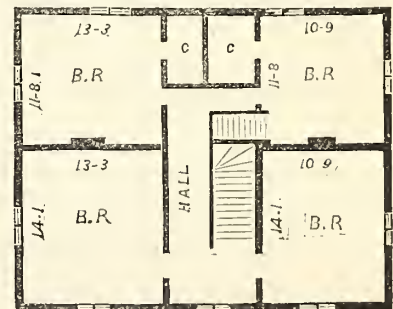


Fig. 2.—SECOND STORY.

sized bedrooms on the second floor, with two large closets, and from the back bedroom on the right, a door opens to the cupola stairs, under which stairs is another closet. You will perceive that each room is capable of receiving very thorough ventilation, and the furniture can be arranged in each bedroom without having a bedstead cross either window or door. After living in this house a year or more, we have not found any fault with it, except in regard to the cellar not extending under the whole house. This, however, can be easily remedied.”

Farm Animals Wanted in Kansas.

The following extracts from a letter to the *American Agriculturist* from F. O. Black, of Shawnee Co., Kansas, will be interesting to farmers having large stocks of cattle and sheep, and a limited supply of fodder for the coming Winter. He says: "I wish to bring before the minds of the people the importance of converting the grass in the West, into sheep, cattle, and horses. Without doubt there will be grass enough burnt this Fall and Winter to clothe our army, if it could be made into wool. Millions of acres of as fine grass as was ever seen, are now growing here. Kansas is one vast prairie. It is the Atlantic of the United States pastures. The banks of the streams are lightly fringed with timber; there is stoue in nearly every locality in great abundance for building and fencing; stone-coal in abundance for fuel, and salt works are rapidly progressing. Now the question is, how is this great work to be accomplished? We are not able to purchase the stock. Most of us brought some means with us; we brought oxen and plows, and commenced on quite an extensive scale for the amount of means employed. We thought we could raise grain in great abundance, but for some reason we have not done so; the grain business has been a failure. Stock has always done well, and those that engaged in raising it, have made money. Those that went into grain growing, worked harder and made money out of pocket. Nine-tenths of the farmers west of the Missouri River will vote this same ticket, unless I am greatly mistaken. There are great quantities of stock grazing on the eastern pastures where grain could be grown to a great advantage. Now if the gentlemen will lend us a listening ear (the ladies will not be excluded, for we need many of them here as well as stock,) and send us animals, we will take care of them on as reasonable terms as it can be done anywhere. Some would prefer horses, some cattle, some sheep. Perhaps the latter would be preferable, as the grass in that shape would be easier transported and cost less. I would take two thousand head of sheep, and give two lbs. of wool per head, and return the original stock; or I would give half the wool and half the increase for a term of five years or longer. I presume that there could be fifty or a hundred thousand head of sheep let in Kansas at these rates. This speculation will pay much better than investing in wild lauds."

Swelled Legs in Horses.

This disease takes on several forms. Sometimes it is simply a slight enlargement of the larger muscles of the legs, consequent upon standing on a hard floor, with lack of exercise. This often occurs when a horse is first taken in from pasture and confined in the stable. The obvious remedy is a little hard rubbing of the affected parts, feeding with grass or other light food, and plenty of daily exercise.

A worse form of this is when a horse, somewhat feeble and diseased in other parts, suddenly develops swollen limbs. This is apparently the shifting of disease from the other organs. It is accompanied with a lack of healthy circulation, with fever, soreness, and lameness. Sometimes abscesses are formed, and the heels are affected with "scratches." The treatment required is a mild physic and bleeding, if the horse is not much reduced. Warm bathings should be used, and bandages. If this trouble arises

from weakness and low living, the horse should have better food, and all means should be tried to improve the tone and vigor of his system.

How to Raise Potatoes Cheaply.

T. Hudson, La Grange Co., Ind., writes to the *American Agriculturist*: "My venerated father used to advise the application of team power in farming, whenever it could be done advantageously. Following his counsel, I use my team in planting and digging potatoes—almost in hoeing them. My method is this: When the ground is mellow, with a single shovel plow I run furrows about 3 or 4 inches deep, and 3 or 3½ feet apart, one way. I cut the potatoes, if large, and drop them 12 or 15 inches apart in these furrows. Then, with a two horse plow, turn a deep furrow over them. Let them remain in this condition until the young weeds show themselves, and before the potatoes make their appearance—usually in about 8 or 10 days—and harrow the ground level. A warm pleasant day is best. This destroys an army of weeds. On sod ground, I usually take every third furrow, and where there are no openings between the furrows, punch holes with a pointed stiek about the size of a handspike, and drop the potatoes in these holes and openings, being careful to get them the proper depth. This is soon accomplished. Then harrow thoroughly. If weeds appear before the potatoes come up, harrow again. Afterward plow and hoe as usual. Hoeing will be a light task. The last plowing can be done with a single shovel plow, one furrow in a row, which will form about all the hilling necessary, without the use of the hoe, except to destroy the few weeds that remain.

In digging, plow one furrow through each row, spending no time to pull tops, pick up all that show themselves, and take out the remainder with the hoe. I estimate the raising and harvesting at about one half the labor required in planting in hills, and digging with the hoe."

Rotation or Change of Crops.

A subscriber to the *American Agriculturist*, at Somerset Co., Md., writes: "I have about 80 acres of medium quality tillable land. Soil, a sandy loam. One half is in corn. The other half lies fallow, with a natural growth, quite thick and green. According to the system of planting prevailing in this Peninsula, this fallow ground would be put in corn next year, and the other part lie out to recruit itself with its natural growth. I find that so much corn makes exhausting work, and I think such a system of tillage is gradually impoverishing the soil.

I think I could do better, as follows: Suppose I turn under my present fallow ground, while it is yet green; harrow it well; drill it with wheat, and immediately after give it a top-dressing of lime. Leave enough ground, however, of this half, to sow down in oats, to make grain for my horses. Then next Spring, sow the whole half with clover. At the same time flush up the other half, and put it in some better grass (timothy or clover) than its natural growth, to be cut in the Summer and cured for stock, and then turned under in the Fall to receive wheat and oats, and thenceforth to continue one half in wheat and oats, with clover, and the other half in clover for cutting, and turning under. It seems to me that this system would make vastly less work (especially if having all necessary machinery,) and would also rapidly

improve the soil, and exterminate the weeds."

REMARKS.—Probably the proposed change of treatment would be an improvement. The light growth of grass and weeds ordinarily springing up on a summer fallow, is a very inadequate return to make to land from which a crop of corn is gathered every alternate year. Corn is a strong feeder, and must draw heavily upon the original productive elements of the soil, unless there be added something to replace what is required for the growth of the crop. Under such a system the fertility of the land will deteriorate year by year, until it becomes "worn out," as is seen in thousands of acres in Virginia, where unintermitted cultivation of tobacco has drained the soil of its fatness, and left it too poor to pay for plowing, until brought into condition by the addition of fertilizing material. But the plan suggested, may be still further improved by the introduction of stock to feed off the clover during the season after the wheat and oats have been harvested. They will give a good account of the food they consume in the weight of beef added to their frames, and also in the manure which they have scattered over the fields. This will more rapidly bring up the condition of the land, than removing the larger part of the growth, by cutting and curing. It will also be fully as profitable to buy stock in the Spring, fatten, and turn them off in the Fall, as to cut the clover for their consumption in Winter.

The International Fair at Hamburg.

This great exhibition was formally opened according to announcement, July 14th, amid the most enthusiastic demonstrations. The various departments were well represented, but the show of animals was unusually large and fine. The exhibition of sheep, particularly, was the best and most extensive ever seen in Europe; more than seventeen hundred head were entered. It is gratifying to know that although the American contribution to this department was small, it was such as to excite no little admiration, and even envy, on the part of the sheep breeders of Europe. The specimens consisted of twelve animals from the flock of George Campbell, Esq., of Vermont, and to these were awarded no less than three prizes, viz: the first prize for buck of best quality, the first prize for the buck yielding the greatest quantity of wool, and the second prize for the best ewe, considering both quantity and quality. The amount of the first prize is fifty thalers each, equal to thirty eight dollars in American gold. The correspondent of the Tribune writes that this entry of twelve American sheep was made public through the press of Germany several weeks before the Exhibition, and it was regarded as a great joke that America should for a moment think of competing with Germany in sheep. But the competition has been eminently successful, and the long faces of the other exhibitors indicated their mortification and disappointment. Open dissatisfaction was expressed that two of the first prizes for sheep should be awarded to America, and to settle the matter, Colonel Needham, Commissioner from Vermont, proposed a sweepstakes of one hundred dollars for the heaviest fleece, taking into the account the weight of the sheep, the jury to be appointed by the Association, the sheep to be sheared. But the German and French Exhibitors declined the proposition, thus practically affirming the justness of the award. The following is the list of prizes awarded to

Americans so far as heard from to August 5th:

LIST OF AMERICAN PRIZES.

George Campbell, Vermont, fifty thalers for largest quantity of wool.—1st prize.

George Campbell, Vermont, fifty thalers for largest staple.—1st prize.

George Campbell, Vermont, twenty five thalers for combination of quantity and quality.—2nd prize.

Cyrus B. McCormick, Illinois, gold medal for the introduction and perfection of practical mowing machines.

Seymour, Morgan & Co., New-York, large Silver Medal—for first-class Reaping and Mowing Machine.

Thomton & Avery, Pa., Silver Medal—Horse-Power.

James A. Saxton, Ohio, large bronze Medal—for improved Harrow and Cultivator.

Whittemore, Belcher & Co., Mass., large bronze Medal—assortment of Agricultural Implements and Machinery.

L. P. Rose, Michigan, large bronze Medal—for elegant finished implements.

E. C. Tainter, Massachusetts, large bronze Medal—for planing and tenoning Machine.

George Campbell, Vermont, large bronze Medal—for Willard's patent Root Cutter.

John Vanderbilt, New-York, large bronze Medal—for Agricultural Implements and Machinery.

J. W. Free, Ind., large bronze Medal—Fauning Mill. Hall & Spear, Penn., bronze Medal—splendid Plough.

S. P. Hubbel, N. Y., large bronze Medal—Seed Sower.

Cultivation of Tobacco.

The Essays on this subject which were received at the *Agriculturist* Office in response to our offer for premiums, and which have been published in pamphlet form, undoubtedly form the most valuable practical work upon the subject ever issued. Each of the different writers contributes some items from his own experience. The book costs only 25 cents, post-paid, and should be in the hands of every grower of tobacco. As a partial help to those not having the complete work, we give here some seasonable extracts from the essay of Mr. Oliver T. Bishop, Hartford County, Connecticut.

TOPPING—Cultivators do not agree as to the time and where to top the plants. Some favor the plan of topping as soon as the blossom-buds appear, others prefer to wait until in blossoms. I think there is no harm in letting the *earliest* plants bloom before being topped, but after once beginning, they should be broken off as soon as the buds begin to look yellow, and the latest plants as soon as the buds appear. A beginner will be apt to top the plants too high. The object is to ripen and develop as many leaves as the plant can support; if topped too high, the top leaves are small, and when cured are nearly worthless, and the other leaves are not as large or heavy; whereas, if topped too low, then you lose one, two, or three leaves, which the plant might have supported. As a general rule, a plant just in blossom should be topped down to where the leaves are full seven inches wide, leaving on the stalk from fifteen to eighteen leaves. This will leave the stalks about two and a half feet high in good tobacco. Later in the season, top the plants sooner and lower. Let as many of the earliest plants as will be wanted remain for seed. One plant will furnish seed enough to put out five acres, at least. These should be wormed and suckered like the rest, only leaving the suckers above where you would ordinarily break it off, were you to top it. The plant should now be looked over every other day, to break off the suckers and catch the worms. This should be done as soon as the dew is off in the morning, and towards night, as the worms are eating then, and can be found more readily, while in the heat of the day they remain hid. Great care should be taken not to break off the leaves while going through; if broken they are mostly wasted before the crop is ripe.

SUCKERING.—As soon as the top is broken off, the sap is thrown into the leaves, causing them to expand rapidly. In the mean time suckers will start out just above where each leaf joins the stalk; these must be broken off, or the growth of the leaf will be checked, as the sap will be thrown into these young sprouts. Those nearest the top will start soonest, and will require breaking off twice before the plant is ripe; those at the bottom must all be broken off. This is the hardest and slowest work of all. Not only will these suckers check the growth of the plants, but if allowed to grow, will soon break or pry off the leaves, or cause them to grow out at right angles from

the stalk, rendering them more liable to be broken off. It is a good plan to have a piece of corn on the north side of a piece of tobacco, or, at least, two or three rows, to shield the growing plants from winds.

CUTTING AND HANGING.—The plants grow rapidly and require less than three months from the time of setting, before they are ready to cut. Any one used to the cultivation of the crop knows when it is ripe; the veins of the leaves are swollen, the leaves begin to look spotted, and feel thick and gummy. The ends of the leaves will crack on being doubled up. After it is ripe, the sooner it is cut the better, as it is liable to injury by frost or hail, and will not increase in weight as fast as the worms eat it, and the leaves get broken in catching worms. The plants will generally ripen from the first to the fifteenth of September; they should not be cut immediately after a heavy rain unless in danger of frost, as a portion of the gum washes out, but should be allowed to stand two or three days. The cutting should not begin until the dew is off; a cloudy day is best, for when the sun shines hot, they will not have time to wilt sufficiently before they will sunburn, which may be known by the leaves turning white and looking puckered. Commence on one side of the piece, laying the plants all one way, in order to facilitate loading. Most of the plants may be broken off easily, by gently bending them over one way and another. Small plants, which will not break, may be saved off with an old saw or cut with a hatchet. If the sun shines too hot, the plants should be turned over carefully to prevent burning. After lying an hour or two, to wilt sufficiently, so as not to break by handling, they may be carted to the barn or shed. Ample room for curing should be provided, and if any one expects to raise tobacco for any length of time, it is best to have a building erected expressly for it.

BUILDINGS.—In the first place one wants to know about how much room he will need, and then build accordingly. To hang an acre of good tobacco requires a building about thirty by twenty-four feet, with fifteen-foot posts. Two girths should be framed into the posts on all sides of the building; one five feet above the sill, and the other ten feet above, to rest the poles on, also to nail the covering boards to. This gives a space of five feet for each tier of plants. Have a beam run across the center of the building, with a post in the middle with girths to correspond with those on the side, extending lengthwise through the middle of the building for the poles or rails, each twelve feet in length, to be laid upon; or if sticks are to be used (as hereafter described) lay rails or poles once in four feet for the sticks to rest upon. Place a ventilator upon the center of the roof, and have one board in every four feet hung on hinges, to be opened or closed at pleasure. If made with a floor and a cellar underneath, to let down the tobacco into when ready to strip, all the better.—We will now return to the crop, and commence hanging it. A common way of doing it is by tying with common twine. Tie the end of the string tightly around the but of one plant, and by placing it against the side of the pole nearest you, put another plant on the opposite side and carry the string over and around it, placing the plants alternately on each side of the pole until filled, then fasten the string, place the pole in the right place, (it should be nearly right before it is filled,) and commence on the next one in like manner, having some one to hand the plants as wanted. As to how thick to hang, it depends upon the size of the plants, but in good-sized tobacco about nine inches on each side is close enough; that will be from thirty to thirty-two on each pole of twelve feet; place the poles from fifteen to eighteen inches apart. Another method of hanging, much practiced and approved by many, is to hang on staks or sticks sawed out four feet long, one and a quarter inches wide and five eighths of an inch thick. Chesnut timber is generally used here. The common lah answers very well. An iron needle made something like a chisel is used to slip on to one end of the sticks, which are sharpened a little at one end to receive it. It is made about eight inches long, wedge-shaped at the small end, and a socket one half by one inch to slip on to the sticks. When ready for use, have a place fixed near where you unload, to hold one of these sticks out at right angles from a post, and about four feet from the ground. Let the plants be handed you from the load and slip them on the stick, piercing the stalk about six inches from the but; put six or seven plants of medium size on each stick—more if smaller. As each stick is filled, it may be carried to its place in the barn. In getting them to the top of the barn they may be handed up with a pitchfork, lifting them by the middle of the sticks. These sticks should be about eight inches apart. I think a greater amount can be put into a given space by this method without danger of sweating, as it is more evenly distributed. The loose leaves that have been broken off while handling, may be cured by placing four or five together and securing to a small pole, in the same way as plants are hung with twine.

SAVING SEED.—Strip the leaves off from the seed-stalks, and tie up the stalks to a stake driven into the ground by

them, else they may be blown over. The seed should be gathered before hard frosts destroy its vitality; when fully ripe the pods or seed-vessels may be picked off and dried, then crush or roll them between the hands until the seeds are all out; the seeds may then be separated from the chaff by passing it through a fine sieve.

CURING.—After the crop is all housed, the building should be well ventilated by opening doors, and the boards on hinges, to secure a free circulation of air throughout the building. On rainy, damp, or very windy days, the building should be shut up as tightly as possible, and opened again on return of fair weather. After hanging several weeks, until the leaves are mostly dried, the building should be closed to prevent the dry leaves from being broken by the winds. It usually requires about twelve weeks to cure the plants thoroughly, that is, so that there is no more juice in the leaves or leaf-stems; it matters not if the main stalk is not dry, you need not expect it, and there will be green leaves that will not cure but freeze while green, and are worthless. It will then be ready for

STRIPPING.—This must be done only after a damp, rainy spell has softened the leaves, so that they may be handled without breaking; it may then be taken from the poles and stripped as fast as taken down, or it may be carried into a cellar and be piled in heaps to be stripped at leisure; care must be taken, however, not to let it remain too long in this condition, as the green stalks would soon heat and injure it. To strip a plant, hold it in the left hand by the but, and with the other pull off all the bottom leaves and drop them on the ground in a pile for "fillers," or the poorest quality; next, take off three or four more, or until you come to the best leaves, these pull in another heap for the "seconds;" now strip off the remainder for wrappers, except such as are badly worm-eaten or otherwise injured—such go into a poorer quality; throw the stalk away and put the handful of wrappers under the left arm to hold while stripping another plant in like manner, put the two handfuls of wrappers together, taking pains to keep the butts even, and bind them by firmly winding a leaf around them at the but, commencing within a half or three quarters of an inch from the end, and winding down smoothly about two inches, part the "hand" and put the end of the band between the parts, then close it again, thus securing the end and holding it tight. If the plants are very large, the leaves from each may be tied up separately instead of putting two together. Hands that will weigh half a pound are about large enough. The seconds and fillers are afterward picked up and tied in the same manner. Much of the value of tobacco in market depends upon the manner in which it is assorted and done up, as a few poor leaves in a hand would make a difference of several cents per pound in the price. None but good sound leaves, free from rust, pole-sweat, frost, or large holes should go into the best quality. Small plants rarely contain any first quality, but should go into the seconds and fillers. A little practice will enable any one to sort it properly, better than any rules that can be laid down on paper. There is much difference in the color and fineness of the leaf, a darkish red or cinnamon color is preferred to that of a darker shade; the veins should be small and far apart, and dark as the leaf, as "white stems" are objectionable by reason of their growing lighter still when going through the sweat after it is cured. After it is stripped, it should be packed down in a cool dry place. Lay some boards flat on the ground about four feet wide, and as long as you wish the pile to be, and commence by laying a row on one side of the platform with the butts out, then on the other side in the same way, letting the tips lap about six inches, or just enough to keep the pile level: proceed in this way, laying on each side alternately until all is packed. Lay the hands as close to each other as possible, not sprawled out like an open fan, but compactly. Lay some boards on top of the pile, and put on just weight enough to keep them snug. Some boards or blankets should be put at the ends of the pile to keep it from drying up. The seconds and fillers are packed in the same way; they may be packed in a separate pile or on top, or at the ends of the wrappers. It is now ready for market. If it should remain long in pile it should be examined occasionally to see that it does not hurt, as it sometimes happens that when taken down, stripped and packed when it is too damp, it will grow damper and perhaps rot. If too damp, it should be repacked on some windy day to give it an airing, shaking out the dampest hands and letting them remain exposed until sufficiently dry to be repacked. The stalks, after being stripped, should either be spread on grass land and remain until Spring, when they may be raked up and carted on to the land designed for the next crop of tobacco, and burnt, or let them remain in the barn until Spring, when they may be cut up fine and dropped into potato or corn-hills, using a good-sized handful to each hill.

I have raised the past season on a little more than three fourths of an acre, 1,427 pounds wrappers, worth at the present time 25 cents per c. : 221 pounds seconds, worth 12 cents; and 146 pounds fillers, worth 10 cents; amounting to 1,794 pounds, worth \$397.87.



A.H.

Fig. 1.—POISON IVY.

Talks About Weeds...IV.

POISONOUS PLANTS.

We devote the chapter this month mainly to an account of a plant, which though it does not infest crops, is very common along old walls, and in neglected corners, and is of such a dangerous character that every one should be able to identify it. "Poison Ivy," or as it is sometimes called, Poison Oak, and Poison vine, is botanically known as *Rhus Toxicodendron*. It is a plant that presents several forms; sometimes it is a small shrub 1 to 3 feet high—sometimes it trails over stone walls and rocks, and again it is found climbing to a great height upon trees, to which it clings by means of numerous small roots that it throws out from its stem. All these forms are varieties of one species. The leaves are *three parted*, the divisions rather irregular in shape, and are either entire on the margins, or irregularly lobed or toothed. The flowers are in panicles, small and of a greenish white color, and are followed by whitish berries. The popular names given above, as well as the specific name *Toxicodendron* (Poison-tree), indicate that its reputation as a dangerous plant is well established. Touching or handling the plant will, with many persons, produce serious consequences; others, perhaps the majority, are not affected by it, while some are so very susceptible that by merely passing near the



Fig. 2.—VIRGINIA CREEPER.

plant, especially in hot sunshine, they will receive its poisonous influence. It is probably the

case that very few persons are capable of being poisoned by it. If it were otherwise, the plant being so very common, we should hear of more frequent cases of poisoning. Where a person is but slightly affected by the poison, there is a redness and violent itching of the face and hands, followed by little watery blisters. Where the effect is severe, the swelling and other symptoms are much increased. We have seen a person with the face swollen to such a degree that scarcely a feature could be distinguished. The usual treatment in poisoning of this kind is to give a cooling purgative, such as salts, and apply a solution of sugar of lead to allay the intense burning and itching. Unless in unusually severe cases, the effects do not last more than a week. There is a very harmless climber which is sometimes mistaken for the Poison Ivy, and avoided as being poisonous,—the Virginia Creeper. As the last is not only a perfectly harmless plant, but one of

our most valuable ornamental climbers, we introduce an engraving of a leaf of it, in order that the difference between the two plants may be readily seen. In the Virginia Creeper the



A.H.

Fig. 3.—POISON SUMACH.

leaf is *five parted* and much more thick and glossy. We have known one instance in which the Poison Ivy was used as an ornamental vine, it being mistaken for the Virginia Creeper; a rather unsafe plant to have near the house.

Another shrub of the same genus, *Rhus venenata*, called Poison Sumach and sometimes Poison Dogwood, is abundant in swamps and low grounds throughout the Northern States. It is a very pretty shrub or small tree, and with its pinnate leaves it looks somewhat like the Ailanthus. It is distinguished from our other shrubby Sumachs by its loose clusters of white berries. This is even more dangerous than the Poison Ivy. The above figures are taken from *American Weeds and Useful Plants*, a work which we have already highly commended.

TREE ROOTS IN THE TILE DRAINS.—One of the most important drains on the writer's premises had been so obstructed for several years by the fibrous roots of an elm, as to require it to be relaid twice in five years.

The last time, however, a new method was tried, and thus far (for four years,) the stream has run freely. The method was this: All along the line penetrated by the roots, the tiles were imbedded in water-lime mortar, then covered with a foot of tan-bark, and the remainder of the trench filled with common soil. The mortar soon becomes hard like stone, and the tan-bark both seems to keep away frost and the tree roots. [If tan-bark will repel the roots of trees, the lime would not seem necessary.—Ed.]

Hints about Farm Laborers.

One of the sorest troubles in farming, just now, arises from the scarcity of help,—a scarcity which must continue as long as the war lasts, unless an unusual foreign immigration supplies the want. Were it not for labor-saving machinery, multitudes of crops would go unharvested, and other farm work go unperformed. Along with this scarcity, the quality of the workmen left is also poor. Not all, indeed, but many of our hired men are eye-servants, working lustily while watched, but lounging, dawdling, and, perhaps, drinking when alone. Tools are not taken care of, the work done is slurred over, the horses and cattle are neglected, many

things are wasted—in short, the real interests of the farmer are not cared for. It is vexatious to try to carry on a farm with such "help." One must be always present with his men, must work hard himself, and do the worst jobs with his own hands. A slave's life is it to be bound to such a task, and the money gained by it, is earned at hard rate.—But here are a few helping thoughts. If a farmer can contrive to get young men into his employ, and can manage to keep them for a few years, he can train them into good workmen. Yet much depends on the employer himself. Many of our bad laborers have been made such by the unkindness, dishonesty, or shiftlessness of their masters. If a good farmer can get

young, unspoiled men, fresh from the "old country," and can keep them long enough to teach and train them, he will generally have good and faithful workmen. Hence, one way to improve our farm laborers would be for the agriculturists of a neighborhood to employ some trusty agent—say at New-York or Boston, to select companies of likely young foreigners who prefer country life, and then to send them directly on to the farmers wanting them. Also, let the farmers of each neighborhood pledge themselves not to hire a laborer coming from another farmer unless he brings a certificate of honorable discharge from his last employer. If the Agricultural Societies of town and county would form some system of this kind to provide a steady supply of good material for workmen, it would raise the character of our laborers, and relieve farming of one of its greatest troubles. Of course, it is implied that the farmer is to pay good wages, to study the wants of his men carefully, and to seek, in every reasonable way, to promote their comfort and happi-

ness. This last item is not the least in importance of what we have here suggested.

Industry of Italian Bees.

Rev. L. L. Langstroth, sends to the *Agriculturist* the following facts, communicated to him by Wm. Noah Coler, of Montgomery Co., Ohio. On the 8th of August 1862, a stock of Italian bees threw a large swarm, which filled its hive two-thirds full of comb, and gathered honey enough to winter well. The new colony swarmed on the 15th of May last, and in eight days swarmed again. The first swarm filled its hive and swarmed on the 22nd of June; the second swarm at the same date, had its hive three quarters full. The season has not been a good one for bees. In Southern Ohio, a swarm of black bees coming off as late as the 8th of July, is seldom considered to be worth living.

Question to Italian Bee Keepers.

Among the many strong claims put forth for the Italian Bees, it is stated that they collect more honey and from a greater variety of sources than the common bee. It is said, that they gather sweets from raspberries, blackberries, and other fruits, and from flowers not visited by other bees. The question we would ask through the *American Agriculturist* is, whether the honey thus collected is of equally good quality with that gathered by the common bee, and indeed, whether it may not have a flavor that will unfit it for table use. It is well known that the honey gathered by the humble bee, the different species of hornets, and the wasp, is watery and not of pleasant flavor. Along with the other tests applied to the Italian bees, this matter of the quality and flavor of their honey should not be neglected.

The Value of Phosphates for Wheat and Turnips.

Messrs. Editors of the *Am. Agriculturist*:—In a former number you say: "We know that the ashes of wheat contains a large amount of phosphoric acid, and turnips but little, yet the application of phosphates to the soil does very little good to a wheat crop, while the superphosphates are the great turnip manure in England." This seeming anomaly, is, I think, well explained in an article by Doct. Voelcker, in the *Journal of the Royal Agricultural Society*, from which I quote for the benefit of those who may not have access to the original:

"In England the application of purely phosphatic manures is confined almost exclusively to root crops: why is it that these manures, as a rule, benefit root crops more than cereals and other crops? The idea naturally suggests itself that turnips or swedes require more phosphoric acid to bring them to perfection than wheat, barley, and oats; and an examination of the ashes of these several crops confirms this impression. A given quantity of ash of turnips, it is true, contains less phosphoric acid than the same quantity of wheat ash; but since the total amount of mineral matters or ash in a crop of turnips is very much larger (?) than that in a crop of wheat, the amount of phosphoric acid which is removed from the soil by the one is very much more considerable than that taken up by the other.—Taking the average composition of the ash of turnips, bulbs and tops, de-

duced from the recorded results of numerous reputable experimenters, we have in 100 parts:

	Bulbs.	Tops.
Potash.....	42.0	20.0
Soda.....	2.0	3.0
Magnesia.....	2.0	1.0
Lime.....	11.5	30.0
Phosphoric acid.....	9.0	5.0
Sulphuric acid.....	11.5	11.0
Silica.....	1.0	1.0
Chloride of sodium.....	6.0	8.0
Chloride of potassium.....	—	5.0
Carbonic acid.....	15.0	16.0

The average composition of the ash of the grain and straw of wheat is about as follows:

	Wheat.	Straw.
Phosphoric acid.....	50.0	5.0
Sulphuric acid.....	.5	2.7
Silica.....	2.5	67.0
Lime.....	3.5	5.5
Magnesia.....	11.5	2.0
Potash.....	30.0	13.0
Soda.....	—	—
Chlorides of potassium and sodium.....	2.0	4.8

If we suppose the crop of bulbs of the turnips to weigh 20 tons per acre, and the tops 6 tons, and take the average percentage of ash in the bulbs at .70, and that in the tops at 1.7, we remove from each acre, in round numbers:

In the bulbs lbs. of mineral matter.....	314
In the tops " " " ".....	228—542 lbs.

An average crop of turnips in fact removes from the soil 28½ lbs. of phosphoric acid in the bulbs, and 11½ lbs. in the tops—39½ lbs., or, in round numbers, 40 lbs. in all.

The grain of wheat, on an average, contains 1.7 per cent. of ash, and wheat straw 5 per cent. The mean produce of wheat per acre, taken at 4 quarters—32 bushels at 60 lbs. the bushel—is 1,920 lbs. of wheat; and the straw, generally twice the weight of grain, equals 3,480 lbs.

In 1,920 of wheat there are of mineral matter.....	32½ lbs.
In 3,480 of straw there are " " " ".....	192
Total mineral matter per acre.....	224½ lbs.

A fair average crop of wheat indeed removes from the soil 16½ lbs. of phosphoric acid in the grain, and 9½ lbs. in the straw—together 25½ lbs., or in round numbers, 26 lbs. Therefore a turnip crop weighing 20 tons per acre, takes 14 lbs. more phosphoric acid out of the soil than 32 bushels of wheat and 3480 lbs. straw."

I think that the above throws some light upon an interesting point in agricultural chemistry, and will be interesting to those of your readers who are turning their attention to the use of bones and faithfully prepared phosphates. I am no advocate for the use of loudly puffed fertilizers, but believing that we should not let the real merits of the phosphates be overlooked, because the name is attached to valueless articles. I quote the above, that the farmer may see that phosphoric acid in some form is needed by his root crops. RHODE-ISLAND.

REMARKS.—In reply to the above, it may be stated in the first place, that all calculations based upon the amount of phosphoric acid reported in the ashes of plants, are exceedingly unreliable. Until within the last few years, phosphoric acid was determined by the magnesia process, a very uncertain method at best, as all experienced analysts are aware. A great deal of the reported phosphoric acid was doubtless magnesia. But granting that the analyses were approximately or relatively correct, the fact (if a fact) that an acre of turnips contained 40 lbs. of Phosphoric acid, and an acre of wheat 26 lbs. (only about one third less) would not, we think, explain why phosphatic manures should so greatly benefit turnips, and yet produce so very little effect upon wheat. We have analyzed many specimens of soils from different localities, but never found one that did not contain detectable phosphoric acid enough for an almost unlimited number of crops, either of turnips or wheat; while there may be

enough for many crops, and still the amount be so small in the minute proportion of soil analyzed, as to escape detection by the most skillful chemist. We consider it exceedingly uncertain what proportion of the mineral substances found in the ashes of plants are really necessary constituent elements. The fluids taken into the roots contain dissolved earthy materials, such as chance to be found in the soil. When these fluids are evaporated from the leaves, the earthy materials (minerals) are left behind, as accidental impurities—not necessarily there as essential constituents. The large leaf surface of the turnip evaporates more fluids than the small leaved wheat, and there will of course be more ashes left behind in the turnips, to be found on analysis—we repeat, not necessarily there as essential constituents. When chemical analysis can discover what are the essential mineral constituents of any plant, we shall be better able to judge of the probable relative value of the different mineral manures. Until then, we shall remain much in the dark, and be obliged to rely mainly upon experience—upon the results of practical trials. For some reason, a manure made of bones dissolved in sulphuric acid benefits a turnip crop. May it not be that the sulphuric acid, together with the free phosphoric acid which has a strong affinity for ammonia, are so effective because of the large amount of ammonia they attract or retain for the use of the plants? We throw out the idea as suggestive, not as a positive explanation.—Ed.]

Cut up Corn by the Ground.

A "Young Farmer" asks whether it is better to "top" corn, by taking off the stalks at the ears, and afterward gather the crop, or to cut the whole stalk at the bottom. We have always advised the latter course, and still recommend it for the following reasons. It saves labor. The whole hill can be severed almost at a blow while topping requires handling each stalk. The stalks yield more fodder; the bottom leaves can be well cured and saved. The crop can be housed earlier, and much saved from molding, and destruction by birds and vermin. The crop should be cut as soon as the corn is glazed. The sap remaining in the stalk will be appropriated by the kernels, and the stalks, if properly cured, and housed will make good fodder. It may afterward be husked out at leisure under cover. This plan of course will hardly do on the prairies, where hundreds of acres in a body are cultivated, but is applicable in most other sections, where only limited areas are given to corn.

Poor Honey Yield.

During our visit at St. Johnsville, N. Y., August 3d, we noticed that the hives were poorly filled, and Mr. Quimby informed us that owing to the almost constant heavy rains in July—the great honey collecting month—the bees had been able to make but little, and the prospect was that the supply of clover honey to be spared from the hives would not perhaps exceed a tenth of the usual yield. The second crop, which is mainly from buckwheat, may possibly be large, but this is not so valuable in market. As the rains were not general over the country—we saw very few showers during July, at the West—other locations may perhaps make up in part for the deficiency in the Middle and Eastern States, but we judge the supply on the whole will be much below the average of other years.

Our Western Jaunt.

It is our aim to devote the mid-summer season of every alternate year, to a tour of observation through the western or mid-western division of the great *Agriculturist* Parish, which extends from the Atlantic to the Pacific. This year we went on our fifth western trip, out through New-Jersey, Pennsylvania, Central Ohio, and Indiana, into Illinois and Iowa, and returned through Michigan, Northern Ohio, and New-York, making occasional stops, going and returning. (In these trips we generally ride only in the day time, and usually arrange to secure a position in the center of the baggage cars of the railway trains, because the wide doors give an unobstructed view of the country on either side, and we there have the company of local employees of the roads, who are able to point out objects of interest, and to give much general information. In this way we see much of the face of the country, the style of culture, the condition of the crops, etc. Indeed, were we not to stop at all, but travel thus for 3000 to 5000 miles, we should consider the time well spent).—Our main object, this year, was to study prairie farming, especially in Illinois and Iowa, which are *par excellence* the prairie States. We stopped at some twenty to twenty-five localities, and from observation, and conversation with practical men, gathered a large amount of information. It would be impossible to give a minute journal of what we saw, heard, and learned—as some may expect—a large volume would be needed. Sundry items will appear in this and other numbers, and we hope our western readers will find us still better prepared to supply a journal specially adapted to their wants, so far as there is any specific difference in the modes of cultivation East and West.

Beet Sugar—Important Experiments.

Much has been said and written upon the question of making sugar from beets, in this country. Many journals have urged the culture of the Sugar Beet here, claiming that it must be extremely profitable, because it has paid well in Europe, where the manufactured product is subjected to a high tax. We have been censured for refusing to admit into the columns of the *American Agriculturist* essays from those who are enthusiastic on the topic. The ground we have taken, has been, that there have not been sufficient experiments to demonstrate the practicability of manufacturing beet sugar to compete with the cheaper grown cane sugars of the Southern States and West Indies. That sugar can be made from beets in our climate, has been proved by experiments on a limited scale, with imperfect apparatus, but it is still a question whether the soil, climate, and system of labor in the Northern States, will enable us to practice the European methods with success. We are happy to chronicle the fact that at one point, at least, experiments on a large scale, with the best apparatus, are being carried on the present year. Last month we made a trip of a hundred miles out of our course, to see the establishment referred to, at Chatsworth, Illinois, a new town on the Logansport, Peoria, and Burlington Railroad, some fifteen miles west of Gilman Station on the Illinois Central Railroad. At this point (Chatsworth), Messrs. Gennert Brothers, (of 142 Center-st., N. Y. City,) have platted between one and two hundred acres of Sugar Beet, and are putting up a large complete building, with steam engines, evaporators, and other ap-

paratus, of the most improved and expensive character to be found in Europe. The Manufactory is in such a state of forwardness that it will be ready for the growing crop. We regard this as one of the most important agricultural enterprises of the day, and too much credit can not be given to the Messrs. Gennert, for taking hold of the subject in the way they have. It is wholly an experiment, and if successful will be of immense benefit to the whole country, for the manufacture of beet sugar will at once be gone into generally; while if it prove a failure, they and they alone will bear the loss, which must amount to forty or fifty thousand dollars at least. We made our visit unsolicited, and unexpectedly to the proprietors, and we found them rather disposed to keep the matter quiet, but we think the country should know what is being done, and that the Brothers Gennert should have the credit of the enterprise, which will be equally creditable to them, whether a success or a failure. We wish them the largest success and profit in the undertaking. Until we have the result, it is not important to describe particularly, either the manufactory, or the process of growing and manufacturing the roots. If successful, we shall take the earliest opportunity of placing the whole matter before our readers.—At the time of our visit (July 24,) the long continued drouth was likely to greatly injure the growing beets, and it was feared that another week of such weather would destroy them for the season. As a heavy rain came on before we were twenty minutes away, we trust the feared calamity was averted.

Sorghum.

A BIT OF HISTORY.

Seven years ago (1856) we raised our first plot of Sorghum, or "New Chinese Sugar Cane," as it was popularly called. We published an account of it, describing it as promising well, and recommending our readers to try a little garden plot, to see how and *where* it would grow, and offered *free* to our readers all the seed we had grown and could procure—a little parcel to each—but cautioned all against going into its culture extensively, even if seed could be procured, until its merits and demerits were better known. Shortly after, a stranger called and offered us *half a dollar an ounce* for all the seed we had, which was refused as it had been promised to our readers. On further inquiry we gleaned from him that there was such a rage for the seed at the West, that he could divide an ounce into a dozen parcels and sell them at \$1 each. We immediately set about procuring, direct and indirect, all the seed we could obtain in France and Algeria, where alone it had been cultivated to a moderate degree. Several lots, of 100 to 300 lbs., were secured, and we commenced scattering it *free* among our readers all over the country. *Six thousand* parcels were sent to Illinois alone. Some of our cotemporaries cried out "humbug." But as we then answered, where was the humbug when we *gave away* all the seed, and specially advised our readers to try it only on a small scale?—The seed thus sent out was grown and propagated by twenty to twenty-five thousand persons; and it is not claiming anything too much to assert that three-fourths, if not seven-eighths, of all the sorghum now grown in this country has come from the seed thus sent out *free* from the Office of the *American Agriculturist*. Of the advantage to the country, let the tens of millions of gallons of good syrup produced last year, and to be produced this year, bear witness.

SORGHUM GROWING IN IOWA.

During our recent visit in Iowa, we found that a large proportion of the families in that State depended mainly upon home-produced sorghum syrup for family sweetening. A little sugar is used for tea, but even tea, and especially coffee, is frequently sweetened with syrup, owing to the scarcity and high price of sugar. The sorghum syrup is a common article of sale at the stores. We saw sorghum mills, generally home-made with wooden rollers, in almost every part of Iowa visited, and very frequently in Illinois. In Iowa, there will, perhaps, be not much more grown this year than last; the opinion seemed to be that it would pay to grow enough for home use, but not to produce it for export, except when done on a large scale with improved apparatus. We saw hundreds of small plots, of $\frac{1}{2}$ to $1\frac{1}{2}$ acres, and occasionally a large field. The growth and manufacture of sorghum on a large scale is in progress in several localities in Illinois and Ohio, and somewhat in Indiana.

400 ACRES OF SORGHUM.

Near Utica, Illinois, on the Chicago and Rock Island Railroad, we saw a plot of about 400 acres of sorghum, which is being grown for special experiments, by Mr. Belcher, the great sugar refiner of Chicago. We called upon Mr. B. in Chicago, and learned from him that he intends to boil down the juice to syrup, and then transport it to his Refinery in the city, and operate further upon it. After learning his plans and views we concluded that his experiments will be of special value to the public, and perhaps result in settling the question whether good grained sugar can be profitably produced from sorghum. Mr. Belcher has refined many thousands of gallons of the syrup during a year or two past, and has contracted for a large amount this year. He promised to give us the results of this year's operations, especially in his experiments with the 400 acre plot. In this line, he is doing for the public what the Brothers Gennert are, in the matter of Beet Sugar.

For the *American Agriculturist*.

The Autumn Exhibitions.

The time is just at hand for our great annual agricultural shows. We hail their return—not because we think them unmixt with evils, or beyond improvement, but because of the many good influences attending them. Their social influence is not to be undervalued. They bring together old friends, and lead to the forming of new acquaintances; they call out all classes and ages from different communities, and bring them together on terms of equality and good feeling. We, hard-working, care-worn Americans, give none too much time to such social gatherings. And then they appeal happily to the public taste. One can hardly spend a day more profitably and enjoyably than by attending a well-conducted Fair. It would be strange if he did not see or hear something new. No gardener possesses all knowledge respecting vegetables, fruits and flowers. No one farmer knows all possible things concerning stock, grains, grasses, farm implements, and the numerous processes of husbandry. Then, too, the ingenuity of the ladies is always bringing out some new display of handy-work which attracts large admiration. And, beside these, there are numerous articles of the fancy sort, which please and instruct beholders. We are not altogether inexperienced in Fairs, yet we never attend one without learning something new. And we always see young

and uninformed persons fairly filled with surprise at what they behold. Many a gardener, wise in his own conceit, has had his eyes opened to the difference between poor vegetables, apples, pears, plums, cherries, etc., and good ones. Many a man, who had thought the Fox grape the best of all grapes, or at least good enough, has got a new idea or two on tasting the Delaware, Diana, etc. And these men go home with new impulses, resolved to adopt and realize their new ideas in their own practice.

There is, however, room for improvement in our Fairs. Would it not be well to discourage more and more the accompanying shows of three-legged calves, double-headed sheep, learned bears and monkeys, and manifold monstrosities and humbugs? Female equestrianism is no proper part of an agricultural exhibition. Might not some further means be used to convey useful information to those seeking it? If five-looking fruit garnishes the tables, why not let us know something of its quality? And if any one wishes, why not let him know something as to the mode of pruning and training, the fertilizers used, etc., etc.? Perhaps an afternoon or evening might be set apart for answering all such questions and giving other information. This would send the people home instructed and pleased. The practice sometimes adopted of devoting an evening to *discussion* of practical topics, is highly commendable. We should have some simple plan for communicating information to the uninformed. The practice of awarding premiums for the best-managed farm or garden, or fruit orchard, for the best written essays on practical topics, for the best new seedling of any fruit, are all movements in the right direction, and might well be adopted by all such societies. RURALIST.

Various Humbugs.

It is a thankless task to fight humbug in its various phases. No sooner is it killed in one form, than it rises in another guise more specious than before.—One theory which quack doctors most make use of is, that all diseases arise from impurity of the blood—if we can only purify the blood, all diseases will disappear. This is beautiful in theory, and takes readily with the ignorant and easily gullible. The only objection to it is, that it has not the least foundation in fact. If any man, whether calling himself a physician or not, talks about *purifying the blood*, it is safe to set him down as a humbug of the rankest kind. Some weeks ago we saw a long article in the N. Y. Tribune, recommending the root of *Veronica quinquefolia*, as a grand panacea for scrofula in all its forms. We felt grieved to see such a quackish article in so widely circulated a paper, but let it pass unnoticed. Now that we see in our esteemed contemporary, the Rural New-Yorker, another article by the author of the one which appeared in the Tribune, we feel called upon to expose the thing. On reading these articles we, of course, suspected that there was a cat hidden under the meal, and upon making an inquiry, we ascertained that the writer of the articles was selling the root at three dollars an ounce, or two ounces for five dollars. The price of the article in the New-York drug and herb stores, is less than one dollar a pound! The editors of the Tribune and Rural New-Yorker, have unwittingly allowed the use of their columns to aid a private and extortionate speculation. It is a sort of spasmodic revival of an old thing which has been before the public in one way or another

for the past 20 years. The medicine in question is the root of a plant, the proper botanical name of which is *Veronica Virginica*, and has been called *Leptandra Virginica*, and *Veronica quinquefolia*. The common name is Culver's Root, and it is sometimes called Indian physic. Though not very common around New-York, it is abundant enough through the West.

In regard to the medicinal qualities of the plant, we have only to say, that it is much used by the so-called "herb doctors," and it possesses powerful cathartic and emetic properties. We judge it to be altogether too active an agent to be used unadvisedly. If one is ill enough to require a medicine of this kind, he is in a condition to need the advice of an intelligent physician. We are decidedly opposed to indiscriminate dosing, hence we exclude from our columns all advertisements of patent or quack medicines, although people who have these to sell, can, from the large profit they make, afford to offer very high prices for advertisements.

We find by an occasional advertisement in some journals published at distant points that

"Dr. James, a well-known retired physician, discovered, while in India, a sure remedy for Consumption, Bronchitis, Colds, etc. To help suffering humanity the recipe will be sent for 2 stamps to pay expenses."

He may truthfully say he is well known. His plan of operations, and that of many others of his class, have been repeatedly exposed in these columns and elsewhere. Upon applying for the remedy you will receive a pamphlet recording marvelous cures, with the information that you can best procure the prepared remedy by forwarding a dollar or more to him, or his agents, and upon taking said remedy you will discover that both it and yourself have been sold, and that the advertiser has made all the profits. A correspondent inquires how such parties obtain the addresses of private individuals at distant points, to whom they mail their circulars, pamphlets, etc. In various ways. Sometimes by means of the postmasters; but usually from parties that make a business of collecting names by agents in the various towns. For a consideration, these parties will address circulars to any part of the country.

One of the most prevalent methods of swindling now in vogue, is seen in the following advertisement which with others of the same import, has recently appeared in some City papers.

"The undersigned will for one dollar send private instructions to any party, how he may escape the draft without risk, at a cost of only 37 cents."

From appearances, this advertiser will reap quite a harvest from the cowardly renegades who are willing to enjoy the benefits of a good government, and are unwilling to give their services for its maintenance. Perhaps it is as well to allow such to send their dollar and find that their insillanimity costs more than courage would do. We have little sympathy for them, but we are not willing that scoundrels should fatten even at their expense, and therefore give notice that any party advertising that he can give exemption from military liability by any device, by false certificate of physical weakness or otherwise, is a swindler. We would also hint to the said advertisers, that the Provost Marshal is on the track of some of them, and that they are liable to a draft which will entail harder service than even the military are usually called upon to perform. The penalty for interfering with, or in any way discouraging the procurement of men for the army, is, as it should be, proportioned to the enormity of the offence.

There are a few distinguishing marks by which one may, with great certainty, distinguish

between legitimate advertisements of *bona fide* concerns, and the schemes of plundering swindlers. When a "secret" of any kind is advertised, look out for humbug. Honest men are willing at the first to make known the nature of the articles they offer for sale. The old adage "Never buy a pig in a bag," applies with peculiar force to such cases. Advertisements that promise more than a dollar's worth for a dollar, that offer to ensure a fortune or a good living with little or no capital, and without much labor, are traps for the unwary. Finally the whole class of advertising physicians who perform wondrous cures on paper, are men who seek to gain a living by duping the credulous.

For the American Agriculturist.

Country Cemeteries—Good Hints.

Some time ago I was riding to a village in one of the Western States, and had my attention called to the cemetery just outside the village, by the exclamation: "That's where they plant 'em." Indeed, from the cemetery and its surroundings, the remark did not shock me. A desolate, sandy knoll had been chosen as the last resting place of those who had lived in the village. Its scanty growth was cut off, and the stumps stood more numerous than the grave stones; and to crown all, it was surrounded by a wooden fence, painted bright red. "That's where they plant those whom they expect to bloom in immortality," said I to myself. My mind wandered to the quiet beauty of Mount Auburn, Swan Point, and Laurel Hill, and to the charming and commanding views of Greenwood, and I thought that we of the cities "planted" our dead in more attractive spots. Having travelled largely through the country, I have been exceedingly pained at the general desolateness of the village cemeteries. Why is it not just as easy to choose for them a pleasant place, as a cheerless one? It is a melancholy satisfaction to most of us, to visit the last resting place of those who were dear to us in life, and, though it will make little difference to those who lie there, it is vastly to the comfort of surviving friends that they can go to a pleasant and attractive place to see all that earth has left of those dear to them. To sensitive minds it is a horrible thought that their bodies shall be laid in the bleak cold grave-yard; if they could know that they should be buried in the shade of trees, and that flowers would bloom around and birds sing above their graves, death would lose many of its terrors. I am far from justifying this feeling, but we know that it exists to a great extent. I would, through the widely circulated *Agriculturist*, call upon the influential men in every town and village, to see that their cemetery is made an attractive place—one where the living can cheerfully hold silent communion with the departed, a place which will show to strangers that the dead are not merely "planted." A few people of taste and energy can in any community effect a reform in this matter. The most beautiful cemetery that I know of owes its existence to my old schoolmaster. There is one thing which I would have changed in all cemeteries; that is the placing of fences around private lots. It breaks up the general design, and gives a formal and gloomy aspect which should be avoided. Death levels all distinctions, and if it is necessary to designate between mine and thine, even in the grave-yard, it can be done by small corner stones which will not intrude themselves unpleasantly upon the visitor. T. G.



WEeping BEECH—AT FLUSHING, N. Y.

Sketched and Engraved for the American Agriculturist.

The Ornamental Varieties of the Beech.

The European and our native Beech are so nearly alike, that some botanists have considered them as the same species. There is a slight difference in the shape of the buds and leaves, but they so much resemble one another in form and habit, that for the purposes of planting as shade trees, they may be considered as identical. We have often wondered why the beech was so much neglected in tree planting. It may not have the grace of some other trees, but for affording a perfect shade, no tree is equal to it. Another thing which commends it, is its cleanliness and general freedom from the attacks of insects; and besides, its foliage remains in Autumn much later than that of other deciduous trees. Many of our readers will recollect some particular beech tree whose cool shade was a favorite retreat in their boyhood, and where enjoying the shelter that



Fig. 2.—CUT-LEAVED BEECH.

it afforded, they whiled away the sultry hours of a summer's afternoon in carving some favorite name upon the bark, which offers a tempting surface to the knife. The European Beech has made several accidental sports which have been propagated by grafting, and are now very generally distributed. One of the oldest of these is the purple beech, the original tree of which

was discovered in Germany in the last century. The young leaves are of a cherry red, but as they grow older, they become darker, and eventually are of so deep a purple as to give the tree, among the French, the name of black beech. The purple beech in Spring is a very attractive object; the young leaves when agitated by the wind, during bright sunshine, make such a brilliant show as to give the tree the appearance of being on fire. The seeds of the purple beech have produced many colored varieties; the best known of these is the Copper beech, which has lighter colored foliage than its parent. Both these sorts are desirable in a collection of ornamental trees.

Another and very interesting variety of the beech is the cut-leaved or the fern-leaved, in which the foliage is variously divided and in some forms even shredded. Figure 2 shows one form, but there are others in which the divisions are much finer. This is a most graceful foliage, and the tree is worthy of being planted much more frequently than it is. Mr. Sargent, the well-known writer on landscape gardening, says, if he could have but six ornamental trees, the fern-leaved beech would be among the first he would choose.—Many forest trees have produced seedlings, the branches of which have a drooping or pendulous form; these are commonly called "weeping" trees, and we have weeping varieties of the elm, ash, birch, beech, and many other trees. None of these weeping trees are more beautiful than a well grown *Weeping Beech*. The original tree was found in the grounds of an English Park, and it has been propagated by grafting, and is now not very rare in this country, though not nearly as well-known as it should be. The finest specimen within our knowledge is in the grounds of Messrs. Parsons & Co., at Flushing, N. Y. With the hope of bringing this most graceful tree to the notice of those about to plant for ornament, we have had the specimen drawn

and engraved. [The artist sent specially to make the sketch for us, has failed to represent the real beauty of the tree; it has a heavy, thick, dark foliage, and every branch and leaf should have been represented as pendulous—hanging almost perpendicularly downward—the upper branches less spreading, and turning in a short curve, and the lower ones thickly massed, and gracefully drooping their ends to the earth.] Always attractive, it is toward sunset that this tree shows its beauty most strikingly; then the pendulous branches throw deep shadows, and the whole tree is a picture of light and shade worthy of the study of an artist. For small places and for situations near the house, no tree presents more desirable qualities than the weeping beech.

Tall Trees—The Douglas Fir.

Many of our readers will remember an account published in the *Agriculturist* some time since, of an enormous flagstaff sent to England from Oregon. The gentleman who presented it gives the following interesting particulars concerning the growth of trees in that State, which we find in the London Agr. Gazette:

"Douglas Fir, better known in this part of the world as Oregon Yellow Pine, is generally from 200 to 300 feet high, frequently 150 to the first branch; has a corrugated bark on a full-grown tree, 6 or 7 inches thick; sapwood, 2 to 3 inches thick; roots spread over a large extent of ground, but no tap root, or root growing from the center downward. The largest tree that I have had cut, was one measuring 9 feet at the but, including the bark, and 306 feet from the but to the top; it squared, clear of sap, at 45 feet from but, 40 inches; it was cut at 136 feet, this being the proportion of length to diameter of a mast, for which purpose I sent it to England in 1858. One great advantage the Douglas Pine (generally so called in England), has over all other trees, is the very little taper I have seen trees in which at first you could not tell the top from the but—I mean trees cut for masts of 100 to 130 feet long. For all purposes this is an advantage, inasmuch as the tree contains more timber, but for ship masts this is an invaluable quality. I have recently built a vessel of 200 tons, and no other timber but Douglas Pine was used in her construction.

"Spruce is plentiful, but less abundant than Douglas Pine; it is closer grained, and I think better timber than the same wood of Canada; grows to about 200 feet high, and fully as great diameter as the Douglas Pine; the roots furnish knees for ship-building purposes, which I consider equal to Oak.

"Hemlock is not held in much repute here. I have only seen it used for wharf piles. It is plentiful and grows to a height of 150 to 200 feet.

"White Pine is very scarce here, consequently very valuable, as it is almost the only wood we have fit for joiners' fine purposes. It grows about 200 feet high; 40 inches is a large tree.

"Red Cedar has generally a short trunk, with large spreading branches. When it can be found clear of knots, it is as valuable as White Pine. The Indians make their canoes from this tree, hollowing it out; many of them convey 50 to 60 men, and the most perfect models of the clipper I have seen. I consider the Cedar the most ornamental tree I have met with. It is generally found near the water, or, I should rather say, grows larger near the water, and on swampy ground; but I have found it in the interior of this island, near the lakes on the side of the ris-

ing ground. Here it grows tall like the White Pine, and seldom exceeds 30 inches in diameter, 60 to 80 feet clear of knots, and not hollow, as generally is the larger short-trunked tree of the same name."

Half Hardy Trees and Shrubs.

Were we to speak our whole mind on the subject, we should confess that we grow more and more inclined to discard the tender things, and to plant only such as are as tough as oaks or burdocks. Yet, on the whole, we must say, not so; for if we did, we should exclude many very fine trees and plants, and lose much of the *variety* which now gives our grounds a great charm. How, then, to manage them well?

The notion prevails with many, that such vegetation should be planted in sheltered spots, (say on the south side of buildings, high fences, etc.) and in rich soils. But this is a great mistake. When so planted, the wood is stimulated into a rapid and a late growth, which can not ripen up hard and dry before the Winter sets in. The consequence is that this soft, sappy wood is frozen to death. Rather, choose an open, breezy aspect, exposed to the North and West.

The soil should not, indeed, be so barren that the tree or bush will be kept in a feeble, half-starved condition. If so, the Winter will destroy it, of course. Nor should it be deep and rich, for this will induce too rampant a growth. Let it be of moderate fertility, and dry, rather than wet. And, as we would not choose the top of a bleak hill, so we would avoid a low, moist valley. By a little considerate management of this sort, we shall be likely to get a moderate and healthy growth of plump, short-jointed limbs, which will be quite sure to ripen off well before hard frost.

If, on the setting in of December, we can give our half-hardies a little protection on every side, using, perhaps, a few evergreen boughs, it will be a good thing. Drive stakes on every side firmly into the ground, and then tie the boughs to these. This will make a nice little local climate, for which the pet will thank you. A friend of ours in central New-York succeeds well with the *Rhododendron Catawbiensis*, by planting a circle of white pines (any evergreen would do just as well) and setting his plants in groups in the centre. This screens them alike from sun and cold winds. Without some such screen, they are likely to suffer there.

Our Neglected Native Forest Trees.

An experienced and observing botanist once made the remark in our presence, that there was not a single American tree in any park or public square in the City of New-York. Since the creation of the Central Park, this remark does not hold true, but it expresses the fact as respects all the other parks in New-York, and may be extended to apply to most of the private grounds within our knowledge. In planting trees we have run too much after those of foreign origin, to the neglect of American trees. While we will not deny that many of our imported species are every way desirable, we at the same time maintain that we have those of American origin which are equally as good. Our people who plant trees, only know that they want rapidly growing ones, which will make a shade as soon as possible, hence they generally state the number of trees they require, and leave the selection to the nurseryman, who, naturally

enough, supplies those which cost him the least trouble to produce, and of which he has an abundant stock. In this way only can we account for the constant sameness in the kinds of trees, whether in our streets, public parks, or private grounds. Our American trees are highly prized in Europe: we have a friend who annually sends hundreds of pounds of the seeds of our common trees to the nurseries of France. The seeds of our native trees are generally much more difficult to find in commerce than are those of European trees, and this may be another reason why our nurserymen raise so much more foreign stock. Some try our native forest trees by taking seedlings from the woods and transplanting them to their grounds. This method is sometimes successful, but more frequently fails. The one making the attempt is disgusted



LEAF OF LIQUIDAMBAR.

at the failure, and sends to the nursery for foreign trees, which grow well, and he comes to the conclusion that wild trees can not be cultivated. Now if the American trees had been grown from the seed and treated in the same way as the exotic ones, i.e., transplanted several times, he would have had no difficulty. Herein consists the main difference between trees taken from the woods, and those from the nursery. In one case they have some large main roots and few fibrous ones, while in the other case, the trees have been transplanted several times and have thrown out numerous small roots. In one case the removal is a great shock to the tree, and in the other, it is prepared for, and is but little affected by it. Most persons would be astonished to see how few years it takes to raise a good sized forest tree from the seed. Those who have large places should always have a small nursery of forest trees from which to draw as the occasion may demand. Seeds may either be planted as soon as they fall, or be kept through the winter in boxes of earth, and then sown. The seedlings generally need a partial shading during the first year of their growth, and after they have grown two years in the seed-bed, they may be transferred to nursery rows, and when they begin to crowd one another, they should be again transplanted to other rows. Treated in this way, most of our forest trees will form fibrous roots and may be used for planting with probability of success. Among the less cultivated of our native trees, and indeed but little known in the wild state, is the Sweet Gum, *Liquidambar styraciflua*. Downing, who had such a correct eye for the beautiful says: "We hardly know a more beautiful tree than the Liquidambar in every stage of its growth, and during every season of the

year. Its outline is not picturesque or graceful, but simply beautiful, more approaching that of the maple than any other; it is, therefore, a highly pleasing, round-headed or tapering tree, which unites and harmonizes well with almost any others in composition; but the chief beauty lies in the foliage. During the whole of the summer months it preserves, unsoiled, that dark glossy freshness which is so delightful to the eye; while the singular, regularly palmate form of the leaves, readily distinguishes it from the common trees of a plantation. But in Autumn it assumes its gayest livery, and is decked in colors almost too bright and vivid for foliage, forming one of the most brilliant objects of American scenery at that period of the year. The prevailing tint of the foliage is then a deep purplish red, unlike any symptom of decay, and quite as rich as is commonly seen in the darker blossoms of a Dutch parterre. This is sometimes varied by a shade deeper or lighter, and occasionally an orange tint is assumed. When planted in the neighborhood of our fine maples, ashes, and other trees remarkable for their autumnal coloring, the effect, in a warm, dry autumn, is almost magical. Whoever has travelled through what are called the pine barrens of New-Jersey in such a season, must have been struck with the gay tints of the numberless forest trees, which line the roads through those sandy plains, and with the conspicuous beauty of the Sweet gum, or Liquidambar." The bark of this tree when full grown, or nearly so, is exceedingly rough and furrowed, like the oak. The wood is fine-grained, and takes a good polish in cabinet work, though it is not so durable, nor so much esteemed for such purposes, as that of the Black walnut and some other native trees. The average height of full grown trees is about 35 or 40 feet. The engraving gives the peculiar form of the leaves. An abundance of seeds are produced, though but a small portion of them are perfect. It is readily raised from the seed, which may be had at the large seed stores, and trees suitable for planting may be procured at the nurseries.

Experience with Scale Lice.

O. F. Meyer, Rock Co., Wis., writes as follows: "In June *Agriculturist* you ask for information about the destruction of the bark-lice on apple trees, and here is my experiment and success. Two years ago I moved into my place, which I had formerly occupied and then let out. I had planted, when I first lived there, eight apple trees, one 15 years old, and some wild crab apples were on the ground, also a few plum trees. During the time I let the place out, everything was neglected; the weeds were almost as high as the young trees. My first work was to get rid of the weeds, and then I discovered that all the trees, wild and cultivated, were literally covered with the scale louse, and the same was the case with the currant bushes. My neighbors said, I could not do anything with the trees, but to cut them down, but I thought it worth trying to save them. In February I scraped the trunks and twigs of the trees as far as I could reach them; in April, I washed them with soft soap, ashes, and a little salt, which I applied pretty thoroughly with a brush. This I repeated in June, and pruned the wild apple trees at the same time. This Spring the same process was gone through with, and now one must look pretty sharp to discover a louse.

It is not strange that owners of orchards complain about this insect at the West. Most men

plant the trees and think that sufficient. I see here many a fine apple tree which would yield a handsome profit to the owner, if it were only treated right. There is no question that grapes and other fruit will grow finely at the West, if proper attention and care be given them."

A Horticultural Exhibition.

We would remind all growers of fruits, flowers, and vegetables, within reach of New-York City, that there will be an exhibition of horticultural products during the last week of the fair of the American Institute. The articles for the horticultural exhibition must be at the Academy of Music, 14th-street, before noon of Wednesday, Sept 16th. Liberal premiums are offered and we trust that there will be a general display. It is some years since we have had an exhibition that at all represented the horticultural capabilities of New-York and its neighborhood. We hope that our cultivators will this time appear not only as spectators, but as exhibitors. There are some things in the premium list which we would like to see altered. Thus low premiums are given for Quinces and Cranberries—fruits that need especial encouragement—nor do we think sufficient attention has been paid to garden vegetables. Squashes and Pumpkins, which are produced with comparative ease, have special premiums, while Cauliflower, Egg plant, Endive and other things, which require the best skill of the gardener, are not noticed in the prize list. We do not mention these things in a fault finding spirit, but as hints to be considered another year.

For the American Agriculturist.

New Lawns.

The soil should be made deep at the outset. If the land is poor, a coat of old manure should be turned under. This will prevent the drying up and burning out of the grasses in mid summer, as it will cause the roots to strike deep for nourishment, and will furnish them the food they need. After the plowing, harrow smooth, sow the seed, brush it in, and afterward roll it. Cultivators are not perfectly agreed as to the best grasses for lawns. Some advise the sowing of only one kind of seed; others favor several. In some of the finest bits of *natural* lawn which we have noticed by the road-side, we have counted several sorts. Kentucky Blue Grass is a favorite in some quarters; others prefer Red Top. In the writer's experience both have done well; the Red Top was mixed with a little sweet scented vernal grass and white clover.

It is a question with some whether the grass should be sowed by itself, or with some other crop, as oats, barley, or rye. For lawns of ordinary size, we would recommend to sow the grass by itself, and to sow liberally enough to cover the land at once with grass. It is also a question whether lawns should be mowed the first season. English cultivators say Yes. This practice may answer well for the British climate, but not so well for ours. We have seen many a new lawn injured by too early cutting. To stand well, grass needs time to form large, vigorous roots, and to strike them well into the earth, but this they can not do if the tops are cut off in mid-summer. All that is taken from the top is so much lost to the roots. In the second and following years, when the roots become strong and well established, the mowing may be frequent. The first year, we would

simply pull out weeds, and leave the grass to rot on the surface in Fall and Winter. *

[Our own preference is for one kind of grass, as this gives a uniform growth. After trying several kinds, successively, and in a mixture, we have settled upon the Kentucky Blue Grass as just the thing for our locality. It is perfectly hardy, and though starting slow the first season, it eventually makes a firm, compact, even, velvety sod, that will endure hard freezing even under water. We sow the seed very thickly to start with—at least 3 bushels to the acre.—Ed.]

The Yeddo Grape.

There has been so much interest felt in this grape and its introduction to this country has been so much desired, that a description of its habit and growth will doubtless interest our readers. The first account we have of it, is from the pen of Robert Fortune, the well known Chinese traveller, and was published in the Gardener's Chronicle for April 27, 1861. He says: "The vine of this district, which we may as well name at once the "Yeddo Vine" produces a fruit of great excellence. The bunches are medium sized, the berries are of a brownish color, thin-skinned, and the flavor is all that can be desired. This grape may be valued in England, where they have so many fine kinds, and most certainly will be highly prized in the United States of America. A few years ago, I was travelling from Malta to Grand Cairo in company with Wm. C. Bryant, the celebrated American Poet, and a genuine lover of horticultural pursuits. This gentleman informed me that owing to some cause, our European vines did not succeed much on the other side of the Atlantic, and suggested the importance of introducing varieties from China, where the climate as regard extremes of heat and cold is much like that of the United States. I have never met with what I consider a really good variety of grape, and therefore have not been able to act on Mr. Bryant's suggestion. At last, however, we have a subject for the experiment, and I urged its importance on Dr. Hall, who is an American citizen, and who has already introduced a number of plants to his country from China. He enters warmly into the matter, and no doubt will accomplish the object in view. I therefore conclude this by giving notice to your readers to look out for the arrival of the "Yeddo Vine."

The above is an account given by the celebrated Mr. Fortune, a perfectly disinterested witness. Knowing that Messrs. Parsons & Co., the well known nurserymen at Flushing, L. I., had received from Dr. Hall a specimen of this vine, we have requested them to give us their experience with it. They write as follows:

"We at once grafted it upon a strong native vine, and planted it in a good soil. During the last Winter it was covered with straw, and up to this time, its growth is very remarkable, and scarcely surpassed by any of the native sorts. The main stem is as thick as a man's finger and from it proceed four strong branches, seven and eight feet long. By Autumn they will probably be twelve or fifteen feet. The leaves resemble those of the Delaware, while the stem is unlike any other grape known. The vine will be left entirely exposed the coming winter—it was too small to be exposed the past winter. There is every reason to suppose it will be perfectly hardy, because nearly all the plants which have hitherto been introduced from Japan, have proved hardy in our climate. The interest now felt

everywhere in grape culture, gives additional importance to the introduction of this grape, and should it prove all we hope, Dr. Hall will have rendered a great service to his country."

Notes on Strawberries—Mulch them.

While in most locations the Triomphe de Gand sent out by us, has proved an abundant bearer, we occasionally hear complaints that but little fruit is produced. It would be strange if a strawberry of European origin should prove to be perfectly adapted to every locality throughout our extended country. Let any one look over the transactions of the American Pomological Society, and he will see that fruits, such as apples, pears, etc., which stand high in one region, are unsuccessful elsewhere, and are condemned for general culture. It is so with strawberries; their fruitfulness is affected by local influences, and it is only by experience that we certainly can know a variety will succeed in a particular place. Horticulture learns as much from failures as from successes. With the great number of fine sorts of strawberries we now have, there is no doubt that some good variety may be found which will succeed in each locality. With regard to the Triomphe de Gand, we believe it to be the best strawberry for general culture yet introduced. It may fail in some localities, but we have had nothing thus far that has proved so generally satisfactory. Some persons have made a point of the fact that it is condemned in Europe. True, but it is there rejected for the very qualities which render it desirable here. It is the only one of the European varieties which has attained a general success in this country. On the other hand our favorite kinds, originating here, have failed in Europe. With strawberries, we must judge as we would of other fruits, by their merits in our own particular region. We have sent out the Triomphe de Gand, as the most promising sort known, and have seen no reason to regret it. There may be failures and probably will be. Where it does not succeed, the person who really wishes strawberries, will try other sorts until he finds one which will do well with him. Many try a single kind and finding that will not grow, give up the cultivation altogether. If they would only communicate the fact of their failure, and give the public the result of their experience, they would do a good service to all in their vicinity. We hope to make strawberries as common in every family, and as much a matter of course, as potatoes, and we give from time to time such advice as our knowledge warrants. Let those who have facts, showing either success or failure, communicate them in order that their experience may benefit others. We commenced this article for the purpose of calling attention to mulching. There is very often a drouth just at the time that the strawberry is setting its fruit. In large beds it is impracticable to water them, and the only way to prevent the earth from drying is by mulching. In the Fall, after growth has ceased, cover the bed with straw. In the Spring when the plants start, uncover each crown, but leave the straw in its place. This will keep the ground moist during early drouths, and keep the fruit clean. After the berries are picked, the straw may be removed.

STRAWBERRY ITEM.—I. G. Hiler of Boston, Mass., in renewing his subscription for next year, to be sure of the "Agriculturist Strawberry," writes: "An article in your paper three

years since determined me to have a bed of strawberries. I immediately set a bed 30 feet long by 7 feet wide, with Early Virginia Scarlet (which I consider a humbug), Cutter's Seedling, and Bunce's Seedling, and kept them in rows, with *no runners*. I manure in early Spring, and after the crop is gathered, with Coe's Superphosphate. Last year I picked 50 quarts of berries, and the same this season, though the dry weather diminished my crop at least one half. I counted 180 berries on a single stool of the Bunce variety, and many other plants were equally loaded."

Starting Strawberries in Pots.

Strawberry plants, if well rooted in pots in July or August, may be put out in beds any time before the ground freezes and produce a fair crop the following season; the earlier they are put out, the better of course, as it gives a longer time for the plants to grow, and form large crowns, which will throw out a number of fruit stalks the next season. One advantage of setting out plants rooted in pots is, that they rarely ever fail to grow, and consequently need not to be replanted, which involves considerable time lost in the actual growth of the plant, besides the trouble of replanting, watering, etc. Another object gained is, that they rapidly advance in growth, and are not put back by transplanting, which is always the case with those planted in the ordinary way; nor are they so much affected by drouth. The greatest advantage is, that while those planted in the ordinary way produce little fruit the next season, except under very favorable circumstances, those in pots yield a fair crop, and more than repay the extra labor in the greater amount of fruit. Mr. C. S. Pell, of the N. Y. Orphan Asylum, starts strawberries in pots very successfully. He takes three inch pots, fills them with good soil, and places them in the strawberry bed—one under each joint on the runners—and small stones are put on to hold them in place. The earth in the pots is well watered and in about three weeks he has strong, well rooted plants, which may be turned out into the ground without checking the growth. If the pots are sunk in the soil of the bed, the earth will not dry out so fast and less water will be required. This plan offers many advantages to amateurs and cultivators on the small scale, or for home use.

Protect the Fall Flowers.

It is often trying to one's patience to have the frosts come and smite our splendid collections of flowers in the very height of their glory. In many cases, as with the Asters, Stocks, Balsams and Dahlias, we have watched and nursed them all Summer, and now, just as our care is beginning to be rewarded, suddenly, in a single night, the destroyer comes and blasts all our hopes! Last Fall, the writer tried an experiment to protect flowers several weeks, and succeeded so well that he is moved to speak about it. Just before frosts were expected, we provided a few light mats, made of sacking, and by driving down several stout stakes at the corners and middle of each bed, were enabled to suspend them over the flowers without crushing them.

Every observer must have noticed that we usually have a few sharp frosts early in Autumn, cutting down all tender things, and then that this is followed by several weeks of warm weather. Whatever plants go through the first frosts

unharmd, bloom finely for quite a period afterward. The use of these mats or something of the kind, answers this very end. It takes only a few minutes at night to spread the mats in their place, and a few in the morning to lay them aside. But were the labor much greater, the result would amply repay it.—*Agriculturist*.

Seed Saving.

This is the month in which much of this is to be done, both in the Kitchen and Flower Garden. We have frequently impressed upon our readers the importance of saving the very earliest and very best of every variety for seed. Do not pick all the best Sweet Corn, Tomatoes, Melons, etc., for the table, and take seeds for the next crop from what is left. If this be done, we shall have more complaints about sorts running out; they will run out if you help them to do so, but will hold good and even improve if proper care is exercised in seed saving. We know of one variety of Sweet Corn which has been kept in the same family for thirty years without "running out." Some flower seeds require much care to save them. If seeds from Pansy and Phlox are left until the pods are quite ripe, they will all be lost by the bursting of the pods. With plants having seed vessels of this kind, the best way is to pick the flower stems when the seeds are fully formed, but not ripe enough to burst. Placed in a box or on a large sheet of paper in a dry room, they will fully mature, and the seeds may be secured.

Fuchsias in Winter.

A lady subscriber wishes to know why her Fuchsias do not bloom in Winter. The reason is, that it is a summer blooming plant, and they flower so profusely in Summer, that they need a long season of rest. A Fuchsia may be kept during the Winter and an occasional flower be produced, but there are so many freer blooming house plants that it is altogether better to use the Fuchsia as a summer bloomer and give it rest during the Winter. With a green house, young plants can be grown so as to bloom in Winter, but for parlor culture it is best to keep the plants in a state of rest from Fall until early Spring. Then they may be pruned into shape, and brought forward to flower during late Spring and Summer. They do capitally as bedding plants, provided they get a partial shade. Among the new varieties we have found the Comet one of the most valuable.

Prepare for Spring Flowers.

Nothing gives more gratification than the early flowering spring bulbs. These are usually classed under the general term of "Dutch Bulbs," for the reason that they are largely grown in Holland, whole farms being devoted to their culture. This class of plants comprises the Hyacinth, Tulip, Crocus, Narcissus, and numerous others. Dealers are already out with their catalogues for the Fall trade, and it will soon be time for our readers, who intend to plant bulbs, to prepare their ground and select their varieties. If we could have but one spring flower it would be the Hyacinth, so charming in both color and fragrance. To those who can procure them, we say, make a bed of Hyacinths this Fall. A single one, if no more can be had, will be a charming thing in the garden next Spring, but a bed of them is a mass of sweetness

and beauty good enough for any one poor mortal to possess. This last Spring we saw upon the grounds of Mr. Buchanan, at Astoria, a bed about 8 feet wide and 20 feet long, filled with gorgeous blooms of every shade of color. It was certainly worth going far to see.

Then there are Tulips, less sweet and more gay, and Crocusses which so early in Spring lift up their spires of tender green, and then, before we are aware of it, throw out their delicate flowers. Snow Drops, Ixias, the various Lilies, the stately Crown Imperial, and many others, all come under the head of "bulbs," and are to be planted in the Fall. A rather sandy piece of ground does best, which should be enriched by spading in well-rotted manure. The bulbs should be planted in October, rather deeply, Hyacinths and other large bulbs should be put at least 3 inches deep, and two inches is little enough for Crocuses and other small bulbs. In planting, if the colors of the flowers are known, very pleasing effects may be produced by making contrasts of color. Before the ground is frozen, cover the bed with a good coating of stable manure,—no matter if it is coarse. When Spring fairly opens, the manure may be raked off. The bulbs will live year after year, but better flowers will be produced if they are taken up every season after the leaves wither, and allowed to dry until the proper season for setting them out. Most of the bulbs produce a better effect when grown in masses than when scattered through the borders.

Living Window Screens.

A mass of green foliage makes a prettier window screen than any of the costly curtain materials, or those gaily and coarsely painted shades used very generally throughout the country. Whether seen from within or without, they are always in good taste, and lend beauty to the most costly dwelling, and give an air of refinement to the humblest one. The plant best fitted for this purpose is the European Ivy. It is an evergreen with rich dark foliage, grows with tolerable rapidity, and is perfectly hardy. Wherever Ivy is grown out of doors, natural layers may be found already rooted, or it may be readily started from cuttings. It needs a good rich soil and plenty of moisture, but the pot should be well drained. A good way is to fit a moveable shelf to the window sill, and erect upon that a trellis of sticks and wire of such size and shape as suit the fancy. One or two pots of Ivy may be placed upon the shelf and the vines trained to the trellis; this will allow the whole to be moved as occasion may require and it may be placed out of doors during Summer. If placed at a window where the sun is too hot, a simple screen of muslin may be let down between the plant and the glass during the middle of the day. An ornament of this kind costs but little, will last for years, and always be beautiful. A broad leaved variety of Ivy, called *Roegneriana*, is one of the best for this purpose. A plant is very commonly used around New-York as a window plant under the names of Mexican and German Ivy. It is not an Ivy, but is a climbing species of Groundsel (*Senecio mikanooides*), and every way adapted for forming window screens. It is of very rampant growth, and needs frequent pinching to keep it within bounds. It roots with the greatest ease—any piece of stem with a leaf to it will make a plant. Unfortunately it is not generally distributed, but it may be had at the city green houses, and must soon be widely diffused.



Abutilon Striatum.

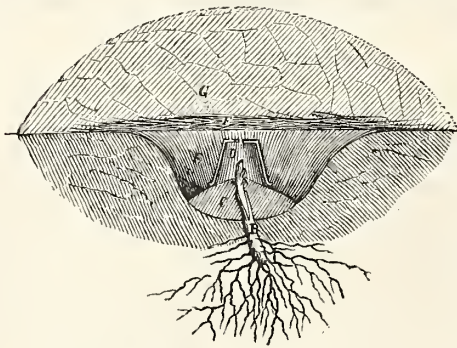
The Striped Abutilon has long been a favorite of ours. It is almost an ever-blooming plant—good in the house in winter, and a very conspicuous ornament when planted in the grounds. It is a green-house shrub, which will well repay any care that may be given it in Winter, and if put out of doors and left to itself during the Summer, will make a fine growth and give an abundance of flowers. One of its best qualities is the ease with which it is propagated. Cuttings stuck out anywhere, if not constantly exposed to the sun, will grow; they may be propagated in quantities by the method recommended for cuttings in the August *Agriculturist*. The plant has a striking foliage, somewhat like that of the maple. Its flowers are bell-shaped and of a yellow color, strongly veined with scarlet. The pendulous character of the flowers, hanging from long slender foot-stalks, gives them a remarkably graceful character. The plant bears pruning to any extent, and may be grown as a bush, or be trained to suit the fancy of the cultivator. We know of no plant that will give more satisfaction as a parlor plant, than the *Abutilon striatum*. Our engraving will give a good idea of the leaf and flower. The plant may be had at the green-houses, and is frequently for sale in the N. Y. markets in the Spring. *Abutilon venosum*, and *A. insignis*, are fine species, but they require more care than the *striatum*.

Grafting the Grape Vine.

We mentioned in our last number that a new work on grape culture was in preparation by Mr. A. S. Fuller of Brooklyn. In looking over a portion of the manuscript the following remarks upon grafting the vine, struck us as being novel and interesting, and we asked Mr. Fuller's permission to give them to the public in advance of the appearance of his work:

"The propagation of the Grape vine by grafting, is probably as old as its cultivation, and many of the modes practised at the present time, are accurately described in most of the ancient works on gardening and agriculture. But with all the information which we have derived, from both ancient and modern authors,

it still seems to be generally considered a rather difficult if not uncertain method of cultivation. On account of the peculiar structure of the wood of the vine, a lasting union is seldom obtained when grafted above ground, and is far from being certain, even when grafted below the surface by the ordinary method. When we compare the benefits to be derived from grafting the vine, with grafting the pear, apple, etc., it appears to be of little value, because the vine may be readily grown from cuttings of almost any portion of the wood, while the latter produce roots from cuttings only sparingly, even with the greatest care, and under the most favorable circumstances, but they may be propagated very easily by grafting and budding. Thus it appears that nature has provided a way for the rapid multiplication of every species and variety of plants, but she has left it to man to discover the way and means. There are circumstances constantly occurring under which it would be quite desirable to graft the vines; for instance, when we have a new and valuable variety, which we wish to multiply as rapidly as possible; to do this we must produce wood for the purpose, and if we can produce wood more rapidly by grafting than by any other means at command, then it becomes very important to know how to perform the operation successfully. There are usually in every garden where grapes are grown, inferior varieties which it is desirable to exchange for better, and if we employ grafting as a method of propagation, then these otherwise worthless vines may be-



FULLER'S METHOD OF GRAFTING THE GRAPE.

come valuable as stocks on which to graft better kinds; and if by the use of these we can make every bud to produce a shoot of from 5 to 20 feet in a single season, of larger and better wood than we can by any other means, and that too without the aid of any artificial heat, it becomes very important to know how to do it. Sometimes it would be desirable to change a whole vineyard from an inferior variety to a new and superior one, and if the operation is judiciously performed, it can be successfully done, but I will consider this further on. The time generally selected for grafting the vine, is early in Spring, before the vine starts, or after it has started and made a growth of a few inches; both of which I have found highly objectionable; for if grafted early, the operation must be performed several weeks before the vine starts, so as to allow the graft sufficient time to form a union with the stock before the latter starts, or else the excessive flow of sap will drown the graft. This early grafting is very difficult in a northern latitude, where the ground thaws out only a very few days before the sap begins to flow. It is always desirable to graft the grape below ground. If we wait until the vine has begun to produce leaves, and the sap has thickened and flows less rapidly, then by cutting down the vine to receive the graft, we

give it a severe check, which often destroys it, and if not entirely killed, it is so much injured that it does not afford sufficient nourishment to the graft to produce a very strong growth. Besides, if hot, dry weather sets in, the graft is almost sure to fail. These are but a few of the difficulties that I have had to encounter when grafting at these seasons, and in the ordinary manner. To avoid them, I have practised with perfect success the following method: In the Fall, after the leaves have fallen, and any time before the ground is frozen, say in October, November, or December, varying according to latitude, dig away the soil from around the stock (which may be of any size, from one half inch to two inches in diameter) to the depth of 4 to 6 inches; then cut it off, and split in the ordinary manner for cleft grafting; make the graft of one eye with about 4 inches of wood, and insert it in the stock, being careful to have the inner bark of the stock and graft meet, then tie a piece of waxed cloth about it, so as to hold the graft in its place, and keep out the water; next throw in soil enough to fill up around the graft, leaving the bud just above the surface; then put a flower pot (a box will answer the purpose) inverted over the graft, as seen in the engraving; then bank up around the flower pot to the top, but not over it: now put on some straw (a), say 6 inches deep, and cover the earth over all. In this manner the graft is perfectly protected against the frost, and it has all winter to perfect a union with the stock, and by spring it is ready to grow. It should not be uncovered until the cold freezing weather is over. It is necessary that a box or flower pot should be placed immediately over the graft, so that when it is uncovered in spring, the graft will not be disturbed by digging down to uncover it. Grafts inserted in the Fall, in this manner, will make almost as strong a growth as the original vine would have done if it had not been grafted; besides, the operation can be performed at a season when there is usually not so much business as in Spring, and it requires no more skill in its performance than other modes of grafting. When the grafts have made one season's growth, they may be cut down and used for grafts or for cuttings, or they may be allowed to remain until next season, and then be put down for layers."

Laterals on Grape Vines.

Every vineyardist knows that his vines produce in Summer what are known as *laterals*; i.e., branches springing from the axils of the leaves. If they are allowed to have their own way, they sometimes prevent the natural extension of the canes, and fill up the trellis with a showy but useless mass of wood and leaves.

To obviate this, some vine-dressers cut out or pull off the laterals, and they keep up this treatment all Summer long. Is there not a serious objection to this? One office of the lateral is to elaborate and send down nutriment for the infant bud at its base, which bud is designed to be the *fruit bud* of the next year. Now, if we pull off this lateral, we weaken the bud and unfit it for its work the succeeding year; often we cause it to break and send out several weak and watery shoots the present year, and so spoil it for subsequent use. Instead, therefore, of pulling it off, a better way is to pinch off its extremity as soon as it has formed two leaves. If it starts after this, nip off its new growth, and so keep it in check, but do not altogether destroy it. In the Fall cut it off.



Smith thought it would be a fine thing to live in the country. Smith could not get HELP, and as domestic duties began to accumulate and interfere with his ease, Smith set his inventive faculties to work, with the above result.—The contrivance is not patented, but is free for the use of all readers of the *Agriculturist*, for whose especial benefit it was sketched and engraved. We can not speak from personal experience of its perfect feasibility.

Small Leaks in the Household Ship.

A thousand worm holes, that will each admit scarcely a gallon of water during ten hours, will much sooner water-log a ship than a large hole through which is poured in a gallon a minute. In the financial affairs of a family, though the large outgoes may be canvassed and avoided, the whole income may be *dribbled* away, and no advance be made toward competency, wealth, or position. As a rule, the financial success of any family depends more upon the economy of the wife, than upon the earnings or business income of the husband.—Mrs. Haskell, in her recently issued "Household Encyclopædia," throws together some of the small leaks in a household ship, which we copy for a double purpose; 1st, to show the men that their wives have a multitude of cares, of little details, to look after—generally far more items than occur in man's business pursuits; and 2nd, to perhaps in some cases indicate to housewives details that they may not have thought of before:—"Much waste is experienced in the boiling etc., of meats. Unless watched, the cook will throw out the water without letting it cool to take off the fat, or scrape the dripping pan into the swill-pail. This grease is useful in many ways. It can be burned in lamps mixed with lard; or, when no pork has been boiled with it, made into candles. When pork is boiled alone, it will do to fry cakes, if cleansed. Again, bits of meat are thrown out which would make hashed meat, or hash. The flour is sifted in a wasteful manner, or the bread-pan left with dough sticking to it. Pie crust is left and laid by to sour, instead of making a few tarts for tea, etc. Cake batter is thrown out because but little is left. Cold puddings are considered good for nothing, when often they can be steamed for the next day, or, as in case of rice, made over in other forms. Vegetables are thrown away that would warm for breakfast nicely. Dish towels are thrown down where mice can destroy them. Soap is left in water to dissolve, or more used than is necessary. If Bath brick, whitening, rotten stone, etc., are used, much is wasted uselessly. The scrub brush is left in water, pails scorched by the stove, tubs and barrels left in the sun to dry and fall apart, chamber pails allowed to rust, tins not dried, and iron-ware rusted; nice knives used for cooking in the kitchen, silver spoons are used to scrape kettles, or forks to toast bread. Rinsing of sweetmeats, and skimmings of

syrup, which make good vinegar, are thrown out; cream is allowed to mould, and spoil; mustard to dry in the pot, and vinegar to corrode the cask; tea, roasted coffee, pepper, and spices, to stand open and lose their strength. The molasses jug loses the cork, and the flies take possession. Sweetmeats are opened and forgotten. Vinegar is drawn in a basin, and allowed to stand, until both basin and vinegar are spoiled. Sugar is spilled from the barrel, coffee from the sack, and tea from the chest. Different sauces are made too sweet, and both sauce and sugar wasted. Dried fruit has not been taken care of in season, and becomes wormy. The vinegar on pickles loses strength, or leaks out, and the pickles become soft. Potatoes in the cellar grow, and the sprouts are not removed until they become worthless. Apples decay for want of looking over. Pork spoils for want of salt, and beef because the brine wants scalding. Hams become tainted, or filled with vermin, for want of the right protection. Dried beef becomes so hard it can't be cut. Cheese moulds, and is eaten by mice or vermin. Lard is not well tried in the Fall, and becomes tainted. Butter spoils for want of being well made at first. Bones are burned that will make soup. Ashes are thrown out carelessly, endangering the premises, and being wasted. Servants leave a light and fire burning in the kitchen, when they are out all the evening. Clothes are whipped to pieces in the wind; fine cambrics rubbed on the board, and laces torn in starching. Brooms are never hung up, and soon are spoiled. Carpets are swept with stubs, hardly fit to scrub the kitchen, and good new brooms used for scrubbing. Towels are used in place of holders, and good sheets to iron on, taking a fresh one every week, thus scorching nearly all in the house. Fluid, if used, is left uncorked, endangering the house, and wasting the alcohol. Caps are left from lamps, rendering the fluid worthless by evaporation. Table linen is thrown carelessly down and is eaten by mice, or put away damp and is mildewed; or the fruit stains are forgotten, and the stains washed in. Table-cloths and napkins used as dish-wipers; mats forgotten to be put under hot dishes; teapots melted by the stove; water forgotten in pitehers, and allowed to freeze in winter; slops for cow and pig never saved; china used to feed cats and dogs on; and in many other ways, a careless and inexperienced housekeeper will waste, without heeding the hard-earned wages of her husband; when she

really thinks, because she buys no fine clothes, makes the old ones last, and cooks plainly, she is a most superior housekeeper."—The next time an unthinking husband is disposed to be severe because some trifling matter has been neglected, he should "put that in his pipe and smoke it."

Tim Bunker on Old Style House-Keeping.

It was a rainy morning in August, I had five tons of hay down, and it was "morally certain," as Mr. Spooner says, when he is putting a thing strong, that I shouldn't have any hay weather, so there was nothing to do but set in the house, and see things grow. There is great satisfaction in that, and blessed is that man who has his fields and meadows where he can see them from his window. I have seen some rather handsome pictures down in your city in the Academy, and other places, but there are none to compare with the view from my dining room window. There lies spread out before me, the Horse-pond lot, all nicely mowed, and looking as smooth as Mr. Olmstead's lawns in your Central Park that you think so much of; and just beyond, a four acre field of corn, in full tassel and spindle; and beyond that, a side hill covered with wood and rocks, and a little to the right hand, a glimpse of the sea covered with sails. There is a pasture dotted with cattle and sheep, that beat anything I ever saw on canvass. It don't cost half so much to build a house with the picture gallery outside as it does to have it within, and then you are never pinched for room, and it costs nothing to have your pictures retouched, and the frames regilded. It is a source of endless entertainment and instruction to study this out-door picture gallery, and rainy days give us the leisure, and a new light to see them in.

Mrs. Bunker had got her cheese in the press, and the milk things washed up, and things put to rights generally, when I saw her overhauling a bundle of old yellow papers that looked as if they were a hundred years old. One of them was an old account book of her grandfather's, made by doubling a sheet of foolscap twice, and sewing it together. The thread is stout linen, such as her grandmother used to spin on the linen wheel.

"Now," says she, "Timothy I like to look over these things and see how differently folks live now, from what they used to when my mother was a

girl. Here is the account of my mother's 'setting out in life' when she was married, in the handwriting of my grandfather, Amos Dogett."

"When was that?" I asked.

She read from the manuscript: "Our oldest daughter Sally was married to John Walton Jan. ye 29th 1784."

"That was just after the war of Independence."

She continued "Things that I let my daughter have was one horse 10 pound, one new side saddle and bridle 5 pound." "Horse flesh was pretty cheap then," I remarked. "Reckoning the pound at three dollars and a third, which was its value in the New England States, it would make the horse worth only thirty three dollars and a third, and the saddle and bridle half as much—which is only about one quarter of the price of good sound horses in Hookertown to-day. Side saddles have not fallen off much. They were a good deal in demand then, and not much now. You see Mrs. John Walton, bride, had no other way to get to her new home hut on horseback, and all other brides, and damsels in general, had either to try the saddle or go on foot. Happy was that damsel who could boast of a horse on her wedding day."

Immediately following the saddle was the entry of "one pot 8 shillings, one small iron kettle 6 shillings, one iron spider 4 shillings, one pair of flats." It would seem from this that Mrs. Walton was expected to cook her husband's dinner, and to iron the clothes. Mrs. Bunker says she was a capital cook and laundress. I think it must run in the blood. I have no doubt I am indebted to that pot and spider for all the good dinners I have eaten under my own roof.

Then follows, in the bridal outfit, "two candle sticks, two shillings." These must have been iron, such as went out of date about the time I was a boy. The hottoms of the dilapidated sticks used to figure on hutching day, in scraping off the hair from hogs, and nothing better has been invented since. Then follows "one case of knives, one fire shovel, one large iron kettle, one teapot, one teakettle, one trammel." Then for personal adornment the bride had "one gauze handkerchief, 3 shillings sixpence, one pair of gloves same price, one pair of English shoes 6 shillings, one pound of whalebone, and four and a half yards moreen for a skirt," which shows what the whale-bone was intended for. Our grandmothers probably split their own whale-bone, and never dreamed of steel hoop skirts.

The fitting out of the bridal chamber was "one feather bed, 4 pound 10 shillings, two under beds, 1 pound 1 shilling, four pairs of sheets, two coverlids, two full bed blankets, one chest and lock, and one looking glass, and one paper of pins." There was no wash-stand with bowl and pitcher, soap dish, and mugs, towel rack, and other indispensable articles in a modern bedchamber. The morning ablutions were probably made in the kitchen, or at the back door from a stone-hollowed out for the purpose. Possibly they kept as clean as those who have better facilities for washing.

The table furniture was rather meager, one set of teacups, nine plates, four platters, half a dozen spoons, half a dozen teaspoons, two basins, two porringers. There is nothing said of table linen, and probably Mrs. John Walton was in the height of fashion, not only at tea, but at every meal, eating from a *bare board*. This, I mistrust, was not mahogany or black walnut oiled, but plain pine, or maple, which was scrubbed daily for the whole term of her natural life.

A significant entry was "one little wheel, one pound." This was the linen wheel on which all the sewing thread was spun, and the fine linen for shirts and sheets, and other articles for the bed, and for the person. There was also "one set of loom irons 3 shillings." John was expected to make the loom himself. Fortunately it consisted mainly of wood, and the framing was not difficult. This brings back the good old days of homespun. In that loom was woven all the clothing, woolen and linen, of herself, husband, and children, for a whole generation. What visions of solid work and happiness the loom and wheel open to us.

We find also among the bridal items "hard

money for to buy a cow with, 5 pounds 8 shillings." The *hard* money indicates the abundance of paper currency at the close of the war. The price of cows was relatively much higher than the price of horses. Twice the sum would now buy a very good cow. That cow laid the foundation of John Walton's fortune. His wife understood the mysteries of the dairy, and the one cow grew in a few years into a herd of thirty, and the Walton butter and cheese became famous.

The whole outfit foots up forty-four pounds nineteen shillings sixpence, or less than one hundred and fifty dollars. That stocked a housekeeper in 1784, and probably she was better off than most of her neighbors. The whole would not equal the cost of the piano, now in many a farmer's parlor.

"The tea set that Dea. Smith gave Eliza at her wedding cost \$200," added Mrs. Bunker.

"I know it and the rest of the presents were worth a thousand dollars, to say nothing of the furnished house into which she entered when she got back from the bridal trip."

"A single looking glass costing eight shillings, and a mirror covering half the side of a parlor, and costing three hundred dollars, is another contrast worth looking at," said Sally.

"And the young brides that prink before them are no handsomer or smarter than Sally Walton's daughter, forty years ago."—"It is time you forgot that, Timothy. It is a long while ago."

Here the dinner bell rung and the dingy account book was returned to its place in the bundle.

Hookertown, } Yours to command,
Aug. 10th, 1863. } TIMOTHY BUNKER ESQ.

For the American Agriculturist.

How to Wash Flannels.

"I do hate to wear flannel under clothes," said a gentleman friend, "they chafe so." It was in a mixed company that he spoke, but I thought to myself, if I was acquainted with his sister or wife I'd tell her how to wash the flannels in such a manner that they might not *chafe*. Now flannel is made of animal substance, and is not so easily cleaned as a purely vegetable material, so in our house the flannels invariably form a distinct washing by themselves. Soft water is indispensable. Early in the morning then, we put on the full wash boiler to heat, and for one pair of blankets, throw in horax about the size of a walnut, and cut in a bar of hard soap very fine. When the blankets have a spot here or there, which by accident may have received extra soiling, we take a needle and thread and mark it with a couple of stitches, and rub on a little soap, for without this precaution the spot could not be found after the blankets were wet. We then put them down in a tub and pour the contents of the wash kettle *boiling* upon them. The tub stands for an hour, or until it is cool enough for the hands, when we rub the before-mentioned spots, "souse" the blankets, and wring out. The second suds is prepared as the first, save that only half a bar of soap is required. The third water is clear and boiling, and is designed to cleanse the blankets of the soap of the preceding water, for soap is not healthy for the skin, and if the third water appears *sudsy*, we give them a fourth hot water with a squeeze of blue in it, very little, however, or the blankets will be streaky. And now the quicker they are dried the better, it is very disastrous to have rain come on, or have them snowed upon, or lie overnight; indeed I never wash blankets unless the sun smiles upon me when I am about it. In our way of washing, flannels never shrink, and consequently never get "hard," and as we don't rub them, the nap is left on, they are more comfortable, and wear much longer than when washed in the ordinary way. The colored flannels we put in the tub as we take the white flannels out, having first added a little melted soap; we wash them out right away, as the color will come out by standing. The water must be as hot as the hands can bear, and the soap that is rubbed on about the collars and wrists of flannel shirts, can not be put on when they are out of the suds,

for in many kinds of colored flannel the mark of the soap is left, unless used while the flannel is in the water. Colored flannel does not shrink like white, and for this reason and that the color is likely to come out, we do not use boiling water. In other respects we go through the same process in washing, save that the impression of blue is omitted in the last rinsing. In conclusion, sister readers, use flannel plentifully in your households. In this northern climate, cotton is a very poor substitute. If people paid out as much for flannel as they do for those homeopathic sugar pills, the doctors would be all the poorer, and their own homes all the happier.

Carroll County, Illinois.

MARION.

How to Take Leaf Impressions.

In answer to several inquirers who ask how to take correct copies of leaves, we publish the directions given in "Art Recreations," a manual of ornamental work, published by J. E. Tilton & Co., Boston, Mass.

Hold oiled paper in the smoke of a lamp, or of pitch, until it becomes coated with the smoke; to this paper apply the leaf of which you wish an impression, having previously warmed it between your hands, that it may be pliable; place the lower surface of the leaf upon the blackened surface of the oiled paper, that the numerous veins that are so prominent on this side may receive from the paper a portion of the smoke; lay a paper over the leaf, and then press it gently upon the smoked paper; with the finger or with a small roller, (covered with woolen cloth, or some like soft material,) so that every part of the leaf may come in contact with the sooted oil paper. A coating of the smoke will adhere to the leaf. Then remove the leaf carefully, and place the blackened surface on a piece of white paper, not ruled, or in a book prepared for the purpose, covering the leaf with a clean slip of paper, and pressing upon it with the fingers or roller, as before. Thus may be obtained the impression of a leaf, showing the perfect outlines, together with an accurate exhibition of the veins which extend in every direction through it, more correctly than the finest drawing. And this process is so simple, and the materials so easily obtained, that any person, with a little practice to enable him to apply the right quantity of smoke to the oil paper and give the leaf a proper pressure, can prepare beautiful leaf impressions, such as a naturalist would be proud to possess. Specimens thus prepared can be neatly preserved in a book form, interleaving the impressions with tissue paper. [But we consider all leaf impressions vastly inferior to carefully pressed real leaves themselves.—ED.]

Don't Apologize.

A few months ago one of the Editors of the *Agriculturist*, (who was then *staying*, not *living* in the city, for nobody really *lives* there,) happened to call unexpectedly at a farm house by the sea-side. The good wife in asking him to dinner, apologized for the homeliness of the meal, regretting that she had nothing but clam pie; but "if she had known that he was coming, she would have had fresh meat." If there is anything in the world that *this* Editor is tired of, it is roast beef, and out of any possible bill of fare, that he could have chosen from, clam pie would have had his preference. We mention this to show that country people are much mistaken in thinking they must make a fuss over their city friends. Any change of food is pleasant, even if it is from richer to plainer. If you receive your city friends, give them as good as you have yourself, and don't make them feel uncomfortable by any unnecessary apologies for your fare. If you have only fried pork and potatoes, serve it neatly and eat it thankfully.—We have sometimes sat down to a table, and had our appetite almost destroyed by the hard things said about the food by the one who had spared no effort to make it first-rate.—Our first genuine New-England

Thanksgiving Dinner, was during the first vacation after we went from the West to an Eastern College. A widow lady in good circumstances, invited two of us class-mates to fill at her dinner table, the vacant places of her sons absent as mates of vessels at sea. After eating course after course of excellent food, and becoming literally surfeited, our hostess brought on some mince pie. We begged to be excused, but she instantly replied, "Take some of it, take a little; it is good, I know it is; I made it myself." Of course we did, and praised it too, for it deserved it. Had she, in fishing for a compliment, began by saying it was poor, with sundry reasons why it was so, we should have declined, and she would, ten to one, have been offended that her good pie was not appreciated. We have often referred to this incident, as illustrating the attractiveness of an open frank demeanor, when not accompanied by overweening self-esteem.—Sometimes when our friends tell us the *Agriculturist* is a good paper, we are tempted to say, "we know it is; we made it ourselves."

To Prevent Dampness in Walls.

It is one of the common complaints of those living in stone or brick houses improperly built, that they are damp and unwholesome. This need not be. Those which are damp, are so for the same reason that a pitcher of cold water "sweats" in hot weather. They condense the moisture of the air. The only way to prevent this, is to put some kind of non-conductor between the wall and the air of the apartments. A body of confined air is perhaps the best non-conductor. "Fur off" an inch or two from the solid wall, plaster tightly, and it will keep out frost and moisture better than a foot of solid granite. Even a cellar can be made dry and comparatively healthy by this simple treatment of its walls.

A Word More about Wringers.

From recent observation, we judge this valuable implement is coming into very general use all over the country, West as well as East, and we are glad to find this case, for we believe it to be a real labor-saving implement in the house, where such implements are needed as well as in the field. But we are sorry to see so many persuaded into buying wringers without cogs upon the rollers. We have heard the arguments of different dealers, and personally experimented a good deal with several kinds, and feel quite sure that the cogs are a very desirable addition, to say the least. The cogs compel the rollers to turn together, and this obviates the danger of one of them slipping upon and straining, if not tearing, the fibers when a wad or mass of clothing chances to be passed in. The rubber is also less likely to work loose when cogs are added. We have no interest whatever in anybody's manufacture, and care not whose is sold, but as we understand the matter, we hope the public demand will compel every maker to add the cogs; they will not increase the cost half so much as they will increase the value of the implement.

Wire Clothes Lines.

A subscriber writes from the telegraph office at Carlisle, Pa., that he has for some time used the annealed and galvanized telegraph wire as a substitute for the common clothes line, and finds it to work admirably. He says that it is cheaper than rope, more durable, and as it does not sag the clothes down into the dirt, there is a great saving of the good nature of the women folks. The wire being galvanized, there is no danger of injuring the clothes by rust. From its stiffness, the wire would be unhandy to move, and a line of this kind must therefore be put up permanently.—*Agriculturist*.

REPELLING WORMS FROM DRIED FRUIT.—Francis E. Rumford, New-Castle Co., Del., writes to the *Agriculturist*, that during the past year he has tested

the efficacy of sassafras bark for repelling worms from dried fruit. Two bags of dried apples were placed together in a chest, the one open, but with a few chips of the bark scattered through it, the other closely tied: the latter was infested with worms, the former entirely escaped.

SPIRITS TURPENTINE FOR MOTHS.—A subscriber to the *Agriculturist* writes that during the last of May he sprinkles turpentine on pieces of flannel, wraps these in paper, and lays them among clothing or articles subject to moths: this he says has proved a certain preventive against moths.

Good Way to Keep Smoked Hams.

Good hams, well cured and well preserved, are very convenient to have in the house. They are wholesome food, and are always ready when other meats are absent, or when a hurried, impromptu solid meal is needed. In our travels this summer we have eaten ham in a good many places, at the hotels and elsewhere—some very poor, full of salt and smoke, and then fried to a crisp, and some very good, sweet, tender, fresh, and just cooked through. The best we believe, was met with at Friend Quinby's, at St. Johnsville, N. Y., where we called after the usual dinner hour, and was just in a condition to enjoy a good repast quickly got up. For the benefit of the housekeepers of the *American Agriculturist* Family we enquired the process of curing the hams: They were put in brine in the usual manner last Fall or Winter, and when just fairly salted through, were moderately smoked. They were next cut into slices all ready for the table, and then about half cooked. The pieces were then packed closely into stone-ware crocks, and the lard cooked out poured over them. When there was not fat enough fried out to cover them, some melted lard was added. The crocks were covered and set away, and whenever ham is wanted, it is only necessary to take out a few pieces and finish the cooking, in less than five minutes—with no trouble or time wasted in hunting up and sharpening the knife and saw. We can testify that in the case referred to, the hams were as sweet and tender as could be desired. The method appears to be worthy of general adoption.—We may add here, that nine out of ten housekeepers cook ham *too much* to leave it either palatable or digestible. It has not a raw taste, if barely heated well through. By the above method of preserving, the salting and smoking need only be carried to just the desired point to make them most palatable.

Hints on Cooking, etc.

Green Corn Pudding.—Contributed to the *Agriculturist* by N. Burwell, Litchfield Co., Conn.: Take 12 good sized ears of corn, grate or shave it off thin, add to it 2 quarts of milk, 1 cup of sugar, a small piece of butter, 2 eggs well beaten, 1 teaspoonful salt, 1 of saleratus, and spice with nutmeg. Bake 3 hours.

Cooking Peas.—Contributed to the *Agriculturist* by Mrs. S. Hubbard, Switzerland Co., Ind. Gather and shell the peas at night, and put them in cold water, in which you have previously thrown a handful of salt. In the morning pour off the water and put them in boiling water. Let them stew for 35 minutes, and then put in $\frac{1}{2}$ cupful of sweet cream, with a piece of butter the size of an egg, and a tablespoonful of flour. Stew for 5 minutes longer—send to the table hot, and you have a dish fit for an epicure.

"Blackberry Flummery."—Contributed to the *Agriculturist* by a "Jersey Farmer's Daughter." Stew blackberries, moderately sweetened with sugar or molasses, until soft; mix a thickening of flour and water, and stir into the berries. Continue stirring while it boils, until the whole becomes incorporated into a mass just sufficiently thick to pour into moulds; when cold turn out for dessert—to be eaten with milk or cream.

To Preserve Tomatoes.—Contributed to the *Agriculturist* by M. A. Goodale, Suffolk Co., N. Y. For 7 lbs. of ripe tomatoes, use half their weight of finely pulverized sugar. Stew $\frac{1}{4}$ pound of green ginger root in water until soft. Remove the skins from the fruit without scalding. Dissolve and boil the sugar in a little water until it is thick, then put in the tomatoes, and take from the fire. When cool, skim them out, heat the syrup, throw in the fruit, until the process is repeated three times. Then add all together, and boil gently until done. Let the syrup become thick before the tomatoes are put in it. Seal the jars with paste made of rye flour, wet with cold water, and keep in a dry place. This will keep all Winter.

Plum Catsup.—Contributed to the *Agriculturist* by Mrs. B. F. Sharp, Geanga Co., O. Boil together for two hours, 9 lbs. plums, 6 lbs. sugar, and 3 pts. vinegar. Just before removing from the fire, add one tablespoonful each of allspice, cloves, and cinnamon. Keep in small jars well corked. The same directions will answer for currants or gooseberries.

Cottage Pudding.—Contributed to the *Agriculturist* by Mrs. S. C. Frye, Merrimac Co., N. H. Mix $2\frac{1}{2}$ tablespoonfuls of melted butter, 1 cup of white sugar, 1 egg, 1 cup of sweet milk, 1 pint of flour, 1 teaspoonful of soda and 2 of cream of tartar; flavor with lemon. Bake in a moderate oven $\frac{3}{4}$ hour.

Sauce, for this or other puddings: 1 egg, $\frac{3}{4}$ cup of butter, $1\frac{1}{2}$ cups white sugar, $\frac{1}{2}$ glass wine, 2 tablespoonfuls of cream. Set a dish containing it in a vessel of hot water, and stir half an hour. [Many a man has come to dissipation and to a drunkard's grave, by having a taste for alcohol formed while eating a mother's or wife's good wine and brandy sauces.—ED.]

Economy Cakes.—Contributed to the *Agriculturist* by Mrs. Harne, Huueterdon Co., N. J. Take 1 quart of mashed potatoes, 1 egg, $\frac{1}{2}$ teacup wheat flour, a tablespoonful of butter, and add milk to form a thick batter. Season with pepper and salt. Mix all well together; make into cakes $\frac{3}{4}$ inch thick, and fry brown where meat was previously fried. These can be recommended.

Cream of Tartar Cake.—Contributed to the *Agriculturist* by Lizzie Field, Orleans Co., Vt. Take 3 cups of sugar, 3 eggs, $\frac{1}{2}$ cup of butter, 1 cup new milk, $\frac{1}{2}$ teaspoonful of soda, 1 teaspoonful of cream of tartar, and 4 cups of flour. Mix the cream of tartar with the flour, and the soda with the milk, and add a little salt. Season to taste. Bake in shallow tins, and cut in squares.

Puff Cake.—Contributed to the *Agriculturist* by "Martha." Take 2 cups of white sugar, 3 eggs, 1 scant cup of butter, 1 cup of sweet milk, 1 teaspoonful of saleratus, 2 of cream of tartar, 3 cups of flour. Flavor to taste. Stir together at once.

Valuable Recipes.—For preserving the complexion: temperance. For whitening the hands: honesty. To remove stains: repentance. For improving the sight: observation. The most valuable ring: the home circle. For improving voice: civility. The best rouge: modesty. The best eye-water: charity. A cure for deafness: attention. A mixture to clear the throat: cheerfulness. A wash for wrinkles: contentment. A general beautifier: contentment.

THE APPLE-PIE MELON.—Our experience with this has not been favorable, but occasionally a subscriber commends it. L. C. Cook, Saratoga Co. N. Y., writes, "it is an excellent substitute for apples, when you 'get the knack' of using it. For pudding I believe any one would prefer it to rice. It makes excellent sweet pickles." Perhaps our correspondent will do a favor by giving her "knack" to the readers of the *Agriculturist*.

MARRYING A GARDENER.—An English writer, in his advice to young married women, says that their Mother Eve married a gardener. But he forgot to add, that in consequence of the marriage, the gardener "lost his situation."



INTRODUCTION OF THE PETS.

Engraved for the American Agriculturist.

Young Animals—Curious Traits.

"This is Miss Daisy, Master Nero, and you must be very kind to her," is what the lad in the picture appears to be saying, by way of introducing his pets to each other. The animals are both evidently pleased with their owner, and under his training will doubtless be very good friends to each other. This managing of pets is one of the pleasantest and most interesting things for young people in the country. It will surprise you to discover how much such creatures may be taught, and to notice the traits of character they will show. By a little care, while young, animals of the most opposite natural qualities may be brought to live together on the best of terms. The writer has seen a dog, a lamb, and a kitten, frolicking together by the hour. Recently he was much interested by the conduct of a dog which was apparently attacking a chicken. He seemed to be biting it with the intention of making a meal of it; but on closer examination it proved that the chicken had been hurt in some way, and the dog was carefully trying to set it upon its feet. Failing in this, he lay down beside it, and commenced licking its wounded leg. A correspondent of the *Agriculturist*, "Lex," relates the following incident. About a month since, two cats had each a "family" within a few days of each other. All the kittens were drowned except two of each set, which, with their respective mammas, were snugly settled in a couple of boxes in the same room. On the following day, both families entire—or rather what remained of them—were found coiled up together in the same box. They were not disturbed, and thenceforward the two mothers ceased to recognize any distinction between the two pairs of kittens. They would alternately nurse the whole lot, or both affectionately entwined together, divide the "labor of love," just as the kittens, lying snugly between them, would happen to turn to the one or the other. But this is not all. Eddie brought a couple of young squirrels from the woods, which soon became very gentle. In less than two days, both were found in the box among the cats and kittens, drawing from either or both the maternal founts, upon a like footing of equality and community with that previously enjoyed by the kittens! The old cats seemed to acquiesce fully in the arrangement, and so it proceeded for a couple of weeks, until one of the squirrels was accidentally killed. The other, having the freedom of the house, is now a romping playmate of both cats and kittens, who continue uniformly to treat him as "one of the family." Many such incidents have come to our knowledge, showing that this department of natural history is not one of the least interesting that can be studied. Our young readers, especially in the country, can find almost endless amusement in experimenting upon it, and at the same time, the patience and kindness they will be required to exercise in order to be successful, will have a

happy influence on their own dispositions and characters, and teach them forbearance toward their own fellows.

An Eccentric Physician.—Anecdote.

A friend relates for the *Agriculturist*, the following anecdote of a skillful physician, Dr. M—, who is still practising in Rhode Island. He had a way of doing things all his own, and no one could tell beforehand, "where he would come out." On one occasion he was called to perform a very important surgical operation on a young man living in the country. Arriving there he found collected a large number of neighboring farmers and others, who had come from curiosity to witness the operation. He observed that the house was scantily furnished, and other evidences of the poverty of the family were apparent, and he inquired whether the mother, a widow, was ready to pay the \$50 which he should charge. She replied that she could not at present, but would do so as soon as possible. The doctor immediately informed the bystanders, that he would do nothing until the money was paid, and asked them if they could not make up the amount. This was soon done, but not without many condemnations of the hard-hearted doctor, who, however, paid no attention to the remarks, but immediately went on with his work, which he performed successfully. As soon as it was over, he stepped up to the mother, and remarking "the boy will need some things before he gets well," slipped the \$50 into her hand, and was off before he could hear her thanks, or the loud praises of those who had just been denouncing him as a grasping miser.

Boys' and Girls' Garden—No. 6.

Perhaps it will be best for our young friends, before they read this garden talk, to look over again the lessons for July and August. We wish you to be perfectly familiar with what is said in July, about the Flax flower. We have taken the Flax as our starting point, our model flower, and you can not have its structure or the "way it is got up," as people sometimes say, too thoroughly by heart. We there showed you the floral envelopes—the calyx and corolla, and the essential organs—the stamens and pistils—in their relations to one another. In August we endeavored to show you how this plan of the flower is varied to produce other shapes, and illustrated this in various ways. We showed you, by means of the Tomato and Morning Glory, that a variety of forms could be produced by the union or growing together of the parts of the corolla, and that in the Pea we had a very different looking flower, by the unequal size of the petals, and the partial union of two of them. In this lesson we wish to continue to show the variations from the Flax, our pattern flower, and to have you see that other parts, besides those of the corolla, can unite more or less into one piece. If you examine the calyx of the Pea, you will see that

the parts or sepals are joined together. So you see that by merely uniting the parts of the calyx and of the corolla in different degrees, we get a great variety of fashions. But this kind of union is not confined to these parts, it extends to the stamens and pistils. The flower of the Tomato will show you one kind of union of the corolla, if you gently separate the stamens, the anthers will be found to be joined together by a thin film or skin. The Pea shows the union of



Fig. 27.—STAMENS OF PEA.

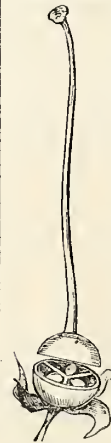
the stamens in a much more striking manner. Carefully pull off the petals of a Pea, and you will find that the stamens are joined together, not this time by their anthers, but by their filaments. So you see that there are two different ways by which stamens can be united. The united stamens of the Pea form a sort of tube which encloses the pistil, but the tube is not a perfect one. There are ten stamens, but one of these is not joined to the rest, and with a little care you can separate it, leaving nine stuck together and one free. (Fig. 27.) These will answer for illustrations of the several different ways in which the stamens are united.

Union between the pistils is very common. We have not said a great deal about the pistil thus far, but this is a most important part of the flower, and we shall say more of it by and by. The pistils vary greatly in number; in the Pea we have but one, and in the Flax we have five, but they are united into a solid body by their ovaries, though their styles are distinct. (Fig. 28.) The pistil of the Morning Glory consists really of three single pistils joined together not only by their ovaries, but by their styles also. There are generally as many cells or divisions in the ovary as there are pistils joined together, and when we cut the ovary of the Morning Glory across, and find three partitions (fig. 29), we may be safe in concluding that it is not a simple pistil, but one formed by the joining together of three so completely as to appear like one. In these different illustrations we have shown the union of parts of the same kind with one another, as of petals with petals, stamens with stamens, etc.



Fig. 28.—PISTIL OF FLAX.

Now we wish to call your attention to a different kind of union, one in which the parts of one set are joined to those of another. This brings us to another set of forms of the flower, and those which often make its structure difficult to understand. Beginning with the floral envelopes, we often find the calyx and corolla cohering together, as will be seen if you examine the blossom of the Melon or Cucumber. A union may take place between the stamens and the corolla. If you split open the flower of the Morning Glory you will see (fig. 30) that the lower parts of the filaments are attached to the corolla. Now this kind of union may go on still further, and the stamens, corolla and calyx, all be united to the ovary. The Melon and Cucumber give us an illustration of this; here (Fig. 31) the corolla appears to come out of the top of the ovary, but really the other parts are joined to the ovary and are free at the top. It is just as if the other parts of the Flax flower stuck to its ovary and only appeared above it.



F. 29. OVARY.

Still other changes are produced in flowers by the absence of one set of parts. You will recollect that it has been stated that the stamens and pistils were the essential parts; if these are present, the flower is a perfect one, and will perfect its seeds no matter if the corolla or calyx or both are absent. There are many flowers which have a calyx and no corolla, and many others which have neither. Among our plants chosen for illustration, the Oat has neither calyx nor corolla. It is rather late for you to examine the flower of the Oat, but you may, perhaps find some among the stubble of the oat field. Here we have neither calyx or corolla, but green scaly, or chaffy parts called *glumes*. Fig. 32, will help you to understand the flower of the Oat. Beginning below you have a pair of empty scales, and within these two pairs of scales, and inside of these pairs you will find the pis-



Fig. 30.—COROLLA OF THE MORNING GLORY—OPENED.

til and stamens. One of these scales usually bears a beard or bristle as shown on the right hand of the Oat figure. Though the flower of the Oat has neither calyx nor corolla, it has both stamens and pistils, hence it is perfect. Where either stamens or pistils are absent, the flower is imperfect. In the Melon and Cucumber, and all of the Squash family, the stamens are contained in one flower, and the pistils in another. In each vine some of the flowers have stamens only, and are staminate or sterile, and other flowers have pistils only, and are pistillate or fertile.

Fig. 31 represents the pistillate flower of the Cucumber, and fig. 33, the staminate flower. The pistillate flower is easily known by its having its ovary apparently below the corolla, this contains no stamens. The staminate flower, fig. 33, has no pistil, but stamens only, and these in this particular family of plants, are not only united, but the anthers are bent up in a most curious manner as shown at the left hand of the figure. In the Melon, Cucumber, Squashes, and all plants of that family, we have the staminate and pistillate flowers both in the same plant, but there are many cases in which these are in separate plants, and separated still further, as in the Hemp, Hop, Willow, etc. Now we have already stated that the ovary—the lower part of the pistil—contained the ovules which were to become seeds, and that these would never be perfected unless the pollen—the fine powder furnished by the anthers—came in contact with the stigma. When the stamens and pistils are both in the same flower—as in the Flax—this contact of the pollen, or fertilization as it is called, can readily

Fig. 31—PISTILLATE FLOWER OF THE CUCUMBER.

take place; but in the case of separated flowers like the Melon, etc., the pollen has to be carried to some distance before it can reach the pistils. The pollen grains (mentioned in the July lesson) are finer than the finest dust, and are readily blown about by the winds. This is one way in which pollen can pass from a staminate to a pistillate flower, but insects also play an important part. Bees especially, enter flowers for their sweet juices, which they convert into honey, and for pollen, which they use as food for their young. Every one has noticed how busy bees are among all the plants of the Squash family, to which the Cucumber and Melon belong. They go about from flower to flower in search of food, and at the same time they carry pollen from the staminate to the pistillate flowers, and thus render the plant an important service. We have probably said enough about the various shapes which the flower assumes, to enable you to find out in all our wild flowers, and in all the cultivated single ones the real position of the parts. Generally you will find that flowers differ from the Flax in the union of parts of the same kind, the unequal size of parts of the same kind, the union of parts of different kinds, or the absence of either corolla, stamens, or pistils. We do not expect to teach you every thing about plants in these lessons, but hope that you will, by a thorough study of the illustrations we have chosen, get such a general idea of plants, and see that there is so much about them that is worth studying, that you will, another year, take up some hook on the subject, that will give you a more thorough knowledge than we can impart in these short lessons.



Fig. 32—FLOWER OF OAT.

take place; but in the case of separated flowers like the Melon, etc., the pollen has to be carried to some distance before it can reach the pistils. The pollen grains (mentioned in the July lesson) are finer than the finest dust, and are readily blown about by the winds. This is one way in which pollen can pass from a staminate to a pistillate flower, but insects also play an important part. Bees especially, enter flowers for their sweet juices, which they convert into honey, and for pollen, which they use as food for their young. Every one has noticed how busy bees are among all the plants of the Squash family, to which the Cucumber and Melon belong. They go about from flower to flower in search of food, and at the same time they carry pollen from the staminate to the pistillate flowers, and thus render the plant an important service. We have probably said enough about the various shapes which the flower assumes, to enable you to find out in all our wild flowers, and in all the cultivated single ones the real position of the parts. Generally you will find that flowers differ from the Flax in the union of parts of the same kind, the unequal size of parts of the same kind, the union of parts of different kinds, or the absence of either corolla, stamens, or pistils. We do not expect to teach you every thing about plants in these lessons, but hope that you will, by a thorough study of the illustrations we have chosen, get such a general idea of plants, and see that there is so much about them that is worth studying, that you will, another year, take up some hook on the subject, that will give you a more thorough knowledge than we can impart in these short lessons.



Fig. 33—STAMINATE FLOWER.

Generally you will find that flowers differ from the Flax in the union of parts of the same kind, the unequal size of parts of the same kind, the union of parts of different kinds, or the absence of either corolla, stamens, or pistils. We do not expect to teach you every thing about plants in these lessons, but hope that you will, by a thorough study of the illustrations we have chosen, get such a general idea of plants, and see that there is so much about them that is worth studying, that you will, another year, take up some hook on the subject, that will give you a more thorough knowledge than we can impart in these short lessons.

Button-Hole Scissors.

Here Boys, is something useful which you can make for your mothers and sisters. It is not a new affair, though most things are new to boys. The one from which this little picture is sketched, was made forty nine years ago, and is good yet! An aged friend of ours, whose "Golden Wedding" occurs next April, soon after he was married, took an old broken-pointed pair of scissors and filed a notch out of each blade, close to the joint, as you see in the engraving. The ends were then ground off so as to leave about half an inch of cutting blade, or just enough to cut the smallest button hole. Larger holes can be made by a second cut with the blades. The next time you see mother or sister trying to make a button-hole with a knife or a chisel, if you can find an old broken pair of scissors or shears, go privately and get them up something convenient, like that described above. Be careful not to let the file touch the cutting edges to be left, for they should be sharp. The notches should be 1/2 to 1 inch long, so as not to cut the edge of the cloth.



No. 50. Illustrated Rebus.—A truin too often forgotten.

No. 51. Mathematical Problem.—The following was contributed to the Agriculturist by Benjamin Albertson, Bucks Co., Pa., unaccompanied by any answer. From a hasty examination, it appears to us that not enough conditions are given for its solution; but we submit it to the mathematicians among our readers, for their decision. "A. B. and C., with their wives, P. Q. and R., went to market to buy pigs. Each man and each woman bought as many as they gave shillings for each pig. A. bought 23 pigs more than Q; B. bought 11 more than P.; also each man laid out 63 shillings more than his wife. Which two persons were man and wife?"

Questions to Teach Observation.

Do cats and dogs have the same number of claws or nails on each foot? What is the difference in the manner of cattle and horses rising, after lying down? What is the difference in the teeth of horses and cattle? How many have each? How many has the sheep? Answers to these need not be sent in, as all can ascertain them by simply examining for themselves.

Answers to Problems and Puzzles.

Answers to Problems and Puzzles in August number, (page 249). No. 47. Illustrated Rebus.—He bears (or she bears) the palm, that ch ear full y follows duty; or, He bears the palm that cheerfully follows duty. No. 48. Arithmetical Problem. He travels 40 miles an hour in going, and 25 miles an hour in returning. No. 49. Arithmetical Problem, has thus far received no answers by our readers; we therefore leave it unanswered for another month. Note.—In printing the answer to No. 46, last month, the figures were accidentally reversed. It should read, A, should receive \$98 and 232-331; B, \$171 and 99-331. The last figures are fractions, not cents and decimals, as some misunderstood.

No. 52. An Enigma.—Contributed to the American Agriculturist by W. Painter, Harford Co., Md.

I'm a mystical word as you may perceive,
And oft appertain to the daughters of Eve;
My plant good nature no mortal may doubt,
For I still am the same, tho' you turn me about.

If you cut me in twain each part you will find
Is composed of materials of just the same kind.
Divide me in three, and, if rightly disposed,
Of a double each portion you'll find is composed.

Though intended by Nature for care and protection,
You would think that I oft stood in need of correction,
For sometimes asunder I rudely am torn,
And to far distant countries each portion is borne;

One half you will find in the far distant South,
In a Town by a river not far from its mouth;
While the other (oh! shame that I thus am abused,)
In a Town far in Europe is constantly used.

Like true love that burns with a still constant flame,
My beginning and ending are always the same;
And to make you more closely my case understand,
I may say that my half is now fast in your hand.

Partial List of

PREMIUMS for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the American Agriculturist.

(Premiums open to all—No Competition.)

Owing to the greatly increased cost of everything connected with publishing, and our determination not to raise the subscription price, and not to diminish the intrinsic value of the paper, but rather to improve it, we had expected to give no premiums hereafter, excepting the Great Strawberry which will be a premium to every subscriber, and ought to be enough to secure as many subscribers as could be desired. But the previous plan has worked well, and many of those who have obtained premiums hitherto, express a strong desire to have an opportunity to get some of the higher premium articles. After looking the ground all over, and making a careful estimate, we have decided to offer one general list, as named in part below. The list of premiums is not yet made up, as we have not completed our arrangements with manufacturers, nor fully tested some new articles proposed to be added. Next month the list will be full. Any articles added to the present list, will be at about the same terms as to cost, number of subscribers, etc. We solicit any suggestions as to the premiums, if sent very soon. As many want to begin canvassing now, so as to take advantage of the special inducements now offered, of extra copies (see page 283,) and of an early place on the strawberry list, etc., we give the partial list of premiums this month. Therefore, any one desiring to do so, can go to work at once, and perhaps this very month get names enough for a good premium. All names sent in now, get both the strawberries and the three extra numbers. Note that in all cases the five cents extra are needed when the "Agriculturist Strawberry" plants are desired. This will, of course, be paid by the subscribers themselves.

The names (with money for each,) can be sent in as fast as gathered, so that the subscribers can begin to receive their papers; the premium will be paid to any one as soon as his list is completed. But, let it be distinctly noted, we can reckon for premiums only those names, which are marked as for Premiums when they are sent in. Hereafter all the separate names thus sent and marked as for premiums, will be at once numbered in a special book, with the name of the sender, so that we can at once turn to a canvasser's list, and see when it is full.

Premium clubs need not necessarily be all at one Post-Office. Each list ought to contain a fair proportion of new names, for it is to bring the paper before new subscribers, that the premiums are in part intended.

N. B.—Every article offered, is a good one—nothing second-hand or of poor make, or quality, or kind. We intend in all cases to deal fairly with every one, and esteem as special friends those who labor to promote the interests and circulation of this journal.

This list may perhaps be altered or amended from time to time, if circumstances or change of prices, etc., require, but all names sent in during any month, will be reckoned at the premium rates announced for that month.

We have not space to describe the premiums this month. Every article is really worth having. The Clothes-Wringer is a capital thing, and ought to be in every family, as a labor-saver and a clothes-saver. The other articles are also all excellent.

Table of Premiums for 1864.

Table with columns: Names of Premium Articles, Price of Premiums, Names at 50 cents, Names at 25 cents. Includes items like Goon Books, Best Family Clothes Wringer, Nonpareil Washing Machine, Sewing Machine (Wheeler & Wilson), Sewing Machine (Wilcox & Gibbs), Woodruff's Mercurial Barometer, Woodruff's Mercurial Barometer, The Aquarius, Five Octave Melodeon (best), Four Octave Melodeon (best), Seven back Volumes Agriculturist, Six do do do, Five do do do, Four do do do, Three do do do, Two do do do, One do do do, Jacob's Portfolio Paper File, Osborn & Hodgkinson's Paints, Premium Cylinder Plow, Eagle Plow No. 20, Hay and Straw Cutler (best), Steel-tooth Cultivator (best), Family Lard and Wine Press.

*Books.—Any person sending in 25 or more subscribers, may select from our book list (page 285) to the amount of 10 cents for each name sent in at the club price of 80 cents, or to the amount of 30 cents for each name at \$1. (No books sent for less than 25 names). The United States books will be delivered anywhere in the United States, or to the border of the British Provinces, free of all cost, by mail or express. Many Farmers' Clubs have, by means of this premium, obtained a good library.

Agricultural Exhibitions in 1863.

STATE FAIRS.

Table listing State Fairs for 1863, including dates and locations such as 'Amer. Inst. New-York', 'Intern'l Wheat Show', 'National Horse Fair', etc.

COUNTY FAIRS.

Table listing County Fairs for 1863, organized by state (Maine, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Indiana, Iowa) and county.

Table listing Ohio fairs, including locations like Ashtabula, Stark, Muskingham, Franklin, Madison, Highland, etc., and their dates.

Table listing Michigan fairs, including Hillsdale and Lanawee, and Oakland.

Table listing California fairs, including Santa Clara Valley, Contra Costa, and San Joaquin.

Table listing Canada West fairs, including Lanark, South Lanark, West Middlesex, Toronto, Huron, and Durham-West.

Table listing Wisconsin fairs, including Vernon, Green Lake, Sheboygan, and Monroe.

Table listing Sundry Counties fairs, including Champlain Valley, Newcastle, Gasconade, King's Co., and Davis.

TOWN FAIRS.

Table listing Town Fairs for 1863, including Trenton, Westfield, Ellsburgh and Adams, Afton, Oxford, Harpersville, Brookfield, Hamilton, Kirtland, Twinsburgh, Orwell, Gauga Free, Conneaut, Madison, Union, and Tuscarawas Valley.

Business Notices.

Eighty Cents a Line of space.

Pure and Economical Articles for Family Use.

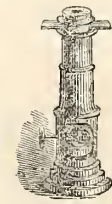
Pyle's Cream Tartar, Pyle's Saleratus, Pyle's Baking Soda, Pyle's O. K. Soap.

Housekeepers will find these articles reliable, and the cheapest in the end. Sold by Grocers everywhere.

JAMES PYLE, Manufacturer, 350 Washington-street, corner Franklin, New-York.

THE CRAIG MICROSCOPE.

This is the best and cheapest microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters or 10,000 times, and is so simple that a child can use it.



Lands-To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty acre tracts, at from \$15 to \$20 per acre; payable within four years.

The Markets.

AMERICAN AGRICULTURIST OFFICE, New-York, Wednesday Morning, Aug. 19, 1863.

Table showing transactions at New-York markets, including receipts and sales for Flour, Wheat, Corn, Rye, and Barley.

The Domestic Produce Markets have been exceedingly dull the past month, owing in part to the extreme heat, but especially to the great decline in the relative value of gold as compared with currency.

CURRENT WHOLESALE PRICES.

Table listing current wholesale prices for various commodities like Flour, Sugar, Coffee, etc., with prices for July 18 and August 19.

N. Y. Live Stock Markets.—The Cattle markets have been fairly supplied during the past five weeks, the average being 5,247 head per week.

to 10½c. per lb. estimated dressed weight for prime animals; 6@9½c. for poor as to quality, to good.

SHEEP AND LAMBS are selling well at 5c. @6c. ½ lb. live weight. Lambs 7½@9c. Store sheep \$3½@\$4½ each.

Washing Machine not endorsed.

We have seen a handbill of a washing machine, invented by 'Wm. M. Doty, late Associate Editor of the American Agriculturist.' Lest this should imply any endorsement, we would say, that we have not proved the machine, and can not speak *pro* or *con*. Mr. Doty was formerly employed temporarily in this office, assisting in the business and editorial departments, but this has nothing to do with the merits or demerits of the machine, and should not be so used or construed.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.
Fifty cents per line of space for each insertion.
One whole column (15 lines), or more, \$30 per column.
Business Notices, Eighty cents per line of space.

BEAUTIFUL COUNTRY HOMESTEAD
Near New-York City.

All finished and ready to be enjoyed without further care or trouble.

A very desirable Homestead, of nearly 2 acres, within fifty minutes ride from Wall-st.,—hourly communication from 6 A. M. to 7½ P. M. and at 11 P. M.

The Buildings are commodious, and the grounds are fitted up in the most complete order, with every desirable kind of shrubs, trees, fruits, etc., etc.

In short, it is just such a place as any one would desire to enter upon and enjoy without further trouble. Good Churches and Schools very convenient.

It will be sold for less than it cost in gold currency.—Price \$17,000, which may be reduced by sale or reservation of three or four valuable building lots, if the whole ground is not wanted. Part of the purchase money may remain for a term of years if desired. For full particulars, inquire at the *Agriculturist Office*, 41 Park Row, New-York.

THE CHAMPION.

HICKOK'S PATENT PORTABLE KEYSTONE
CIDER AND WINE MILL.
10,000 in Use and Approved.

This admirable machine is now ready for the fruit harvest of 1863. It is, if possible, made better than ever before, and well worthy the attention of all farmers wanting such machines.

It has no superior in the market, and is the only mill that will properly grind Grapes. For sale by all respectable dealers.

If your merchant does not keep them, tell him to send for one for you, or write to the manufacturer yourself. Address the manufacturer, W. O. HICKOK, Eagle Works, Harrisburgh, Pa.

GRAPE VINES.

Planters and Dealers will please send to WM. PERRY & SON, BRIDGEPORT, CONN., for their price list for 1863. CONCORD and DELAWARE Vines of superior quality, at low rates.

TREMBLEY'S UNION STRAWBERRY PLANTS. Sent by Mail until the 1st of Nov. Postage 10c. for 2 dozen and under, or 25c. per 100. Mode of cultivation with each package post paid. Address S. K. TREMBLEY, Bergen Point, N. J.

WANTED TO RENT, by a practical FRUIT GROWER, a small place of 10 to 20 acres, good soil and buildings. Within 2 hours of New-York by steam boat, New-Jersey preferred. Address with particulars "FRUIT GROWER," care of American Agriculturist, 41 Park-row, N. Y.

SEWARD FEMALE INSTITUTE.—Hon. Wm. H. Seward, President—Miss Mary E. Hotchkiss, Principal. Winter Session opens October 19th. Board and tuition—English and French, \$140 per year.

Location Florida, Orange Co., N. Y. References Rev. James Kelly, D.D. Brooklyn, and R. G. Pardee 593 Broadway, New-York.

AGENTS

WANTED EVERYWHERE TO SELL WOODRUFF'S PATENT PORTABLE BAROMETERS.
CHARLES WILDER, Peterboro', N. H.

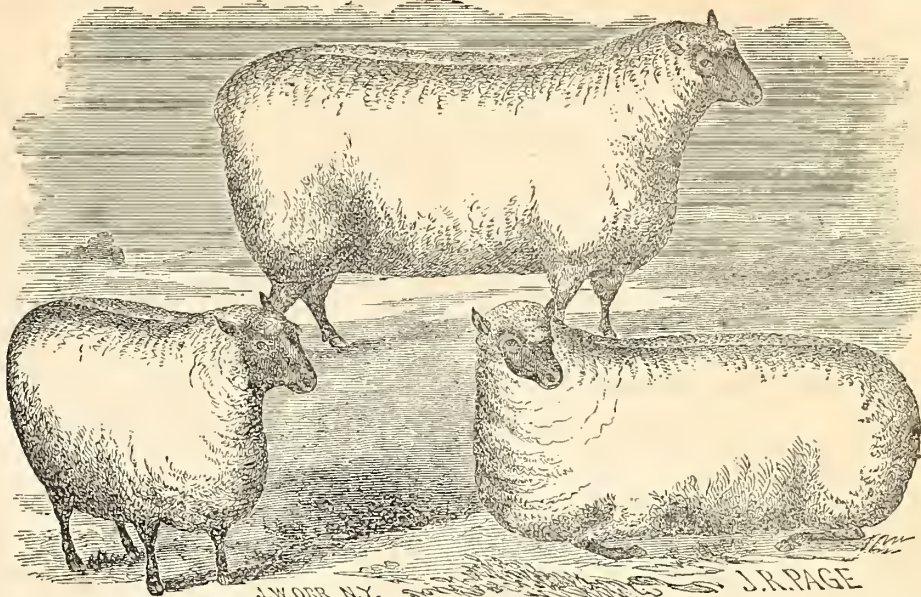
A GARDENER (married, German) who thoroughly understands every branch of gardening, care of houses, laying out grounds, and can give good references, desires a situation.
A. M. HENNING, Hoboken, N. J.

WANTED—By a young man 20 years of age, a situation with an intelligent Fruit Grower to learn the business. Address, Box 2812, N. Y. P. O.

PREMIUM FARM GRIST MILL.

SIMPLE, CHEAP, AND DURABLE.
ADAPTED FOR HORSE POWERS.
GRINDS RAPIDLY.
SEND FOR DESCRIPTIVE CIRCULAR, and address
WM. L. BOYER & BRO.,
Philadelphia, Pa.

J. C. Taylor, Holmdel, N. J., Breeder of Webb South Down Sheep.



Would say to the readers of the *Agriculturist*, after 15 years experience, that no sheep for mutton, wool, easy keeping and as a cross, either to produce wethers or early lambs for the butcher, can equal the South Down, and that no South Downs have reached the perfection of the Webb South Down. Having made it my constant aim to stand ahead of all other breeders for 9 years past, and procured of Mr. Webb his very choicest stock animals by much effort and fabulous prices, I now claim to have a flock that has no superior in England or America, and now offer rams, ewes, ram lambs, and ewe lambs for sale, at prices according to quality and age, from \$22 to \$150 each.

Wishing to show my flock to All; Persons leaving either New-York or Philadelphia at 6 A. M., on Camden and Amboy R. R. for Freehold, can reach my place at 11 A. M., examine my sheep 2½ hours, and reach either city the same evening. The Keyport boats now leave foot of Robinson-st. at 4 P. M., in a few weeks at 3 P. M. Inquire at *Agriculturist* office of H. B. LANE.

Saratoga Springs Remedial Institute.

THIS INSTITUTION WAS ESTABLISHED TO MEET the wants of a class of Patients who feel the necessity of leaving their homes for medical aid. Its location was chosen in view of the medicinal advantages of the Springs. Since graduating at the New-York Medical University, we have availed ourselves of the facilities found only in our large cities for the study of disease, and have given special attention to those of Women; also, of the Throat, Heart, and Lungs.

As medical practitioners we treat all diseases; but Chronic Affections claim our principal attention.

While this is not a Water-cure, the invalid will find a good gymnasiun, and all the facilities of a well-conducted scientific Hydropathic Establishment.

The home reputation of a physician should be the basis of public confidence. For a fuller knowledge of the Institute, we refer to our Circular, and the reliable citizens of our village.

The medical profession are invited to acquaint themselves with the Institution.

S. S. STRONG, M. D., Saratoga Springs, N. Y.
S. E. STRONG, M. D., " " " "
REFERENCES.—Rev. Bishop E. S. Jones, D. D., New-York; Rev. Bishop M. Simpson, D. D., Evanston, Ill.; Rev. E. Nott, D. D., LL. D., President of Union College, Schenectady, N. Y.; Rev. Abel Stevens, LL. D., N. Y.; Rev. John Woodbridge, Saratoga Springs, N. Y.; Hon. J. B. McCau, Saratoga Springs, N. Y.

Canvassing Agents

wanted in ALL PARTS OF THE COUNTRY upon KETTEL'S ENGLISH AND GERMAN HISTORY OF THE GREAT REBELLION. The business will pay. For terms address N. C. MILLER, 3 Park Row, New-York.

Wanted! Scrap Iron, Old Boilers and Old Iron Machinery.

The subscribers will pay cash for any quantity of wrought or cast scrap iron, old boilers and old iron machinery; delivered at their Warehouse 28, 30 and 32 Terrace-st., Buffalo, or at their Rolling Mill and Nail Factory, Black Rock, N. Y. Buffalo, N. Y., July 1863. PRATT & CO.

INGERSOLL'S IMPROVED HORSE AND HAND POWER HAY AND COTTON PRESSES.

These machines have been tested in the most thorough manner throughout this and foreign countries to the number of over 1200. The Horse Power is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information, with cuts, prices, &c., or call and examine personally. Orders promptly attended to, by addressing INGERSOLL & DOUGHERTY, Greenpoint, Kings Co., L. I.

Highland Nurseries.

100,000 Standard Apple trees 6 to 8 feet.
50,000 Dwarf Apple trees 50,000 Standard Pears.
50,000 Dwarf Pears 250,000 Standard Cherries.
20,000 Dwarf Cherries 20,000 Plums.
50,000 Peaches—Stocks of all kinds. Roses—Vines—and all Nursery products at the very lowest rates.
Address COWLES, ROBERTS & CO.,
Syracuse, N. Y.

PREMIUM CHESTER WHITE PIGS. Progeny of Hogs that have taken State and United States Premiums sent by Express to all parts of the United States, Canada, Cuba and South America. Address N. P. BOYER & CO. Gun Tree, Chester Co., Penn.

FARM IMPLEMENTS of every variety of most approved patterns—Threshing Machines, Fan Mills, Corn Shellers, Hay and Stalk Cutters, Cider Mills and Presses, Wheel Barrows, Carts, Waggon, &c. Seeds—Garden, Field, and Flower Seeds—Choice and reliable. Seed Wheat and Rye.—Grass Seeds, very choice. Guano, Bone Dust, Phosphates, &c., &c. Orders filled for every variety Trees, Plants and Roots. Bulbous Roots of all kinds.

JOHN VANDERBILT,
23 Fulton st., near Fulton Market, N. Y.

POTATO DIGGERS.

CHICHESTER'S combined Hilling, Hoing and Potato Digger Machine. Price \$25.
BYRAM'S combined Potato Digger and Double Mould-board Plow. Price \$7.
Manufactured and sold only by GRIFFING, BROTHER & CO., 60 Courtlandt-st., New-York.

Cider Mill Screws.

We are making THE CHEAPEST AND BEST CIDER MILL SCREWS IN THE WORLD. Whole length, 4 feet. Length of thread 3½ feet. Diameter of screw, 4 inches. Weight, including nut, 125 pounds. Price, \$9.00 each. Address COWING & CO., Seneca Falls, N. Y.

Cider and Wine Mills.

KEYSTONE, EMERY'S & HUTCHINSON'S PATENTS. Also WINE PRESSES, from \$5 to \$10. GRIFFING, BROTHER & CO., 60 Courtlandt-st., New-York.

CIDER PRESS SCREWS.—Five feet long, four inches in diameter. These powerful screws bring out a third more juice than portable presses. OLD PRICES. Send for a circular. Made by L. M. ARNOLD, Poughkeepsie (N. Y.) Foundry.

HUTCHINSON'S IMPROVED FAMILY WINE AND CIDER MILL. PRICE \$18. Sold by GRIFFING, BROTHER & CO., 60 Courtlandt-st., New-York

RUSSIA OR BASS MATS, SELECTED EXPRESSLY for budding and tying; GUNNY BAGS, TWINES, HAY ROPES, &c., suitable for Nursery purposes, for sale in lots to suit, by J. W. MANWALING, Importer, 248 Front-st., New-York.

Grapes for the Million.

ROGER'S HYBRIDS Nos. 4, 15, and 19. The largest lot in the State from wood of Mr. Rogers. Also buds of same at best rates. Also Concord for Vineyards or in smaller lots. Also 20 other popular varieties. All unsurpassed in quality and price. Send for trade list. LINDLEY & HINKS, "Bridgeport Nursery" Bridgeport, Conn.

**FRUIT TREES, &c., &c.
AT LOW PRICES.**

FROST & CO., GENESEE VALLEY NURSERIES, ROCHESTER, N. Y., offer for the Fall of 1863 and Spring of 1864, a well grown and large stock of STANDARD and DWARF FRUIT TREES of all kinds. Also an immense quantity of SMALL FRUITS, including an extensive collection of the rarer sorts of NATIVE GRAPES;—also of ORNAMENTAL TREES, including a large stock of various sizes of HARDY EVERGREENS; also SHRUBS, ROSES, GREEN-HOUSE PLANTS, &c.

Their Nurseries comprise upwards of THREE HUNDRED ACRES, so that they are enabled to furnish the ENTIRE orders of their correspondents fully and satisfactorily, and at the LOWEST MARKET RATES for plants of the best quality. DESCRIPTIVE PRICED CATALOGUES: No. 1, of Fruits, No. 2, of Ornamental Trees, &c., and No. 4, Wholesale List, are supplied to applicants upon receipt of a 3-cent postage stamp for each. Their WHOLESALE CATALOGUE for the FALL of 1863, is now ready for distribution. All communications promptly noticed. Address

FROST & CO., Rochester, N. Y.

**FRUIT AND ORNAMENTAL TREES,
RARE CHANCES OFFERED.**

200,000 Choice Fruit Trees, Vines, etc., for sale, of varied size to suit customers. The subscriber calls attention to his unusually large stock of well grown trees now on hand, and especially to the present stock of the STANDARD FRUIT APPLE, which is the largest and finest ever offered at these Nurseries.

With twenty years of experience, by careful observation and judicious selections, he believes he is able to judge and furnish what will suit his customers, as well as the varied soils and localities, in which trees may be wanted. There is also special attention paid to local varieties, adapted to Southern and Central Pennsylvania, many of which have proven themselves more valuable, than sorts originating in a climate differing so widely from these sections.

He is also preparing a list of CASH PRICES for those who purchase direct from the proprietor, offering rare inducements for neighbors to join together and get trees considerably under the regular retail prices. This mode is adopted for those who may not have an opportunity to purchase from his regularly authorized agents, and hold a mistrust towards the too numerous tree vendors spread over the land.

The frequent use made of his name and establishment by strangers, to effect sales where the reputation of the nursery is known, compels him to warn all not to purchase—as coming from these Nurseries—stock offered by pretenders, who do not hold an authority from the proprietor.

Local or stationed agents will be accepted, but neither traveling nor stationary agency inquiries will receive notice, unless the parties produce satisfactory reference as to their honesty in dealing with customers and employer. Send for Catalogues and priced List, which contain inducements not before offered by him. ADDRESS AND TRUSTWORTHY REFERENCE WILL BE FURNISHED TO ALL WHO ARE STRANGERS TO THE ESTABLISHMENT.

DAVID MILLER, JR.,
Cumberland Nurseries, Carlisle, Pa.

Delaware Grapes.

After some years of experiment, the subscribers have adopted a mode by which they can produce plants of this valuable grape with abundant fibrous roots at the following very low rates:

1st Class, \$25 per 100, 2nd Class, \$15 per 100,
\$300 per 1000, \$100 per 1000.

Of these one year old, they can furnish 50,000 deliverable in October and November.—These vines are not grafts, but are raised direct from cuttings.

Those who wish to plant largely will do well to examine this Stock before purchasing, and to send their orders early as the demand last year exceeded the supply.

Those who wish can also see THREE ACRES of Delaware Vineyard in full growth.

CONCORD and other Grapes furnished by the 100 or 1000.
Address PARSONS & CO.,
Flushing, N. Y.

GRAPE VINES.

Our stock of DELAWARE, CONCORD, DIANA, HARTFORD PROLIFIC, CREVELING, ELSINBERG, HERBEMONT, LOGAN, to KALON, UNION VILLAGE, CUYAHOGA, REBECCA, ANNA, TAYLOR or BULLIT, and all the other leading kinds, is unsurpassed any where in the country.

Parties wishing to purchase, and who cannot visit our grounds, to examine our vines and vineyards, where all the above, and many other kinds may be seen in fruit, would do well to send for our NEW PRICE LIST, which will be sent to all applicants free of charge.

J. KNOX,
Box 153, Pittsburgh, Pa.

New Japan Grape.

Although their stock is small the subscribers desire to disseminate as soon as possible the valuable

YEDDO GRAPE,

They will therefore dispose of a few plants to the first who apply. The plants will be cut down to two eyes and their price will be

TEN DOLLARS EACH.

Address PARSONS & CO.,
Flushing, New-York.

SUPERIOR STRAWBERRY PLANTS of almost every variety at low figures. Send for a list of prices. SAMUEL L. ALLEN, Cinnaminson, Burlington Co., N. J.

**FRUIT & ORNAMENTAL
TREES,**

FOR THE AUTUMN OF 1863.

Ellwanger & Barry

Have the pleasure to announce that they are, as usual, prepared to offer for the Fall trade, the largest and most complete stock of well grown FRUIT AND ORNAMENTAL TREES in the United States.

Planters, Nurserymen, and Dealers

are invited to inspect the stock, and consult the catalogues, which give prices and terms.

The following Catalogues will be sent to applicants, prepaid, upon the receipt of postage stamps, as follows, viz: For Nos. 1 and 2 ten cents each; for No. 3 five cents, for No. 4 three cents.

No. 1—A Descriptive and Illustrated Catalogue of Fruit Trees.

No. 2—A Descriptive and Illustrated Catalogue of Ornamental Trees.

No. 3—A Catalogue of Green-House and Bedding Plants.

No. 4—A Wholesale Catalogue of Trade List.

ELLWANGER & BARRY,
MOUNT HOPE NURSERIES, Rochester, N. Y.

PARSONS & CO.

Offer a large variety of thrifty and well grown

FRUIT TREES,

embracing standard and dwarf APPLES, PEARS, CHERRIES, PLUMS, and PEACHES, as well as all the smaller

Fruits and Grape Vines,

AT AS

LOW PRICES

as prior to the advance in the market.

They also invite attention to their fine stock of

EVERGREENS,

of which they are now planting and selling large numbers, in this the most suitable period of the year for lifting.

Their stock of

ORNAMENTAL TREES,

for Streets and Lawns, and of FLOWERING SHRUBS, is large and in great variety. For Catalogues address at FLUSHING, near New-York.

REID'S NURSERIES,

ELIZABETH, NEW-JERSEY.

For sale this Fall, a general assortment of Nursery Stock consisting of

APPLES Standard and Dwarf.
CHERRIES do. do.
PEARS do. do.
PLUMS do. do.
PEACHES do. do.

Appriots and Nectaries, Grape Vines, Native and Foreign, Figs, Currants, Gooseberries, Raspberries, Blackberries, Strawberries, &c., &c.

The collection of Fruits cultivated are extensive and embrace all the different varieties that have been found of value as well as those of late introduction.

The ornamental department is also extensive, consisting of Shade Trees and Ornamental Shrubs, with a fine collection of Evergreens.

The above can be furnished in any quantity and of various sizes, suitable for Lawn or Park planting. Also a large stock of Evergreens, and Deciduous plants for Hedges or Nursery planting, all of which will be sold at low rates.

Orders by mail addressed to the undersigned or left at the Nursery will have prompt attention.

Catalogues forwarded on receipt of stamp.
DAVID D. BUCHANAN, Superintendent.

Fruit and Ornamental Trees.

We offer a large stock at low rates of APPLE, PEAR, CHERRY, PLUM, and PEACH TREES of superior growth and quality. Also NATIVE GRAPE VINES, consisting of Concord, Hartford Prolific, Delaware, Diana, Rogers Hybrid, &c., &c. STRAWBERRIES—Triomphe de Gand, Austin Seedling, and other popular varieties.

A large stock of Forest and Evergreen Trees, and Hedging Plants.

1,000,000 Apple Seedlings from one to three years old.
50,000 Sugar Maple Seedlings two years old.

Those wishing to purchase will find it for their interest to either examine our stock or communicate with us. Catalogues sent to applicants. STEPHEN HOYT & SONS,
New Canaan, Ct., August 10th, 1863.

Magnolia Acuminata.

Having been fortunate in raising a very large stock of this noble and beautiful tree, the finest of all American forest trees, we are able to offer it at very low rates by the dozen, 100 or 1000—from four to eight feet in height. Prices given on application. ELLWANGER & BARRY,
Sept. 1, 1863. Mount Hope Nurseries, Rochester, N. Y.

BULBS

For Fall Planting.

My Annual Illustrated and Descriptive Catalogue of BULBS—HYACINTHS, CROCUSES, TULIPS, JAPAN LILIES, &c., &c., is now published and will be sent free to all who desire a copy. Address

JAMES VICK,
Rochester, N. Y.

STRAWBERRIES!

The Subscriber will send any of the following choice Strawberry Plants, post paid, to any part of the United States (where there is postal communication), east of the Rocky Mountains, on receipt of price, and will also insure their safe arrival at destination.

Per Doz.	Per Doz.
Austin or Shaker..... \$ 50	Green Alpine..... 35
Albion White..... 50	Hooker..... 40
Autumnal Galande..... 75	Honneur de la Belgique.. 50
Alpine Red..... 40	Jenny Lind..... 40
Belle de Vibert..... 1 00	La Constante..... 75
Belle Arsenienne..... 1 00	La Perle..... 1 00
Bicolor..... 1 00	Ladies' Pine..... 40
Belle Bordelaise..... 50	Lennig's White..... 1 00
Burr's New Pine..... 25	May Queen..... 40
Black Prince..... 50	Oscar..... 50
Boite de St. Julien..... 40	Prince Imperial..... 75
Bartlett..... 40	Princess Fred. William.. 1 00
Cutter..... 1 10	Reine Hortense..... 1 50
Crimson Favorite..... 1 10	Russell's Prolific..... 1 50
Crimson Queen..... 40	Scott's Seedling..... 40
Downer..... 50	Triomphe de Gand..... 40
Deptford White..... 50	Vicomtesse Henriette..... 40
Duc de Malakoff..... 50	Victoria (Trottop's)..... 40
Eliza (River's)..... 50	Victory..... 75
Fillmore..... 50	Wonderful..... 50
Filbert Pine..... 40	Wilson..... 40
Georgia Mammoth..... 40	Whitc Pine Apple..... 1 00
General Scott..... 1 00	
Garibaldi..... 1 00	

For price of plants in larger quantities, and description of the above and many other varieties, see our new Strawberry Catalogue, which will be ready the first of August, sent free to all applicants who inclose two one-cent stamps. Address ANDREW S. FULLER, Brooklyn, N. Y.

New and Splendid Strawberries

The prize berries of Europe, Empress Eugenie, Margarine and Princess Frederick William, plants \$1 per dozen.

Russell's Great Prolific. One of the most promising of the American seedlings, berries produced this season, 6 1/2 inches in circumference; it is more prolific than the Wilson, sweeter in flavor, and a splendid market berry, \$1.50 per dozen, or \$9 per hundred.

Lennig's White, Albion White, White Pine Apple, and Deptford White. These are great acquisitions, berries very large, fine flavored and very productive, at \$1 per dozen.

La Constante. We would call attention to this variety, as one of the most promising sorts in cultivation, at 50c. per dozen, \$4 per hundred.

Oscar, Victory, Wizard of the North, River's Eliza, Boite de St. Julien, Crimson Queen, Wonderful, Filbert Pine, Prince Imperial, Duc de Brabant, Boyden's Mammoth, and Duc de Malakoff, at 50 cents per dozen.

Triomphe de Gand, Great Austin, Jenny Lind, Bartlett, Felton, or Chilian, at \$1 per hundred, \$6 per thousand. Berries of the Great Austin were produced this season, weighing 1 1/2 ounces. We think the Austin better than the Wilson, and more productive. Plants delivered in rotation as ordered. All orders addressed to WM. S. CARPENTER,
329 Greenwich-st., New-York.

Green Prolific Strawberry.

Produced from "Kitley's Goliath" and "Hovey's Seedling," by Seth Boyden, Esq., and is one of the parents of his famous seedling "AGRICULTURIST" which astonished the natives at the late exhibition in New-York. In many points equal to this wonderful new variety. Decidedly one of the best in cultivation. Strong Plants \$1 per dozen. For a descriptive circular or plants, Address FRANCIS BRILL,
Newark, New-Jersey.

Or any of the following Agents,
Andrew Bridgeman, 878 Broadway, New-York.
C. B. Miller, 634 Broadway, New-York.
Jas. M. Thorburn & Co., 15 John-street, New-York.
Wm. Elliott, 27 John-street, New-York.
Fleuning & Davidson, 67 Nassau-street, New-York.
Jas. Huggerty, Poughkeepsie, N. Y. A. Dreer, Phila., Pa.
Juo. Stair & Son, Cleveland, O. Wm. Thorburn, Albany, N. Y.

STRAWBERRIES.

Send for our CIRCULAR, giving description of varieties that have proved the most valuable during the past season with prices of plants, and other information.

J. KNOX,
Box 153, Pittsburgh, Pa.

Strawberry Plants.

Triomphe de Gand, Wilson's Albany, Hooker, Fillmore, Bartlett, Ward's Favorite, and forty other varieties in large quantities, at low rates, at wholesale and retail. Catalogues gratis. FRANCIS BRILL,
Newark, New-Jersey.

Genuine Strawberry Plants

Of the best varieties, both old and new. For sale at the LOWEST living rates. Catalogues gratis.
E. WILLIAMS, Mont Clair P. O., New-Jersey.

Russell's Prolific Strawberry.

Plants of this superb variety carefully packed and sent by mail or Express at \$1.50 per dozen. Descriptive Catalogue of over fifty varieties of Strawberries sent free to all applicants. Address FRANCIS BRILL,
Newark, New-Jersey.

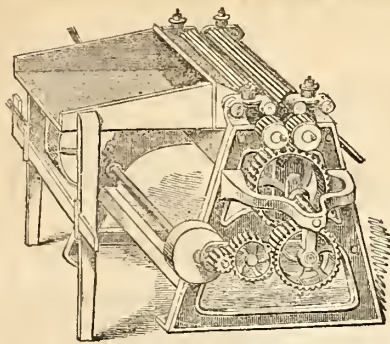
Strawberry Plants.

All the standard old varieties, as well as the best new ones, for sale at low rates, and warranted true to name. Send for a Catalogue gratis to FRANCIS BRILL, Newark, New-Jersey.

NOW READY!

OUR NEW PRICE LIST, of STRAWBERRIES, RASPBERRIES, BLACKBERRIES, CURRANTS, GOOSEBERRIES, GRAPE VINES, &c., &c.

is now ready, and will be sent to all applicants free of charge J. KNOX,
Box 153, Pittsburgh, Pa



Sanford & Mallory's PORTABLE Flax and Hemp Dresser.

This implement gives one fourth more dressed fiber, and of better quality than any other machine; is simple in construction and strongly made; can be operated by any common laborer; can be driven by ordinary horse power, and the largest size occupies only about four feet square.

PRICES.—No. 1 Machine, to dress 2500 lbs straw in 10 hours \$355; No. 2, \$255; No. 3, Hand Machine \$155, delivered at the factory. Read the following:

MALFA, Saratoga County, New-York, August 10th, 1863.

MESSRS. MALLORY & SANFORD:—Gentlemen: On the 19th day of March we drew to the mill of N. G. Akin thirty-nine hundred and thirty (3930) pounds of flax straw, which he dressed through the Old Brake, and we received four hundred and eighty-one (481) pounds dressed flax.

We, about the first of June, drew to the mill of Wm. H. Buckley forty-four hundred and ten (4410) pounds of flax straw, which was dressed through one of your Patent Flax Brakes; we received eight hundred and five (805) pounds of dressed flax.

The flax was grown on the same piece of land, and there was no perceptible difference in the quality of the flax, except that the portion drawn to Akin's mill was rotted in the Fall of 1862, and that drawn to Mr. Buckley's Mill was spring rotted, which is considered not as good, from the fact that it loses part of the oily matter from the fiber, and thus not yield as much per ton of straw as the fall rotted.

You will perceive by the above statement that we received from Mr. Akin's mill 245 pounds nearly of dressed flax per ton of straw, and from Mr. Buckley's mill 365 pounds of dressed flax per ton, which makes a difference of 120 pounds per ton in favor of your Brake.

We are recommending our neighbors to take their flax to one of your Brakes to have it dressed, although it is fifteen miles to the nearest one at present.

J. B. WEEKS, L. L. WEEKS.

I certify that the above statement is correct, as I saw the Weigber's receipts for both lots of straw, and weighed the dressed flax myself that was dressed at my mill. The flax dressed at Mr. Akin's mill is correct, no doubt, as the above gentlemen are perfectly reliable.

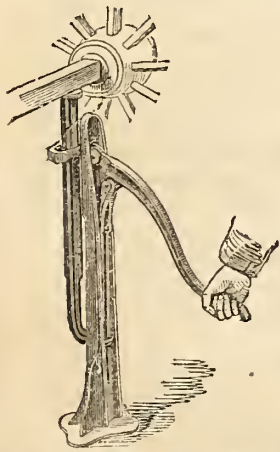
W. H. BUCKLEY.

For further particulars address the proprietors, MALLORY & SANFORD, Corner White and Center-sts., New-York.

LANE'S PATENT CARRIAGE JACK.

CONVENIENT, SIMPLE, and CHEAP.

This Jack is made to operate on a new principle, and is pronounced by those who have used them, as the most convenient article of the kind before the public. For sale by the principal hardware and agricultural dealers, also by the general agent A. H. DAVILAND, 261 Pearl-st., New-York, and the manufacturer J. G. LANE, Washington, N. Y. SEND FOR CIRCULAR.



HORSE POWERS, TRESHERS AND SEPARATORS, CLOVER HULLERS, FANNING MILLS, HICKOK'S PATENT CIDER MILL, HUTCHINSON'S PATENT CIDER AND WINE MILL, WINE PRESSES, ALLEN'S and other Patents, POTATO PLOWS, FRUIT GATHERERS, FRUIT LADDERS, &c., &c.

R. H. ALLEN & CO., 189 & 191 Water street, New-York.

Fine Wool Sheep Husbandry,

By Hon. HENRY S. RANDALL.

Author of "Sheep Husbandry of the South."

Nearly ready—Price 75 cts.,

And sent free of postage upon receipt of price. Also a new edition of SHEPHERD'S OWN BOOK, by Randall & Youatt. Price \$2.00. Address

C. M. SAXTON, Publisher, 25 Park Row, New-York.

TOBACCO.

Just How to Grow it.

Every particular, from the selection of the Seed, and preparation of the ground, to the Gathering, Curing, and Marketing the Crop, is given in a work issued by the Publisher of the American Agriculturist, and sent post-paid for 25 cents. This work consists of a selection of the best fourteen out of eighty-five Essays, prepared by eighty-five different cultivators, residing in various parts of the Northern and Middle States. In each of the Essays contained in this work, the writer tells, in a plain, practical, straight-forward manner, just what to do, and how to do it. Any item omitted by one is given by another, so that the information is full and complete. Several engravings illustrating the method of drying, packing, etc. The work is worth its weight in silver to every one growing even a small plot of tobacco.

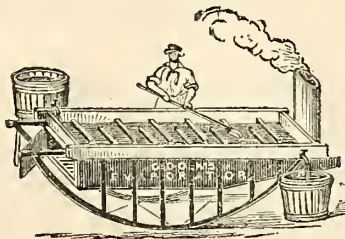
MME. DEMOREST'S MIRROR OF FASHIONS.—The Fall Number and commencement of the fourth volume, ready Sept. 1, will contain five useful, full-size patterns, worth 75 cents; a splendid and large parlor engraving of Empress Eugenie and Her Maids of Honor, worth twice the cost of the magazine; a splendid colored Fashion Plate; a large Sheet of Braid and Embroidery Patterns, and many other valuable novelties too numerous to mention. Single copies, 25 cents. Yearly, \$1, with 50 cents worth of extra patterns of your own selection, and an excellent Carte-de-Visite of the Lilliputians, as a premium; postage on the premiums, two cents extra. To all new subscribers who commence with the Fall Number, the present Summer Number will be sent free, if requested.

FORM OF AN ORDER.—Mme. Demorest will find inclosed \$1, and two cents postage on the premiums, for which please send me your Mirror of Fashions for one year, commencing with the Fall Number; also send the Summer Number, and oblige yours Give your address in full, and address it to MME. DEMOREST, 473 Broadway, New-York.

THE PRINTER'S DEVIL. A handsome literary and miscellaneous Family Journal, will be sent six months on trial, free of postage for TWENTY FIVE CENTS. Don't lose this opportunity. Address Editor "Printer's Devil" Box 2900, New-York.

25 NATIONAL AND STATE FAIR FIRST PREMIUMS.

COOK'S



SUGAR EVAPORATOR,

MANUFACTURED BY BLYMYER, BATES & DAY, MANSFIELD, OHIO.

No machine of only five year's standing can show so brilliant and useful a record. \$2,000.000 SAVED BY IT LAST YEAR! Committees pronounce in its favor. Operators pronounce in its favor. Lovers of good syrup pronounce in its favor. The People pronounce in its favor and declare it THE CHEAPEST, THE BEST, THE MOST DURABLE, THE MOST RAPID, THE MOST ECONOMICAL, THE MOST CONVENIENT. Ever brought out in the history of Sugar Making. Its superiority is admitted by all manufacturers over every other Evaporator than their own! The "SORGO HAND BOOK" sent free on application.

A GREAT BOOK FOR AGENTS!

DR. RANDALL'S NEW WORK ON SHEEP HUSBANDRY, recently announced as in preparation, is now in press, and will be published early in Sept. It is entitled THE PRACTICAL SHEPHERD, and must prove the BEST and MOST COMPLETE practical work on the subject ever published in America. The demand for a good Sheep Book is great, and this one is designed to supply it fully. Its sale must be immense in all parts of the country where sheep are kept. The book will be furnished to Agents on such terms that they can not fail to make money rapidly by its sale. Enterprising canvassers wanted in every County—such as will attend to the business thoroughly. For circulars containing terms and other particulars, address D. D. T. MOORE, EDITOR RURAL NEW-YORKER, Rochester, N. Y.

ONION CULTURE—Fourth (new) Edition.

This work comprises in 32 pages all the particulars for successful Onion Culture, from Selection of Seed to Marketing the Crop—being the practical directions given by seventeen experienced Onion Growers, residing in different parts of the country. Price 20 cents (or 7 stamps), sent post-paid. Address Publisher of Agriculturist.

BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the Agriculturist at the prices named, or they will be forwarded by mail, post paid, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may be procured by any one making up a library. Those we esteem specially valuable, are marked with a *.]

Table listing various books for farmers and others, including titles like 'American Bird Fancier', 'American Farmer's Encyclopedia', 'American Florist's Guide', etc., with corresponding prices.

**A RELIABLE AGENCY
FOR PURCHASING
ARTICLES OF MERCHANDISE,
Implements for the Farm,
Garden and Household,
SEEDS.**

Special attention will also be given to procuring Sewing Machines; Pianos and other Musical Instruments; Philosophical and Astronomical Apparatus; Books for Schools and Colleges, and School Furniture.

Subscriptions for periodicals will also be received at the usual subscription price.

**No Charge made to Purchasers,
BEYOND THE
Lowest Regular Price.**

STRAWBERRIES.

We shall be ready the 1st of September to furnish the following choice varieties of Strawberries:

Triomphe de Gand, Bartlett or Boston Pine, Austin, 50c. per dozen; \$1 per 100; \$6 per 1000; a few can be furnished in pots at \$1 per 100.

Bonte de St. Julien and Deptford White 75c. per dozen; \$3 per 100.

La Constante 75c. per dozen; \$1 per 100.

Best Flavored Strawberry.

Faller's New Seedling,

Crimson Favorite.

The First Prize for Flavor at the "Great Strawberry Exhibition," at \$1 per dozen.—By mail, post-paid, \$1 10 cents.

**FRUIT and ORNAMENTAL
TREES, SHRUBS, ROSES.**

DELAWARE, CONCORD and other GRAPE VINES, Well grown, at reasonable prices.

Universal Clothes Wringer.

No. 1. LARGE FAMILY WRINGER.....	\$10.00
No. 2. MEDIUM " ".....	7.00
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No. 3. SMALL " ".....	5.50
No. 8. LARGE HOTEL " ".....	13.00
No. 18. MEDIUM LAUNDRY " { to run by steam }.....	18.00
No. 22. LARGE " " { or hand, }.....	30.00

Nos. 2½ AND 3 HAVE NO COGS—ALL OTHERS ARE WARRANTED.

THE NONPAREIL WASHING MACHINE

Is the only entirely reliable machine in use.
Prices, No. 1, \$12; No. 2, \$16; No. 3, \$20.
Send for Circular. See Premium No. 3, Agriculturist.

THE AQUARIUS.

A Hand Force Pump. Price \$10.

**WOODRUFF'S PATENT PORTABLE BARO-
METER.**

Carried by railroad or stage express in safety.
The *American Agriculturist* recommends this Barometer above all others for general use.
PRICES \$5.00, \$8.00, AND \$12.

GLASS FRUIT JAR WITH A SHOULDER.

QUART JARS with Corks.....\$1.75 per Dozen
PINT JARS do.....1.25 do.
TIN COVERS.....15 cts. do.

Baker's Patent Fruit Jars with Glass or Tin Covers. Pints \$2.25, Quarts \$2.75, half Gall. \$3.50 per Dozen.

REFERENCES.

New-York, March 20th, 1861.

We take pleasure in testifying to the well known Business Ability and Integrity of HARVEY B. LANE, His Education and Habits peculiarly fit him for the New Enterprise which he is starting; and we do not hesitate to say that any business that may be entrusted to his care will be conducted with strict fidelity and for the best interest of those who may patronize him. Signed:

- DANIEL DREW, Esq.....New-York City.
- FRANCIS HALL, Esq.....Editor N. Y. Com. Advertiser.
- ORANGE JUDD, Esq.....Editor of Am. Agriculturist.
- WM. B. SKIDMORE, Esq.....Treas'r Erie R. R. L. D. Co.
- HON. GEO. B. COBB, M. C.....Morristown, N. J.
- MESSES. HAKPER & BRO.....Publishers, New-York.
- MESSES. CARLTON & PORTER, Methodist Book Concern, N. Y.
- A. V. STOUT, Esq.....Pres. Shoe & Leather Bank.
- HENRY J. BAKER, Esq.....182 Pearl-street, New-York.
- CHAS. C. NORTH, Esq.....Firm: North, Sherman & Co.
- ISAAC RICH, Esq.....Boston, Mass.
- JACOB SLEEPER, Esq.....Boston, Mass.
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POULTRY, EGGS,
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OF ALL KINDS
SOLD ON COMMISSION.

Constantly on hand, for sale, Flour, Fish, Salt, Mackerel, Pork, Hams, Lard, Beans, Dried Fruit, Soap, Starch, etc.

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Commission Dealer,**

260, 261 & 262 West Washington Market,
FOOT OF FULTON-ST.

Particular attention paid to selling all kinds of Fruit and other Farm Produce.
Refers to the Editor of the *American Agriculturist*.

**C. W. IDELL,
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Special attention given to selling all kinds of fruit.
70 & 71 West Washington Market.



ESTABLISHED 1842

During the past Twenty Years, Messrs. MUNN & CO., in connection with the publication of the WEEKLY ILLUSTRATED SCIENTIFIC AMERICAN, (the only paper devoted to the Mechanic Arts in the Country), have acted as Attorneys for procuring Letters Patent in the United States and all foreign countries!

They would state that they have acted, during this period, as agents for more than

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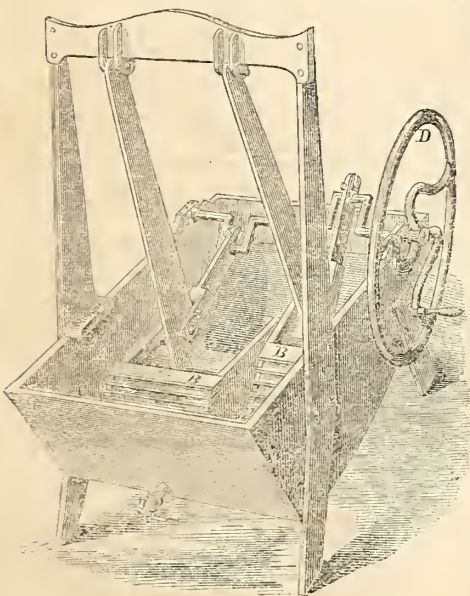
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NEW-YORK, OCTOBER, 1863.

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Suggestions and Notes for the Month.

The glory of the year is at its height. There is a gorgeous display of color in the woods, which beautifully contrasts with the sombre hue of the cleared fields, though it is the hectic flush that betokens the completion of the decay which is already marring the landscape. The sun looks askant upon the changing scene, and is slowly transferring his favors to other lands; the birds, like gay courtiers, follow to enjoy his smiles; the hum of insects is no longer heard, they have sought safe quarters for their winter repose; a gentle haze fills the air, and all things inspire thoughtfulness. The reflections of the husbandman will naturally turn to a survey of the year's operations. In the main, the season has been one of average fruitfulness, though some complain of a late Spring and a too fervid Summer. The drouth, and the August frost completed the failure threatened in the early months. In some sections this was undoubtedly unavoidable. Human skill cannot make up for all deficiencies of weather. There will always be some contingencies depending on this cause, and these should be taken into account in estimating for future operations on the farm; a wide margin should be left on this score, when operations are contemplated requiring the outlay of large capital. He is an unskillful cultivator who depends entirely upon favorable seasons for making farming profitable. He is at the mercy of the elements, and will often have reason to complain of their inclemency. It is equally unwise to conduct agricultural operations with reference only to a single year or a short term of years. The successful man looks into the future, and lays his plans to make his land increasingly productive. He who merely strives to realize the largest returns, year by year, without keeping the future in view, may be

selling the fertility of his land piece-meal, which is in reality parting with his capital for what should be the basis of a large interest on that capital. The end of such management must ultimately be failure.—There is no operation upon the farm more fully justified than draining, in view of its immediate and permanent benefits. A thoroughly-drained field, though not independent of the weather, is provided with a regulating apparatus that will enable it to successfully withstand extremes which would destroy crops on undrained land. If the season be wet, there is a ready outlet for the surplus water; if drouth parches the surface, then the air permeating the cooler soil, leaves a supply of moisture for the wants of the growing plants. The atmosphere also contains elements needed for the building up of vegetable structure, and when the water has been drawn off, these find ready access to the roots. By the same means, deeper layers of earth are acted upon and prepared to furnish nutriment to the fibres, which will soon penetrate a soil thus fitted for their nourishment. Happily these views are no mere theories. They have been sustained by the most extended experiments in our own and in foreign countries. The English are so fully convinced of the benefits of draining, that it has been made a subject for legislation, and Government wisely aids those desirous of improving their estates, by loans on the most favorable terms. Most of our adult readers can remember when drain-tiles were first introduced in this country, as necessary to the best cultivation, and now there are thousands of acres made more productive by their use, and large manufactories, though working continually to supply the demand for tiles, are unable to keep up with the calls for them, and new parties are embarking in the business. We predict that in twenty years, or less, he will be generally considered an antiquated farmer, who has not introduced this improvement. The time may seem short, but we are a fast people, and are universally considered to be bent on "ruining things into the ground." The present is a favorable time for commencing or continuing this work. We counsel, as we have previously done repeatedly in the columns of the *Agriculturist*, that the work be begun, at least on a small scale, and there is little fear but that the results will so commend the operation that it will soon be very greatly extended.

Work for the Farm, Household, etc.

Take time by the forelock this month. But little growth will now be made by any summer crops, and without seasonable attention, some of them may be destroyed or injured by frost. In addition to gathering the corn, sorghum, roots, etc., preparations may be needed for safely storing them. To save a crop often requires as much forethought as to raise it. There should be a general clearing up before

the weather becomes inclement. The stable and cellars should be put in readiness, manure drawn out from the yards, ripened weeds gathered and burned, stock looked over and the surplus disposed of, tools safely housed, and everything made snug: then, when the blast comes whistling from the North, the farmer will be prepared to answer it with a cheerful whistle from within doors, surrounded with comfort and rejoicing in the sense of security.

Beans.—Thresh out as soon as sufficiently cured, and preserve the stalks for feeding to sheep or horses, for which they are good fodder.

Buildings will soon be subject to searching winds and driving storms, which will find entrance through all neglected crevices: one dollar's worth of lumber used in making them weather-proof will save many dollars in fuel and feed. See that eaves-troughs and leaders are free from leaves or other obstructions, and drains in order to carry off water. Apply paint where needed. If manure is to be thrown out of stable windows, build a shield of boards to keep it from contact with the sills and sides of the building and thus prevent their decay.

Butter.—Increase the quantity and quality by feeding the cows with pumpkins, surplus cabbage leaves, beet, carrot, and turnip tops, etc, as the pastures fail. Pack a full supply for winter use. If properly made, thoroughly worked, and stored with care, butter made now will command an extra price before Spring.

Cabbages.—Secure the late crop before injured by frost. Lay head downward in trenches, with rails at the bottom to keep them from the ground, cover with straw and then with earth, laid up in wedge shape and packed smooth, to shed rain. Feed out the surplus leaves.

Cattle.—Commence to feed with stalks or other fodder before the pastures are entirely bare. Grass partially nipped by frost loses much of its nutritive qualities, and will not fully supply their wants. Commence stall-feeding early. Provide shelter before the inclement season commences.

Cellars.—Prepare against freezing weather by banking up, if needed, but allow proper ventilation. Cement floors are neat, and will aid in preventing dampness and excluding vermin.

Carrots.—Harvest early and store in the barn, cellar, or other secure place, for feeding to stock in Winter. The tops, if in good order, are excellent for milch cows or other cattle.

Corn.—Cut up, bind, and stook for husking, or husk at once in the field, if it be not an object to save the fodder. See article on page 304.

Exhibitions.—Many of these are yet to be held, as will be seen by reference to the list published in another column. Strive to make that of your own vicinity one of the most successful. Those who might contribute on such

occasions, but who do not, are responsible for the failures of which they are the first to complain.

Farmers' Clubs.—Organize them early. One should be in operation in every school district. Secure an occasional address on agricultural subjects from competent speakers, but devote the meetings mainly to informal conversations on the facts connected with the every-day farm experience and observations of the different members: this will be of greater benefit in eliciting thought, and more interesting to the participants, than attempts at speech making, or listening to elaborate essays.

Grain.—Have all threshed and safely stored, ready to take advantage of a favorable market. Reduce all contracts for future delivery to writing, and ascertain the responsibility of parties before closing a bargain. *Cash* is the safest paymaster, the world over.

Hogs.—Push on fattening rapidly, before cold weather tithes the fat. Keep pens well supplied with pure water, and with plenty of leaves, weeds, straw, muck, etc., for making manure.

Ice-Houses may be made cheaply, and they will abundantly repay their cost, especially on dairy farms. A double-walled room with the interstices filled with sawdust or spent tan-bark, built in one corner of an out-house, provided with drainage and ventilation, are all the essentials.

Implements.—Have them all in their places under cover. Preserve iron and steel from rusting by thinly coating them over with a cheap mixture of lard and rosin melted together.

In-door Employments.—First secure all the labor-saving items for the household department, which may have long been waiting for a convenient time; such as a few hooks, pins or nails for hanging clothing, catches for loose doors, huttons or other fastenings for windows, convenient arrangement for water, scrapers for the doors, sharp knives and scissors, and all the hundred and one little matters which the women folks will think of, and which will contribute greatly to their good nature, and thus to the comfort of the household. A friend at hand proposes to the ladies, that they keep a slate or scrap of paper hanging in plain sight, and on it write a list of such needed improvements as they happen to want from time to time. It might be headed "Gentle Hints."

Manures.—In most sections a large addition can be made to the manure heap, by collecting leaves from the forest. They are excellent material to compost with cattle droppings for manure for the garden and fruit-yard. Provide sheds for the reception of the manure as it accumulates: it will be worth at least 25 per cent. more than if left exposed to the weather during the Winter. Secure a stock of lime and plaster to be used in making compost, and have an abundant supply of muck or black earth on hand for the same purpose.

Plow deeply heavy land that is intended for corn next year, and leave it exposed in ridges. The frost will pulverize the lumps and otherwise prepare it for working in Spring.

Potatoes.—Harvest and store immediately in a dark, cool, and well-ventilated cellar. A liberal amount of earth collected with them is rather beneficial than otherwise, in their preservation.

Poultry.—Provide warm, well-ventilated, and comfortable winter quarters. Keep their premises clean: occasionally pass their roosting poles through fire, to destroy vermin. Supply them with animal food as well as grain, and with plenty of clean water, gravel, and ashes to wallow in.

Pumpkins.—Store those wanted for family use in a dry, cool place, protected from frost. They may also be pared, sliced, and dried, or stewed and dried upon plates. Prepared in this way they will keep good a year or more. Remove the seeds from those fed to milch cows.

Root Crops.—Gather and store in cellars or pits out of doors before endangered by frost, commencing with carrots and ending with turnips, which are not injured by slight frosts.

Schools.—See that school-houses are in good order, and use every endeavor to secure first-class teachers. Arrange the work so that the boys may begin attendance at the commencement, to secure the advantage of early classification and of the additional time. Frequently examine as to their progress, but be in no haste to listen to "children's tales out of school."

Sheep.—Keep sheep and rams separate until five months before lambs are wanted. Keep all in good condition by occasional allowance of oats, if needed.

Sorghum.—Strip off leaves a few days before cutting the stalks. Cut off the two upper joints with seed, as soon as ripe, or before heavy frost, and cut stalks just above lower joint at the same time. Keep from freezing, and manufacture as rapidly as possible.

Orchard and Nursery.

October is a busy month in this department. Besides gathering the fruit in the established orchard, new plantings are to be made, and this causes demands upon the nurseryman and creates activity in his business. As far as we have noticed, the wood of nursery trees has made a good growth this season, and ripened well, and as soon as the leaves fall, transplanting may be done. In any soil fit for an orchard at all, Fall planting can be successfully practised. The earlier it is done after the fall of the leaf, the better, as the earth settles around the roots, and the tree becomes well established before Winter sets in. The success of planting trees at any time depends mainly on two things: the faithfulness of the nurseryman who furnishes the trees, and on that of the purchaser who plants them. Many failures result from the careless treatment of well grown and carefully taken up trees; other failures come from the careless manner in which the trees are treated in the nursery; they are so mutilated that no after care on the part of the purchaser will ever make healthy trees of them. In taking up trees in the nursery, care should be used to preserve the fibrous roots. It is very easy to take a sharp spade and cut around within a foot or so of the tree and then pry it out with its mutilated roots. To take up a tree properly, requires both time and labor. The surface soil should be carefully removed so as to expose the main branches of the roots and then each of these should be followed out and carefully lifted with all the attached fibres. In nurseries it is customary to take up a stock of those kinds which are most called for, and to heel them in, in a convenient place, so that orders may be readily filled. In doing this, too much care can not be exercised in keeping the varieties distinct. A nurseryman who has a proper appreciation of his business, will no sooner send out a wrongly named tree than he would steal its value from the pocket of the purchaser. In the nursery every preparation should have been made for the Fall trade—stakes, labels, moss, straw, bagging, twine and all packing materials should be at hand, so that all orders may be filled at the earliest possible moment.

We have so often advised farmers to plant trees that the counsel seems trite. Yet we know that it can not be too frequently repeated, and we know that no better investment can be made than in a judicious purchase of fruit trees. Every farmer should have a good orchard to supply fruit for home use, and for marketing. Any one wishing to purchase a farm will pay much more for one with a well established orchard, than he would for a place without fruit trees. Our advice has always been, to deal directly with the nurserymen and avoid tree peddlers. There are but few persons who are not within reach of a reliable nurseryman, and those who are not acquainted with one, can consult our advertising columns.

Apples.—These should be picked with the precautions mentioned in the article on marketing fruit on page 304. The later sorts may be left on the trees until frosts occur. Pick in dry weather.

Buds inserted last month will need looking after, and the bandages should be loosened if too tight.

Grounds for Fall or Spring planting may be manured and plowed, and if the land is at all inclined to be wet, abundant drains should be laid.

Insects.—Those which make their cocoons upon the branches, may be readily discovered after the leaves have fallen. Remove them wherever found.

Labels.—See that those which are partly effaced are renewed before winter. Do not depend upon labels for an orchard. As soon as the trees are planted, make a map and record the name of each tree in its proper position. See label on page 305.

Manure.—Apply to the orchard. Do not be content with putting a small quantity around the trunks, but coat over the whole surface.

Ornamental and Shade Trees.—The deciduous varieties may be planted as soon as the leaves fall.

Stone Fruits.—Cherries and Plum trees may be set out in the Fall, but the more tender Peach, Apricot, and Nectarine, are better left until Spring.

Seed Beds may be made according to hints on page 305. The same treatment may be pursued with the seeds and nuts of most of our ornamental trees.

Weeds should be kept down in the nursery until frost renders the use of the hoe unnecessary.

Kitchen Garden.

The near approach of frost makes this a busy month in the Kitchen Garden, as there are many crops which must be secured before they are injured by it. This, with preparation for next Spring's work, will keep all hands fully occupied until the ground becomes frozen. A good gardener will have everything cleared up, and the garden as clean and tidy in the Fall as at any other season.

Artichokes.—These, in this latitude, need a winter covering of litter, and to be hanked up with earth.

Asparagus.—Cut down the stalks and burn them. Cover the beds with a generous coating of coarse stable manure. New heds may be made now; hints upon this subject are given on another page.

Beans.—Limas are ruined by a slight frost. As soon as there is any danger, pick the crop and shell and dry those not wanted for immediate use. House the poles for another season.

Bects.—These should be harvested before hard freezing. In cutting the tops, do not cut too close. Store in bins and cover them with sand or earth to prevent wilting, or if the quantity is small, they may be put in barrels. They should be allowed to dry a little before housing.

Cabbages.—Harvest upon the appearance of hard frosts. The best plan we have tried for wintering them is, to place two rails side by side, or to plow a deep furrow and set the cabbages heads downwards on the rails or along the furrow. Then by means of a spade or by turning up the earth with a plow, completely cover the cabbages, and pat the earth down hard with a spade so as to shed water. The ridges should be made on a sloping piece of ground from which water will run freely. Plants sown last month for wintering, may be set out in cold frames.

Cauliflowers.—Those which have not headed, should be taken up with a ball of earth and placed in the cellar; they will generally form heads. Set young plants in cold frames.

Carrots.—Harvest as above directed for beets.

Celery.—Harvest before severe frost. Take up the plants, and having removed the waste leaves, stack it upright in a narrow bed, and cover with earth and a protection of boards.

Cold Frames should be in readiness before the weather becomes too cool. Cabbages, Cauliflowers, etc., may be wintered in them, to afford early plants in Spring. Air should be given during mild weather. Bank earth around the frame upon the approach of Winter, and cover the glass with boards or other protection.

Hot-Beds.—Provide a heap of rich earth in a convenient place for use in hot-beds in early Spring.

Lettuce.—Transplant to cold frames. Seed may be sown in frames.

Onions.—Those sown late, for wintering over, need a good covering of litter to protect them.

Parsnips.—The main crop is to be left in the ground. A supply for use while the earth is frozen, may be taken up and buried in sand in the cellar.

Pickles.—Continue to salt cucumbers, unripe tomatoes, green peppers, melons, etc., for pickles.

Rhubarb.—New beds may be made at any time before the ground is frozen. Give plenty of manure and set the plants 3 or 4 feet each way. See directions in April Calendar.

Salsify requires the same treatment as parsnips.

Spinach.—Thin out if needed, and give a light covering of litter to protect it during the Winter.

Squashes.—A very moderate frost injures them; house in good season, and be careful not to bruise them. Any unripe Hubbards may be used at once as they are better when green than most other squashes are when ripe.

Sweet Potatoes.—Dig as soon as the tops are killed. Handle carefully; pack in very dry sand, or in cut straw; keep in a warm place. See April Agr.

Tomatoes.—Bottle or can a good supply. The frost can be kept from the vines by a light awning of cloth and the period of fruiting be thus extended.

Trenching may be done this month, and the ground thus be made partially ready for Spring.

Turnips.—The early varieties may be stored or marketed. Rutabagas and other late sorts will continue to grow for some time yet.

Winter Cherries.—Collect as they ripen and make into preserves, or keep them with the husks on to be used as needed.

Fruit Garden.

Much can be done in preparing land and in setting out hardy trees and shrubs.

Blackberries.—These can be successfully planted in the Fall. The ground needs to be enriched with vegetable matter, such as muck or leaf compost and well rotted manure. The New Rochelle and Dorchester are the best accessible kinds. We have known the finer varieties of the wild bushes to be cultivated with good results. The tall kinds should be set in rows 8 feet apart and 4 feet in the row.

Currants and Gooseberries.—Set out established plants the last of the month, and make cuttings for both as directed in the article on currants, page 306.

Grapes.—These should all be picked before hard frost. Grapes have been kept well until Spring by packing in boxes a foot square and 6 inches deep, with paper between each layer. The boxes should be kept in a cool cellar. Transplanting may be done this month. In the far northern localities the vines may be pruned and laid down this month.

Strawberries.—Beds may still be made, though it should have preferably been done last month. Cover both new and old beds before hard freezing. Forest leaves makes an excellent covering, but straw is generally used, because more available.

Flower Garden and Lawn.

Tender plants which yet remain out should be removed to winter quarters. The borders should still be attractive with late-blooming plants, and they ought to be subject to the same care in keeping as at any other season.

Bedding Plants.—Petunias, lantanas, geraniums, etc., usually get so overgrown and misshapen during the Summer that they are seldom worth taking up in the Fall. It is much more satisfactory to start new plants. If this has not already been done, cuttings should be made at once.

Bulbs.—Plant for Spring as directed last month.

Chrysanthemums.—There should be a fine stock of these, as they add much to the fall decoration

of the garden. They bloom even after hard frosts. Keep them neatly tied up.

Dahlias.—All should be properly labelled while the flowers are perfect and you are able to identify them. Do not be in a hurry to take up the roots as soon as the tops are killed: they keep better if allowed to ripen a week or two in the ground. Lift the roots on a dry day: let them dry awhile in the sun, and then pack away in a dry, cool cellar.

Frames and Pits should be ready to receive the plants. Tender roses, verbenas, salvias, geraniums, etc., may be wintered in them. Give ventilation whenever there is no danger of frost.

Gladiolus.—Treat as directed above for dahlias.

Perennials.—Phloxes and others may be divided and reset as soon as vegetation ceases. Sow seeds of Hollyhock and Wall-Flower early this month.

Seeds.—Continue to save from the best flowers until the plants are killed.

Shrubs.—Plant freely of the hardy sorts. These mostly do best when planted in the Fall.

Lawns.—New lawns may be made sowing early and rolling well, and again before Winter sets in.

Green and Hot-Houses.

The plants should all be in their places this month, the pots cleaned from weeds and moss, and the plants properly pruned and arranged according to their necessities for light and heat. A little fire heat will be needed by the tropical kinds.

Ventilation should be carefully attended to, and a proper degree of humidity kept up, by syringing.

The war upon insects must be commenced as soon as the plants are housed: they are much easier kept in subjection if taken in time.

If there is room for a few pots of annuals the seed may be sown now. They will add much to the decoration of the house in Midwinter.

Apiary in October.

Prepared by M. Quinby—By Request.

Consumers of honey look for its plentiful arrival in market this month. As they are willing to pay well for the good appearance of the article, pains should be taken to have it neatly put up, and in salable order. With a damp cloth wipe off from the boxes any honey that may have leaked out. Paste fine clean paper or muslin over the bottoms, to exclude insects and dust. Turn the boxes bottom upward to ride to market, as the combs are less liable to be broken. Pack the small boxes in a larger one that can be easily handled, and secure from sliding about and from rough usage, that the combs may be kept whole. The cells in the store combs of the boxes are usually much longer than those for breeding, and at the same time are inclined upward, as philosophy would teach us that they should be, to keep the honey from running out. If boxes with such cells, are turned bottom upward, the cells incline downward, and some honey must run out of all not sealed, and will flow over the caps of those that are covered. If inverted immediately on taking the box from the hive, while the honey is warm, it is worse than after getting cold. If the honey does not burst off caps, it will press fine particles through the pores, presenting a wet, or greasy appearance. When the honey does not come through, simply pressing against the sealing gives it a different appearance from the clear white of the best honey, when first taken from the hive, for except in large cells, bees seal these cells, without the covering touching the honey. If we care for the appearance of the honey, the boxes should not be inverted at any time, (except to prevent breaking combs when on the road.) In taking the box from the hive, it should not be wrenched off by taking hold of the top, but carefully lifted by a strong knife slipped under the bottom. It should then be set on its side or end, keeping the combs vertical until the bees are out; when put away it should stand in the same position as on the hive. The half cells next the glass, when

filled with honey—and in good seasons they will be so—if the box is removed by wrenching, will be quite apt to leak. Although we can with care usually prevent leaking, it will inevitably occur sometimes. The fine appearance of the combs may be restored with proper care. Set the box on the hive, and allow a few bees to enter, they immediately liek up all honey that is running, and that which is in unsealed cells. The danger is, in letting in too many bees, if they do not find honey running sufficient to satisfy them, they do not hesitate to bite away the caps of that sealed. As soon as the bees have cleaned all the combs, the box is to be put where the bees will leave it, as at first. Now is the time to select stocks for wintering. Those who keep none but the best, will have what is called "good luck." Too much honey in a hive is as objectionable as too little. Too many bees are not wanted. From 25 to 40 pounds of bees and honey is an abundance. A cluster of bees that extends through seven or eight combs, on a cool morning, the latter part of this month, may be considered a reliable one, unless diseased brood, or excess of honey causes them to spread out more than usual. Any stocks containing foul brood should be broken up at once. If the brood be not all hatched by the middle or last of October, something unfavorable may be suspected. Some failures must be looked for in attempting to winter hives not possessing all the requisites above named. Those having sufficient bees and comb, may be fed up to the proper weight. The feed should be given to them as fast as the bees can take care of it. It is not safe to depend on the weight of the supplies given to the bees; ascertain the real condition by weighing the hives after feeding what is deemed a proper amount. If combs are deficient, bees and honey will be also. In such cases it is best to take out the bees and set the hives away in some cold room where they will be thoroughly frozen, and keep them for use another year. They should be placed right side up, and have every crevice stopped to keep out all intruders. Condemned colonies should be driven out before killing the bees; it is less trouble than removing them from the combs when taking the honey from the hive. Strain the honey from combs unsuitable for the table; it drains out more easily if the combs be crushed before they are cold.

N. Y. Fruit Grower's Meetings.

During the hot weather, these gatherings were partially suspended, but now that the season of fruits has come, the growers seem to have renewed their interest in the meetings, and on Thursday, Sept. 10th, a large number of them assembled and had an interesting talk, a few points of which we give below. There was a fine show of fruits, better than can be seen at some State Fairs, and more instructive too, for the fruit was tested as well as seen:

Mr. E. E. Clark, of New-Haven, called to the chair.

C. W. Idell, of West Washington Market, presented a basket of fine Crawford peaches for distribution to the members; some seedling peaches of promise were shown, one of which, the "Creole" was remarkable for its thin skin and delicious flavor.

Mr. Cole, of Conn., showed some plums, seedlings of wild Iowa plums, which, though possessing a tough skin, with rather coarse flesh, were considered worthy of attention on account of their freedom from the knot, and from the ravages of the curculio.

Dr. Ward, of Newark, N. J., stated that he went largely into the plum culture 15 years ago, planting hundreds of trees, but so completely were the crops destroyed by the curculio, that he rooted out all his trees. He thinks that by starting again with this wild plum, the skin of which is too thick for the curculio, we may improve upon it and yet raise passable plums.

Dr. Trimble said it was cowardly and disgraceful to submit to an insect enemy so easily conquered. He had seen a good collection of plums from Ellwanger & Barry, who jar the trees and thus raise a fair crop.

Dr. Newberry made a chicken yard of his plum orchard and now has fruit where it was formerly destroyed. The plan should be pursued by neighborhoods, or the insects from neglected orchards will sting others' fruit.

Dr. Trimble has heard much about the instinct of the curculio, that the female will not deposit her eggs over water, but a visit to Dr. Underhill's place where the plum

trees hang over a pond, proved that such was not the case, as the plums overhanging the water were equally affected with the others. True, the larvæ of those which fell into the water would be drowned, but the others had learned no lesson by their fate. The jarring process if followed up, will save enough plums. Hard winters and dry seasons destroy immense numbers of the curculio.

A. S. Fuller thought we might as well try to destroy mosquitoes as curculios—a few trees could be attended to, but the task would be too great with whole orchards.

A plate of Tyson pears from J. McAfee, of New-Bedford, Mass., was presented, and the fruit pronounced very fine, though rather over ripe; this is one of our best pears.

Dr. Trimble showed fine specimens of Bartlett pears for which dealers would pay \$18@20 per bbl. He thought the trees were almost destitute of fruit early in the season, but as nearly every specimen grew large and fair, they turned out well, the high price making them a profitable crop. Bartletts sell better than any other pear; we can not change public opinion.

John Hicks of Long Island, at a previous meeting, had advocated Willis' Sweet as the best apple for baking. W. S. Carpenter set forth in equally strong terms the superiority of the Westchester Pound Sweet as a baking apple, and it was agreed that each should present at this meeting a specimen of the baked fruit. Mr. Carpenter was unable to be present, but Mr. Hicks came, bringing a dish of nicely baked Willis' Sweet apples, the quality of which was tested by the meeting, and it was agreed that the fruit for baking purposes could not be too highly recommended.

A. S. Fuller showed specimens of grapes, among which were Blood's White, very foxy and worthless; Blood's Black, which was little better; a good wild grape, Canby's August, which was a step in advance of either; and one of the earliest blue grapes, of passable quality, and which has been too much neglected; next follows the Hartford Prolific several steps in advance of the last, in point of flavor, but still a little foxy, yet sweet and good, an early and abundant bearer, and the fruit sells well. Oporto and Taylor's Bullitt had very few perfect berries on the clusters. There appears to be some radical defect in the flowers; they do not fertilize well; are always deformed, making them worthless here. Delawares were exhibited last, with these there is little except size to be desired.

G. R. Garretson of Flushing, exhibited well ripened Hartford Prolific grapes, and some Northern Muscadine, the latter a pretty good fox grape.

T. W. Field wished to bear testimony to the excellence of the Hartford Prolific, which, besides its other good qualities, bloomed so early that it escaped the ravages of the rose bug, and ripened long before any danger of frost in the Fall: it does not drop unless the vines overbear.

Fejee Tomatoes were shown by W. W. Davis. This, Prof. Thurber pronounced the tomato for cultivators. Several large market men in the vicinity of New-York, are discarding the old sorts and substituting the Fejee.

Agricultural Exhibitions in October.

STATE FAIRS.

Table listing State Fairs: Illinois (Decatur, Sept. 23-Oct. 2), Indiana (Indianapolis, Sept. 23-Oct. 3), Pennsylvania (Norristown, Sept. 29-Oct. 2), Amer. Grape Show (New-York, Oct. 1-3), Deseret (St. Lake City, Oct. 2-3), Kansas (Leavenworth, Oct. 6-9)

COUNTY FAIRS.

Table listing County Fairs by state: MAINE (Franklin, Farmington, Sept. 30-Oct. 1), MASSACHUSETTS (Worcester-North, Fitchburgh, Sept. 29 Oct. 1), NEW-YORK (Jefferson, Watertown, Sept. 29-30), PENNSYLVANIA (Susquehanna, Montrose, Sept. 30-Oct. 1)

ILLINOIS.

Table listing Illinois locations and dates: Kendall (Bristol, Oct. 6-8), Putnam (Hennepin, Oct. 6-8), Edgar (Paris, Oct. 6-8), Madison (Edwardsville, Oct. 6-9), Bureau (Princeton, Oct. 6-10), Lake (Libertyville, Oct. 7-8), Schuyler (Rushville, Oct. 7-9), DeKalb (Syracuse, Oct. 7-9), Randolph (Marshalltown, Oct. 7-9), McHenry (Woodstock, Oct. 7-9), Tazewell (Tremont, Oct. 7-9), Vermillion (Danville, Oct. 7-10), Stephenson (Freeport, Oct. 13-16), Lee (Dixon, Oct. 14-16), Perry (Pinckville, Oct. 14-16), Jefferson (Mt. Vernon, Oct. 14-16), Hamilton (McLeansboro, Oct. 14-16)

OHIO.

Table listing Ohio locations and dates: Trumbull (Oak Grove, Sept. 29-Oct. 1), Lake (Painesville, Oct. 30-Oct. 2), Delaware (Delaware, Oct. 30-Oct. 2), Harrison (Cadiz, Oct. 30-Oct. 2), Miami (Troy, Oct. 30-Oct. 2), Pickaway (Circleville, Oct. 30-Oct. 2), Summit (Ackron, Oct. 30-Oct. 2), Seneca (Tiffin, Oct. 30-Oct. 2), Van Wirt (Van Wirt, Oct. 1-2), Jackson (Jackson, Oct. 1-2), Paulding (Antwerp, Oct. 1-2), Mahoning (Youngstown, Oct. 6-8), Butler (Hamilton, Oct. 6-9), Loraine (Elvira, Oct. 6-9), Cuyahoga (Cleveland, Oct. 6-9), Stark (Canton, Oct. 7-9), Montgomery (Dayton, Oct. 7-9)

MICHIGAN.

Table listing Michigan locations and dates: Kent (Grand Rapids, Oct. 1-3), Hillsdale and Lenawee (Hudson, Oct. 6-8), Oakland (Pontiac, Oct. 7-9)

WISCONSIN.

Table listing Wisconsin locations and dates: Fond du Lac (Fond du Lac, Oct. 1-3), Polk (Osceola, Oct. 7-8), Monroe (Sparta, Oct. 8-9)

CANADA WEST.

Table listing Canada West locations and dates: West Middlesex (Strathroy, Oct. 1-6), Toronto (Toronto, Oct. 6-8), Huron (Clinton Branch, Clinton, Oct. 7-9), So. Greenville (Prescott, Oct. 7-9), Durham-West (Newcastle, Oct. 8-9), Wentworth & Hamilton (Hamilton, Oct. 14-15)

SUNDRY COUNTIES.

Table listing Sundry Counties locations and dates: New-London (Norwich, Ct., Sept. 29-Oct. 2), Hillsborough (Milford, N.H., Oct. 1-2), Union (Woodbury, Ct., Oct. 7-8), Newcastle (Wilmington, Del., Oct. 6-8), Burlington (Mt. Holly, N. J., Oct. 6-7), Atlantic (Egg Harbor City, N.J., Oct. 8-9), Percy (New Harmony, Ind., Oct. 6-9), La Grange (La Grange, Ind., Oct. 13-16), Fayette (West Union, Iowa, Oct. 6-7), Chickasaw (New Hampton, Iowa, Oct. 8-9), Cole (Jefferson City, Mo., Oct. 5-9), York (Frederickton, N.B., Oct. 7-8)



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Seventeen Thousand Neighbors are now visited by the Agriculturist. In each of these, one or more persons may secure valuable articles from our premium list, without cost. There is scarcely a town in the country where there are not twenty to a hundred or more families, that would find the Agriculturist a valuable visitor. All that is required is, for some enterprising person to present the merits of the paper and gather up and forward the names. The reader will be interested in turning to page 313 and looking through the premium list and the descriptive notes. Nearly 3000 persons secured one or more of these articles last year, and with almost universal satisfaction, as our correspondence abundantly shows. This year, ten to twenty thousand persons may each get premiums.

A Soldier's Widow Greatly Benefited at Small Cost.—Seven ladies, in planning how they might do something to assist a soldier's wife, resolved themselves into a committee and canvassed the town for subscribers to the Agriculturist. In two days they raised a club for a premium Sewing Machine which they presented to her, and she is now able to support herself and family. Many people subscribed to promote such an object, though they had not previously become awake to the value of the paper to themselves.

How the Agriculturist was obtained at 58 cents a year.—One hundred men subscribed a dollar each, and the club received a Premium Wheeler & Wilson's Sewing Machine. It was then put up at auction, to be bid for only by members of the club, and

was sold for \$43.50. Of this, \$1.50 was paid for freight expenses, and the remaining \$42 divided among the club, which reduced the cost of the paper to them for a year to only 58 cents each. Similar enterprises have been undertaken elsewhere with like results. An Agricultural Society in Iowa subscribed for the copies as a Society, and gave them away as premiums, and then sold the machine for the benefit of the general fund.—A good operation in both cases, and suggestive to others.

Subscription Receipts not Given.—

It is utterly impracticable to return receipts for all subscriptions. Every paper is stopped when the time is up, so that its continued reception is an acknowledgment of payment. If any one in forwarding a subscription, specially desires a receipt, he will please enclose a post-paid envelope directed to himself, and the receipt will be forwarded at the time of opening his letter. We try to keep our paper at a low price, by economy in time and every other item. A few cents' worth of time and postage would more than consume all of the small profit there is on any single subscription for a whole year.

To Correspondents.—

The "writing mood" often seems to depend upon the weather, or the state of the country, or something else, judging from the fact that at times we receive box full after box full of letters, on all sorts of topics, and then there is a dearth of them. In the former case we must necessarily delay early responses to some of them. Often we cannot answer the queries made, but do not take the time to write to that effect, unless there is some important reason for so doing. We are glad to receive any number of practical hints, suggestions, items of experience or observation, queries, etc., but hope none will esteem us neglectful if they do not have instant attention.

Important.—

Always write every name plainly; give the Post Office, County and State of every name; and tell briefly, but plainly and fully, just what is desired.

Volumes of the Agriculturist, as far

back as the 16th (1857), can always be supplied. Unbound at \$1 each; or if neatly bound, at \$1.50. If to go by mail, \$1.24 in numbers, or \$2 when bound.

The N. Y. State Fair is in progress, as

we go to press. The telegraph reports it to be a decided success, pecuniarily at least. One of our Editors is present, to gather any noteworthy items for the next paper.

Come and See the Grapes.—

This paper will reach most of our readers before the first day of the month, when the great display of Grapes is to open at the office of the American Agriculturist. It will doubtless be the best show of this fine fruit ever seen in this country. Our Office is so arranged that we can remove desks, screens, etc., if necessary, and thus give up the whole floor, 80 feet long and 25 feet wide, to the exhibition tables and visitors. The best part of the day for seeing, will be early in the forenoon, any time after 8 o'clock, A. M., as there will naturally be a much greater crowd in the afternoon. About 25,000 persons were present during the three days of the Strawberry Exhibition, without great inconvenience. The grape show will be open to the public, free of charge, from 2 P. M. on Thursday to 4 P. M. on Saturday—Oct. 1st, 2d and 3d.

The Cucurbitaceous Show.—

All who have specimens of Pumpkins, Squashes, Gourds, remarkable for size, appearance or novelty, will be interested in the show of the cucurbitaceous family, (which includes Gourds, Pumpkins, Squashes, etc.) to open Nov. 4th, as announced in another column. We desire early notice of what is to be exhibited, in order that good provision may be made for their proper display. The exhibition last year happened at a very rainy season, but should this occur again, the specimens will bear keeping until fair weather, so that all who desire to do so can call and see them. Let us have, as far as possible, the correct name and origin of specimens, and any unusual item in the cultivation, for the interest and instruction of visitors.

The Strawberry Plants, offered as

Special Premiums last Summer, are all sent out. The excessive drouth that checked the growth of good roots, delayed the forwarding of them until Sept. 14, to 21.

Frost and the Cotton Experiment.—

From a friend who has recently passed through Illinois, and from a large number of correspondents, we learn that the ravages of the frost have caused many sections to present a most melancholy spectacle. The cotton is pretty generally killed outright. A great many acres were planted last Spring at a heavy expense for the seed. The hopes of those who have thought to make Illinois a cotton growing State, we are sorry to say, are disappointed, and some are large sufferers by the experiment.

Naukin or China Sheep.—J. S. M., and others. We have never discovered anything in this breed of sheep to recommend them over others, except their prolificness, and this is probably offset by lack of vigor of constitution. They have been in the country some six or eight years, and have not been as much disseminated as one would expect, if as really valuable as claimed.

Caked Bag.—Mrs. E. C. Wheeler, of Essex Co., N. J., says, take $\frac{1}{4}$ lb. of the green bark of the Bitter-Sweet (*Solanum dulcamara*), steep it in sufficient water to make a strong tea, drain off the liquid, add 1 lb. of lard to it, and let them simmer together to the consistency of lard; when cold, rub the affected parts thoroughly with the mixture, night and morning. A perfect cure will be effected in two or three days. The application has proved, upon repeated trials, equally as good for human beings as for animals.

Greasing Chickens.—Jos. Michener remarks on J. Bright's chicken-greasing: "Of course it does not do to grease sitting hens with him or any one else, simply for this reason: it fills the pores of the shell, and the chicken smothered; but as soon as all the eggs are hatched that are likely to, take the hen off and grease her as much as "he or any one else" wants to, and I will insure him that the lice will die, and the chickens will live."

Husking Aids.—J. Scofield, Windham Co., Conn. Among the many contrivances to lessen the laborious operation of husking corn, we know of nothing better than the "husking pin," described in the *Agriculturist*, Vol. XX, p. 9, (Jan. No.), which may be of hickory, bone, or iron. It is held in the palm of the hand by a leather strap passing over the two middle fingers, and the pointed end is used instead of the thumb and finger nail, to open or part the husks.

Packing Pork.—A subscriber wishes to know the best method of salting pork; whether saltpetre is necessary for its preservation, and whether it is advisable to repack it in the Spring; also whether there is any reliable method of cleansing tainted barrels. Will some one having successful experience please contribute his method, and also answer the other queries named above.

Killing Quack or Quitch Grass.—S. K. Walkup, of Framingham, writes that he succeeds in destroying this pest by smothering it with old straw, hay, or other mulch. He covers it in the month of June, and succeeds in killing out the plant in about a month.

Rats Again.—Isaac Hicks, of Queens Co., L. I., says that being much troubled by rats, he dropped some chloride of lime into their holes, and the rats have not been seen or heard of since.

Deep Plowing for Potatoes.—A Long Island subscriber, M. Foley of Suffolk Co., placed some very fine Peach Blow potatoes upon our exhibition tables, with the remark that deep tillage and thorough working of the soil gave such potatoes, while those of his neighbors, on lightly stirred ground, with little tending, were literally "burned up" by the drouth. If deep tillage is good for the light soil of Long Island, still more will it benefit the heavier soils of the main land.

Large Egg Plants.—The purple egg plant, under skillful culture, frequently grows to a very large size. Several specimens on *American Agriculturist* Exhibition Tables weigh five and six pounds each. Among those shown by Wm. Simpson, of Westchester Co., N. Y., one weighs seven and one half pounds, but that yields the palm to a mammoth specimen grown by R. M. McGarretty of the same County, which measures 29 $\frac{1}{2}$ inches in circumference and weighs eight pounds and ten ounces!—The largest we have ever seen.

Ripening Tomatoes.—J. Hussey, York Co., Me. As there are frequently a few nights of frost in your vicinity, followed by warm weather, you can easily protect the unripe tomatoes with mats, quilts, horse blankets, etc., in threatening weather. A little care for two or three nights may keep them ripening for weeks. Or the plants may be taken up with earth around the roots, and set in a shed or cellar to ripen the fruit.

Crab Apples.—J. W. Decker, Wayne Co., Pa. The red crab apples sent are very handsome, of large size and of good flavor. Considerable attention has lately been paid to the Siberian crab, and several seedlings of promise have been sent out. One variety called the "Hyslop crab," brought in by H. A. Conger, Walworth Co., Wis., measures 5 $\frac{1}{2}$ inches in circumference, is of a bright red color, covered with a rich bloom, and is

of fair flavor. The Crab Apple merits attention as a thrifty growing tree, ornamental in foliage, and flowers. The fruit, besides being beautiful, is valuable for preserving.

Profitable Pears.—To-day (Sept. 11th), we have seen good Bartlett pears selling in Washington Market, New-York City, for \$15 to \$18 per barrel, wholesale, and the dealer informed us that choice selected Bartletts would bring from \$18 to \$25 per barrel. Half a dozen large well grown trees would yield more profit than a whole acre of grain or other field crops, and perhaps more than an acre of apple trees of the same age.

Unripe Grapes.—Grapes are usually picked before they are fully ripe. We have heard persons call the Isabella a poor, sour grape, simply because they commenced picking as soon as the fruit began to color, and the grapes were all gone at least a week before they would have been fully ripe. The Isabellas, particularly, should remain on the vines at least one week after they appear fully ripe. When designed for keeping, leave them uncut until in danger of freezing—a light frost will not injure them.

Fall Pruning of Grape Vines.—"G. T." Yes; we like Fall pruning, and the sooner it is done after the first hard frost the better. If left until just before Winter sets in, and the weather should be cold all the time, the shoots will frequently bleed in Spring.

The Cut Leaved Blackberry Again.—S. H. Halsey, Esq., of Astoria, L. I., has brought us specimens to show that this variety is, with him at least, a good bearer. The branches hang as full as need be, and the fruit is of good size. It is sweet, but has a flavor which will probably not please some persons. The vines are disposed to run to the length of 20 or 30 feet. Mr. H. keeps his cut back to about 6 feet, and has an abundance of fruit. See August *Agriculturist*, page 231.

Planting Raspberries.—"J. H. C." As most of the cultivated sorts are only half hardy, it is better to plant out in Spring after they have been safely wintered. When set in the Fall, there is required the additional labor of covering them.

Strawberries from Seed.—Chas. A. Warren, New-Haven Co., Conn. Your seedlings probably will not bloom until the third year. The runners should be kept off, and the plants be well cultivated in order to get as strong and vigorous stools as possible.

Triomphe de Gand Strawberries Productive.—J. R. Flink, Luzerne Co., Pa., was inclined to rate this strawberry a poor bearer, after one year's trial. The plants were strong and healthy, and being set in August, he looked for a full crop the following Summer, and was disappointed; but tending them well, and keeping them in stools, the result the next season was perfectly satisfactory. No strawberry will yield a full crop the first year after setting them out in Autumn.

Small Fruits.—Mr. Knox of Pittsburg has the largest and most complete "Small Fruit" plantation in this country, if not in the world. Others may have more of one kind, but he has all the small fruits—strawberries, raspberries, grapes, etc., and a large amount of each. In passing through Pittsburg, in July, we made a hurried visit to Mr. Knox's place, a little distance southwest of the city,—not to gather any special notes at the time, for we were too much worn down with the labors at Gettysburg—but to take a general look at the whole. We were highly pleased with what we saw, and shall take pleasure in making a future visit of greater length to study the small fruits where they are so well grown, and on so large a scale.

California Wines.—California is not only a wonderful country in its mineral products, but its agricultural and horticultural resources are constantly exciting our admiration. The European vine was introduced there by the early Jesuit missionaries, but its culture did not extend much beyond the grounds of the Missions until within a few years. Now that enterprising Americans and Europeans have undertaken the culture, California bids fair to become one of the great wine-producing countries of the world. The products of her vineyards already find a place in this market.

Lilium Brownii.—This is one of the most beautiful of the Japan Lilies; we have a fine specimen of it from the grounds of A. S. Fuller, Esq., of Brooklyn. This sort is quite dear as yet, but we hope that this and the other varieties will soon be at a price which will bring them within reach of everybody.

A Pretty Variegated Plant.—John Paddock, Houston Co., Minn., sends us *Euphorbia marginata* raised from seeds from Pike's Peak. We have seen acres of it in Texas, but never saw it in cultivation. We should be glad of some seeds.

Seeds Received.—J. G. English, sends us some seeds of a White Perennial Phlox, found in the Grand Prairie, Ill. We shall make a trial of them.

Dyeing with Sumach Berries.—Mary Brown, of Rush Co., Ind., wishes to know how to color yarn with sumach berries. Who can tell her?

Take Care of the Sorghum.—Now that the crop is grown and already being worked up in some places, see to it that none goes to waste. If the crop cannot be ground and evaporated as fast as cut, stook it, either in the open field or in covered sheds—it will then keep good for weeks. It should be worked up, however, as fast as possible, grinding in a strong mill to press out all the juice. Evaporate in shallow pans as fast as ground, and no chemicals will be needed. The quicker the juice is boiled and skimmed, the clearer and lighter colored will be the syrup.

Sugar Evaporators.—As an indication of the extent to which sorghum growing is being carried on at the West, we may mention that one firm, Messrs. Blymyer, Bates & Day, of Ohio, who manufacture the Cook's Evaporator, are turning out 60 per week, and expect to dispose of 1,500 to 2,000 for the Incoming crop.

Cheap Paint.—L. T. Nells, of Hamilton Co., Ohio, sends us the following recipe for a paint which he says is of German origin. He says it wears and washes well, is water-proof, and may be used for house-floors and out-door work. The proportions for 400 square feet are: 2 $\frac{1}{2}$ oz. Beeswax, 1 oz. Potash, $\frac{1}{4}$ oz. Ochre, 1 oz. unburned Terra de Sienna, and 6 pints of water: boil for two hours and apply it hot.

Cleansing Cemented Fruit Bottles.—Lucia N. Hall, of Ashtabula Co., Ohio, writes that upon noticing the directions given on page 231, August *Agriculturist*, she tried boiling the bottles in strong soap suds, and found it effectual. To prevent breakage, the bottles should be put in before the water is hot, and taken out after it has cooled somewhat.

To Cleanse a White Cape Shawl.—A lady asks how this can be best done without danger of injuring the shawl. We do not know. Who does?

Book for Self-Instruction in Latin.—Genie Belmonte. Either Harkness' or Arnold's First Lessons will answer your purpose.

Farm Book.—"J. H. A." Westchester Co., N. Y. You will find several good books on farm topics in our list published on one of the last pages of the paper, but there is no one book which so generally meets the varied wants of the farmer, (who should also know something of flower and vegetable gardening, and also fruit-growing), as a living periodical like the *Agriculturist*, which notes, as they transpire, all the improvements, both in modes of culture and in the things cultivated.

The Natural Laws of Husbandry, by Liebig, D. Appleton & Co. Perhaps no writer has done so much to excite an interest in the science of agriculture as Liebig, and whatever comes from his pen will attract attention even from those who reject his theories. The present work contains the matured opinions of this distinguished author. Those who open it expecting to find a practical agricultural hand-book, will be disappointed. It requires a certain amount of scientific knowledge to read the work understandingly, and those who have this requisite, will find in it much food for thought. The translator has probably made it less popular than the original; thus we find Amylum used instead of starch, and sundry other unnecessary displays of learning. The American reader should bear in mind that where corn is spoken of, wheat is meant.

Heat Considered as a Mode of Motion, by John Tyndall, F. R. S., etc. N. Y., D. Appleton & Co. This is one of the works of which there are unfortunately too few—one in which the profoundest views of a most difficult subject are presented to the comprehension of any intelligent person, in a perfectly plain manner, without departing from scientific accuracy. It is a charming book on a subject of universal interest, and the Appletons have done a good service in re-publishing it in such an elegant form. We mail it for \$2,

Feed for Horses.—Robert H. Martin, Sussex Co., Del. Oats are universally considered the best grain for feeding to horses. If the straw be well cured, and the unthreshed bundles be run through a straw-cutter, the feed cannot well be surpassed. The straw so used should be free from rust, and it is considered an improvement to slightly wet the whole just before feeding.

Currycomb Substitute.—W. B. Waldo, Dutchess Co., N. Y., writes to the *Agriculturist* that a case-knife, with the edge made smooth but not sharp, is equally effective with a currycomb in removing dust and scurf skin from the horse, and pleasanter for the animal.

Garget in Cows.—S. S. Moody, Hampshire Co., Mass. This disease is the result of inflammation of the lymphatic glands of the udder of the cow. It may be produced by neglecting to draw off the milk, by external injury, fevers, etc. If neglected, matter may be formed, and a bad abscess result. In its first stages it may usually be relieved by washing the bag with warm water, and then after wiping it dry, applying to the entire surface melted lard, as hot as the animal can bear it. If abscesses be formed, they should be lanced.

Grass for Sheep.—James McCollum, Niagara Co., N. Y. The grass best suited for sheep pasture must depend on the character of the soil. Where blue grass will flourish, nothing is more suitable; in other sections we should prefer timothy, or if exposed to much drouth, should try orchard grass, which bears very close feeding, and is much relished by sheep or cattle.

Freeing Poultry from Vermin.—Edward A. Lewis, St. Charles Co., Mo., writes: "Last year my hens were so infested with vermin that they died on their nests, and even on the roosts. It was impossible for a person to step into the old hen-house, even for a moment, without bringing away colonies of the detestable insects in his clothing. Upon transferring the hens to the new building, they were all rubbed with a mixture of lard and Scotch snuff. The old house was fumigated with tobacco stems and thoroughly whitewashed. *Sassafras* roosting-poles were adopted in the new house, from a suggestion found in the *Agriculturist*. To all which, together with the burning out of the nests, may be attributed the fact that there has not been the least appearance of the pests on my premises the present year.

Subsoiling.—W. C. Pierce, Clinton Co., N. Y. Subsoiling would undoubtedly benefit a clayey loam resting on a gravelly hardpan, but permanent draining with tiles would be a more lasting improvement. We can not name the best subsoil plow; several good patterns may usually be found at any agricultural warehouse. It is not necessary nor advisable to bring up the subsoil to the surface where the soil is eighteen inches to two feet deep. Driving the plow through it will open it to the action of air and moisture.

Prevention of Smut.—James R. Boyd, Ontario, Wis., writes to the *American Agriculturist*, that last Spring he sowed Scotch Fife wheat, after having washed the seed with strong salt brine and rolled it in lime until it was well covered. The crop was entirely free from smut, while neighboring fields without this application, were badly infected. We have used with success a wash of dissolved sulphate of copper (blue vitriol); perhaps common salt would be equally useful.

Orchard Grass with Clover.—William Shockley, Jr. Orchard grass sown with clover makes an excellent mixture, as the two ripen together, and the hay produced is of the first quality. It may be sown with winter grain, the same as timothy. A bushel per acre is sufficient seed when to be mixed with clover. We do not know that it would be less injurious than timothy to the wheat crop, but the experiment is worthy a trial.

Time for Plastering Clover.—James McCollum, Niagara Co., N. Y. We prefer to sow plaster upon the young growth of clover in the Spring. It then has an opportunity of expending all its virtue in forwarding the plants, before being partially washed away, as it would be if applied in Autumn.

Breaking Up Prairie Lands.—"Minnesota" desires some one practically familiar with the operation, to give in the *Agriculturist* details of his experience in breaking up prairie land, as to the best season, what is preferable for the first crop, the method of cultivation and the result. He asks "Does the sod rot better when laid flat and even, than when rough and exposed to the weather?" Many now seeking homes in Southern Minnesota, Northern Iowa, Wisconsin, and other prairie

regions, would be greatly benefitted by such information from those who have "been through the mill."

Practical Questions are often as valuable, because suggestive, as direct information. E. J. Judd, Ontario Co., N. Y., sends the following for answer in the *American Agriculturist*: "What does it cost per bushel to grow corn along the line of the N. Y. Central Railroad, and what is the average product per acre? What weight of ears of the 8 and 12-rowed varieties will yield 60 lbs. of shelled corn? In the same section, what is the cost per rod, to thoroughly underdrain land, two feet deep, with good tiles of 1½ inch bore? Also, what is the experience, in these matters, of those living along the line of the N. Y. and Erie Railroad?" As these roads run through districts varying in character along their routes, some of the answers would present widely different figures; still they would contain useful information.

To Keep Bees from Over-swarming.—Several inquirers. Mr. Quinby writes on this subject for the *Agriculturist*: "With the ordinary box-hive, there seems to be no practical way to prevent over-swarming. When there are but few stocks kept, it is possible to remove the queens of the after-swarms, and return the bees to the parent hive. But in large apiaries, it is common to have several swarms issue at once, and cluster together, making it impossible to return each swarm to the hive to which it belongs. In the movable comb hive, the following management will control them: A week after the first swarm has issued, take out the combs and cut off all the queen cells but one, and the work is done. It will not answer to wait until some of the queens mature, and then do it, as by that time the bees get up the swarming fever, and they will sometimes come out with the last queen they have. Over-swarming is disastrous, even when an increase of stocks is desirable, as the old one is often ruined, and perhaps only one of the new ones suitable for winter. By a little management, two, and even three powerful colonies may be obtained from one in a single season, and not impoverish the old one at all. The queens may be reared artificially. The Italians work much better in this way than the natives, and introducing a mature one to the old stock almost immediately after the first swarm, will result in one or two additional swarms without leaving the old stock almost destitute of bees, during the season of the best yield of honey."

"Northern Honey."—Several inquirers. This is an old invention, secret recipes of which were peddled about the country several years since, at from ten dollars to twenty-five cents, according to the veridancy of the customers. The directions for making it, published in a former volume of the *Agriculturist*, are as follows: Dissolve 20 lbs. of coarse sugar in 3 quarts of warm water. Stir into it one-fifth ounce of cream of tartar, first dissolved in a little water, and also five or six pounds of good honey, and half a teaspoonful of essence of peppermint. Boil the whole slowly for 12 minutes, stirring it all the time, and it will make 30 lbs. of a mixture which with some may pass for honey.

Preserving Cheese from Flies.—S. E. Ogden, Austin, Mich. New cheese should be anointed with butter or oil made from whey-cream, which rises from whey set apart for the purpose after being drawn from the curd. It is skimmed off and churned like other butter. In hot weather a sprinkling of cayenne pepper mixed with it will repel flies. A little beeswax added, hardens the mixture, and is better for the hot season.

The "Wine-Plant" Humbug.—From the frequent advertisements and notices now appearing in the newspapers, we feel constrained to again caution our readers against investing money or time in any so-called "wine-plant." Last year it was the "English wine-plant;" now there are several names. The gist of the matter is, that from the juice of any variety of rhubarb, it is possible to make an alcoholic drink, by adding sugar, and fermenting it. The same is the case with the juices of a great number of other plants and fruits. But there is no essential difference between cider whiskey or cider brandy, and the so-called "rhubarb wine," except in the amount of alcohol, and that the latter has a different flavor. There is little if any difference in the different kinds of rhubarb, so far as their capability of producing alcohol with sugar is concerned. One of the best varieties of rhubarb for cooking or any other purpose, is the Linnæus, or "Myatt's Linnæus," as the same plant is sometimes called, from Mr. Myatt who first raised it from seed. This variety is now abundant, and has been advertised in the *American Agriculturist* the present year for \$18 per thousand roots! If anybody invests in it at \$25 per hundred (that is \$250 per 1,000!) because some speculator names it a "wine-plant," he pays

pretty dearly for neglecting to invest a dollar a year in the *Agriculturist*, in which paper the imposition was shown up some time since. We see it stated that nearly 4,000 gallons of this (rhubarb) wine is produced from one acre, and that it readily commands \$2 per gallon! *Credat Judæus!* Pray tell us what responsible party is ready to contract for the product of ten acres (35,000 to 40,000 gallons,) at a dollar a gallon.

Souring of Wine.—Benjamin F. Huntington. Wine and other fermented drinks will sour from exposure to the air. Fermentation is produced by the oxygen of the atmosphere uniting with the sugar of the juice, at first changing it to alcohol, and ultimately to vinegar if the process be continued long enough. Cork bottles or casks tightly when the first or vinous stage of fermentation is completed, and it cannot sour. The vessels should be full, otherwise enough air may be present to induce a change.

Cover the Spinach.—O. L. Allen, Berks Co., Pa. Spinach sown early in September should be covered with hay, straw, or other litter, just before the ground freezes up. A covering of an inch thick is sufficient, and the straw should be removed when danger of hard freezing is over in the Spring. Thin the plants before the covering is put on.

Black Knot on Plum and Cherry Trees.—"F. T.," Delhi, N. Y. This is not caused by an insect. It is very well explained and figured in the *Agriculturist* for April.

English Ivy.—H. P. Rogers, Fulton Co., Ill. We cannot tell whether the Ivy will flourish with you. We should try it on the northern rather than on the southern side of the wall, as it will be less exposed to alternations of heat and cold.

Magnolias in Michigan.—O. M. Wood, of the Botanic Gardens and Nurseries, Clinton Co., Mich., states that *Magnolia acuminata* grows well with him, and is as hardy as an oak, while the Catalpa is invariably killed to the ground every winter.

American or New-Jersey Tea.—Some one in Columbia, Pa., sends us a specimen of the leaves of this plant, which was described in the September *Agriculturist*. He thinks it will never suit the palate of an old tea-drinker. There was money in the letter, but no signature. The number of the letter is 95093. The paper can not be sent unless we have the address.

Egg Plants Delicious if Cooked Rightly.—Many readers say they do not understand how others can like the egg plant. We can; cooking is everything. The best directions are given to the *American Agriculturist* by one of its housekeeping readers. Cut the plant across into thin slices, say ¼-inch thick; salt and lay these together over night; in the morning take them from the brine and sprinkle finely powdered cracker over both sides of the slices; then fry brown (not black) in just enough fat to keep them from sticking to the griddle. Some use Indian meal instead of cracker, but the cracker is best. We eat them thus cooked, and esteem them a really cheap delicacy, though we once thought them poor stuff. A subscriber at our elbow says: "Cut them into slices nearly ½ inch thick; sprinkle on salt, lay them together with a light weight on the top; in the morning drain from the brine, roll in flour and fry in butter, and they can't be beat."

Not Quite Right Yet, Mr. Humbug! One of the swindlers in Philadelphia sends out his "gift" and other enterprises, under the name of Messrs. "BANE & Co." Right so far, for the operator is a bane to society. But having exhausted his list of known names, he is now putting up envelopes, printed with a neat mechanical device, which he sends to different parts of the country, addressed: "To any mechanic, in the Town of —, County of —, State of —," and requests the Postmaster to deliver the letter to some mechanic. Enclosed and sealed up are a lot of schemes, tickets, etc., with great inducements for investing from 25 cents to \$1 or more. We suggest to Mr. Bane, that his letters would be more appropriately addressed: "TO THE GREATEST FOOL in the Town of, etc."

Pronunciation of Names.—J. M. Porter, Roxabel, Ohio. The names of the authors mentioned in your inquiry are pronounced as follows: Boussingault, *Bou-sang-go*; Brandt, *Brant*; Buist, *Bu-ist*; Chilton, *Ch soft*, as in cheese; Goodale, *Go-od-ale*; Guenon, *Germ-on*, (G hard, as in get); this is the nearest approach we can give to the French sound of the u in the first syllable. Leuchar, *ch hard*, as in chiasm. Liebig, *Lee-big*; Youatt, *You-ot*.

"Stuffing" Live Poultry.—C. J. Waters, Broome Co., N. Y. This is practised extensively in Europe, and by some poultry raisers in this country. Fowls are confined in close dark quarters, and their crops are frequently filled with dough forced down their throats. By this treatment they may be made excessively fat, but it is doubtful if the meat can be wholesome, as the process is clearly an unnatural one—we need not say it is cruel. Plentiful feeding with grain and sour milk will make fowls plump enough for our use, "or any other man's."

Keeping Eggs in Bran.—M. A. Humphreys, Delaware Co., Pa., communicates to the *American Agriculturist* the following method for preserving eggs, which she says has been successfully practised in the family from the days of her grandmother of the 17th century. Prepare bran by drying it in a pan in the stove, to prevent its moulding. Place a layer of this in a box or barrel, then the eggs in regular rows, points downward, and thus with bran and eggs alternately, fill the vessel. They should be kept in a dry place and free from frost.

Sulphuric Acid (Oil of Vitriol).—To several querists. This is usually put up in Carboys, that is, large, thick glass bottles, which hold about 150 pounds each. These are each set in square boxes for carriage. The present price of sulphuric acid is 2½ cents per pound, wholesale. The carboys are charged for extra, at \$1 50 @ \$1 75 each, which price is refunded if the carboys are returned empty. This is the acid used for dissolving bones for manure.

To Dry Up Milk.—Robert H. Martin, Sussex Co., Del. A strong solution of alum in brandy rubbed on the udder of an animal a few times daily, will usually check the flow of milk, and relieve the animal from danger of garget, when the young are weaned, or it is desirable, from any cause, to dry them off. The wash should be applied as warm as can be borne by the hand.

Caterpillars.—"W. G. B.," of Newark, N. J., asks what he shall do with the caterpillars which are this year very abundant in his section.—We were in the neighborhood of Newark a few weeks ago, and saw large trees completely stripped of their foliage. We know of no remedy short of actual destruction. The work must begin with the season as soon as a nest is discernable.—Swabbing out the nest with some cheap oil, or removing the caterpillars by means of a spiral brush, sold for the purpose, are the usual methods of warfare.

Not Alone by Farmers is this journal taken and read, as we have abundant evidence. It is for the Household and the Garden, as well as for the Farm. Many thousands of copies are taken in this City, and in most of the villages in the country, by mechanics, professional men, tradesmen, and others. A letter before us, from interior New-York, mentions incidentally the occupation of ten subscribers, thus: 3 stone-cutters, 3 teachers, 1 blacksmith, 1 carriage-maker, 1 farmer, 1 editor.

Seeds by Mail.—A letter from the Office of the P. M. General informs us that the instructions under the new law are amended, so that packages of seeds, cuttings, roots, and cions, weighing not over *thirty-two* ounces may be franked by the Department of Agriculture. Heretofore the limit was fixed at twelve ounces.

Seeds of Ailanthus and Sweet Gum.—Irwin Folsom, Rockland Co., N. H. The seeds are usually kept by Thorburn & Co., and probably by other large seed dealers.

Insects Received.—I. P. Allen, Whiteside Co., Ill., sends us the beetle of the borer, which infests the Locust. This is the *Clytus pictus* of the Entomologists. Mr. A. says that the borers are entirely ruining the Locusts in his county, and is afraid that they will attack the fruit trees. We have never heard that this particular borer injured any tree except the Locust. The perfect insect or beetle feeds upon the Goldenrods and some other wild flowers, but the eggs, we believe, are deposited in the crevices of the bark of the Locust only. . . . James Strang, Franklin Co., Ohio. The striped insects are *Chrysomela vittata*, and the black ones *Lytta pennsylvanica*. They are both blistering beetles, and have been used as substitutes for the Spanish Flies of the shops. They are very destructive to potatoes and many other plants. Catching by shaking them into a pan of water, or by sweeping the plants with a net of muslin and then killing them by heat, has been recommended. . . . Mr. Goodyear, Butler Co., N. Y. The caterpillar was too much decayed to make out satisfactorily, but it is probably the yellow-necked apple tree worm—a

most voracious fellow. Your method of getting rid of them by cutting off the twigs and burning them is certainly effectual. . . . Vocative, Philadelphia. The insect which appeared upon the Oats is probably the grain aphid which has been frequently noticed in our pages. The young of the Lady-bug is not injurious to vegetation, but is one of the farmer's friends, as it lives upon plant lice.

Splendid Flowers.—There have been several collections of flowers upon the exhibition tables at the *Agriculturist* office within a few weeks, which are so very fine that they deserve more notice than a mere acknowledgement in our list of articles exhibited. The fine display of gladioluses mentioned last month has been kept up. Mr. W. P. Wright, of Hoboken, contributed the finest Asters we have ever seen—some were as large as a medium sized Dahlia. Mr. W. Davidson, of Brooklyn, has paid great attention to the cultivation of the Verbena, and has shown a large number of the old kinds and a great many of his new seedlings, comprising some very fine and distinct sorts. W. & J. Cranston of Hoboken, and Mr. Pell of the N. Y. Orphan Asylum, have made fine displays of Dahlias, and P. Henderson of Jersey City, has shown a collection of new Petunias, many of which were remarkably distinct in their markings.

Training Grapes upon Fences.—"T. C." Kinks Co., N. Y. If the fence is a tight one, nail on blocks or short pieces of boards, or iron brackets for the wires, to keep the vines six to twelve inches from the fence. Air should circulate freely behind them. Besides, the leaves would "burn" if in close contact with the fence.

The Beurre Clairgeau Pear.—This variety bids fair to sustain a good reputation for quality, while its great beauty is much in its favor. One of the finest sights we have seen in a long time was a dwarf tree of this kind in full bearing in the grounds of E. Williams at Mont Clair, N. J.

Ground-Glass Shades.—A correspondent in Maine questions the correctness of the opinion that the amount of light transmitted through a ground-glass chimney or globe is as great as that transmitted by plain glass, and cites a record of experiments in the *American Journal of Science and Arts* for November, 1860, on the loss of light by glass shades, from which it appears that, while common window and plate glass intercepted from 4 to 13 per cent. of the rays, ground glass intercepted about 65 per cent., or in other words, reduced the illuminating power nearly two-thirds.

"The Portrait Monthly."—T. B. Leggett & Co., Publishers of the N. Y. Illustrated News, have commenced issuing under the above name, a monthly sheet of 16 pages, of the size of the pages of the *Agriculturist*, giving engravings of the noted men of the day, mainly army officers, accompanied with short sketches of the life and acts of each man. The work is well printed on heavy paper, and is probably the best thing of the kind issued so cheaply (\$1 a year). Few of the hastily executed newspaper wood-engraved portraits, can be called very accurate, or satisfactory likenesses, yet they give some idea of the general features and expression of countenance, and hence are better than nothing. Good Photographs, or steel engravings are of course preferable, when they can be obtained.

"Veronica quinquefolia" and the Rural New-Yorker.—In the September *Agriculturist* we took occasion to publish an exposition of what we supposed came legitimately under the head of humbugs, that is, the puffing of the medicinal qualities of a very common herb, by communications in such papers as would print such matter, and its sale by the writer of the articles, at a very exorbitant price. Our much respected contemporary, the *Rural*, quotes our article, and then undertakes to prove us in error as to our botany. It is not our intention to make any statement that cannot be substantiated, and in the case in point we had beforehand abundant evidence of the truth of our assertions; evidence which can be produced should it ever be necessary. Our statement was, that the plant in question, though called *Veronica quinquefolia*, was the well known *Veronica Virginica*, also called *Leptandra Virginica*. We might have added that the name *Veronica quinquefolia* was one unknown to science. The *Rural* says that it has received a specimen of the plant from W. R. Prince, and goes on to show, from its botanical characters, that it is not *Veronica Virginica*, and indeed not a *Veronica* at all. As we do not know what plant has been sent to our friend by interested parties, we cannot say whether he is right or wrong in his conclusions, though we cannot help thinking that the number of characters he has made out, to show what the plant was *not*, ought to have enabled him to tell us what it *was*.

Our point was, that this "wonderful remedy," sold at a high price under the name of *Veronica quinquefolia*, was nothing but the old *Veronica* or *Leptandra Virginica*. That this is the case we can prove beyond doubt, and as a part of our evidence of this we quote from the catalogue of W. R. Prince & Co., published in 1844, where on page 102 we find the following:

"LEPTANDRIA VIRGINICA.—N. B. This plant is noted for purifying the blood, and for cures of salt rheum, leprosy and dropsy. For the quantity of the root and prescription \$5."

Aside from the incorrect spelling of the name, *Leptandra* can any one doubt that this is the same thing?

We do not think that our article contained any misstatement, except perhaps the price at which the root is sold. We learned from two sources that it was sold for \$3 per ounce and two ounces for \$5. We have now before us a circular, in which the price is given "3 ounces, \$3; 6 ounces, \$5; 9 ounces, \$7 50; and 12 ounces, \$10." Prices sufficiently high to warrant our calling them exorbitant, when the same article is readily obtainable at the drug and herb stores at about a dollar a pound. We have seen it growing abundantly, and generally along water courses. Of its medicinal qualities, the United States Dispensatory says: the "*Leptandra Virginica* or *Veronica Virginica*, . . . when recent, acts violently as a cathartic, and sometimes as an emetic. . . . It was formerly recognized in the U. S. Pharmacopœia, but was omitted in the edition of 1840."

The Ready Reckoner or Farmer's Manual, is the title of a work issued by Benj. Urner, N. Y., containing miscellaneous tables of measurement by farmers and others. With much useful matter it contains also information on many subjects of general interest, and is probably worth the price asked, \$1. The arrangement is very defective, the different subjects being thrown together heterogeneously.

A Californian Agricultural Fair.—We have the show-bills and programme of the Agricultural, Horticultural and Mechanics' Society of the Northern District of California, which held its fourth annual fair at Marysville during the week commencing the 7th of September. The premiums are ample and the rules liberal. As we received the announcement some days after the exhibition closed, we could not, of course, attend. We always receive these evidences of the Agricultural prosperity of California with gratification, and we hope before we are many years older to witness the wonderful improvement it has made in the peaceful art.

Dwarf Broom Corn.—C. D. Ellis, Essex Co., N. J. This variety was first brought to our notice by Mr. E. B. Good, of York Co., Pa., from whom seed was obtained and distributed free to *Agriculturist* subscribers. It grows about four feet high, the brush being about two feet long. We have not recently heard anything concerning it, and do not know whether it was generally liked. The first reports from growers and manufacturers were favorable.

New-Jersey State Fair a Failure. We feel personally mortified at the doings of one of the members of the *Agriculturist* family. For New Jersey we have a special regard; it is near "head-quarters;" the *Agriculturist* is peculiarly the agricultural paper of the State, as none other is permitted to live there. There are plenty of good farms and good farmers in the State, and whatever they really undertake, they do up well, as a rule. Few other States have done more to furnish men for the national defence. Perhaps it was their special interest in the raising of troops just now, that led them to forget the State Fair held in the name of the New Jersey farmers this year. From our particular interest in this State, we were present at the so-called State Fair, while we only sent representatives to other States. A visit of three hours was enough. If there were a county in New Jersey (happily there is not) which could not get up a better agricultural show than the State *af-fair* this year, we should advise that county not to try. On the "State Fair Grounds" at Patterson the agricultural display contained only two sheep; about thirty cattle (including calves), such as they were; a baker's dozen of hogs and pigs; any number of fast horses; two plowmen at the plowing match; one firkin of butter and four boxes of cheese, or two of butter and three of cheese, we are not certain which; about a dozen melons; a few beets; less than a bushel of potatoes (where was Monmouth County?) and other vegetables to match in quantity. . . . and any number of peddlers *within* the enclosure, including gift enterprises, chance operators, and the man who sang to the crowd, ladies included, songs that were little adapted to ears polite, if other songs were like one got off, as we were necessarily passing, about the peculiar effects of lager beer upon the two sexes.—The show as a whole (except the horse races, which we did not stop to see) was such a failure that we have no patience to speak of the few good

features we found in the fruit, household and implement departments. We regret to speak thus of the show of a State we have reason to especially regard, and do it "more in sorrow than in anger." Our only aim is to awaken the good farmers of New-Jersey to a sense of the disgrace put upon them, or perhaps put upon themselves, and to incite them to right action in the future. Monmouth County with its potatoes, and Bergen with its vegetables, can take the job and get up a big and useful display; but let the farmers of the whole State come together next year—at some central, accessible point—and show what New-Jersey can do when she tries. No State could beat her in a genuine exhibition of soil products.

Interesting to Flax and Hemp Growers and Manufacturers.—Congress having appropriated \$20,000 to be expended in investigations to test the practicability of preparing flax and hemp as a substitute for cotton, the Commissioner of Agriculture has placed the matter in the hands of three Commissioners, who call the attention of manufacturers to the subject. Samples of fibres and fabrics, with precise descriptions of processes, and statistics of cost, are to be sent to the Department of Agriculture at Washington, on or before November 20th. Parcels and letters should be endorsed, "For Commissioners of Flax Culture."

White Flax Seed.—Henry Gaylord, New Haven Co., Conn., sends us a sample of white flax seed, and asks if there is any difference between the fibre from this and that of the common seed. We have never seen the white seed before, except an occasional grain mixed with the brown and have no knowledge that the fibre is different from that of the ordinary kind.—We shall be glad to hear from any reader who can inform us.

What Success in Cotton Growing?—From many letters received last Spring we judged that a comparatively large area of cotton would be planted in some of the Northern States this year. Will those who have been engaged in the experiment please report to the *Agriculturist* their success or failure, and give such practical hints as their experience has suggested.

Large Yield of Potatoes.—Mrs. Elsie C. Wheeler, Essex Co., N. J., reports to the *American Agriculturist*, having planted a plot of ground, 61 feet by 89 feet, with Bulkley's seedling potato, and realized a return of 39 bushels—over 312 bushels per acre.

Native Tobacco.—Geo. H. Brown, Henley, Cal., sends seeds and specimens of a species of tobacco which grows wild in all parts of California. We suppose, from the limited specimen, that it is *Nicotiana rustica*. We have not known of any attempts to cultivate it, and can give no idea of its value.

Tobacco for Ants.—W. B. Waldo, of Dutchess Co., N. Y., informs us that, after trying various expedients for ridding his walks of ants, at length succeeded in clearing them out by the use of a strong decoction of tobacco.

Pear and Peach Trees in Michigan.—J. N. Lansing, Mich. In your locality we should prefer to "heel in" the trees, i. e. make a deep trench for the roots and cover them with a good amount of earth, in a sheltered situation. Plum and Cherry trees we should prune in June or July. Currant bushes may be pruned any time in Autumn.

Night-blooming Cereus.—We have a fine specimen of this beautiful flower from Mr. George Stillwagon, of Flushing, L. I. Thanks to the attention of Mr. S., we had the pleasure of seeing it also.

Plants for a Name.—Mrs. N. Gougan, Wild Co., Ill., sends *Anagallis arvensis*, the Pimpernel, which she says is a cure for hydrophobia. We never before heard of its having any medicinal qualities.... "Spivins," Piqua, Ohio. The specimen came in rather bad order, but it seems to be *Quamoclit coccinea*, own brother to the Cypress Vine, and probably not a cross as you suppose.... S. A. Decker, (no place) sends the Bitter Sweet, described on another page.... Mr. Seelbach, Baltimore. The plant is probably *Cleome pungens*, but the specimen is too small for accurate determination.... H. H. Ackerman, Bucks Co., Pa. The seeds look like those of the Hollyhock, but as there are other nearly related plants, we can not be sure from the seeds only.... G. W. Goodwin, Conn., *Lythrum Salicaria*, the Spiked Loosestrife. It grows wild in some parts of your State, and is often cultivated.... Mrs. Julia H. Mack, Richland Co., Wis. The leaf sent is that of the Canarybird Flower (*Tropaeolum peregrinum*), a climbing species of the Nasturtium of the gardens. It is a charming climber, and an annual.

Probably the flower buds of your lilacs are winter killed.... E. W. Daniell, Meigs Co., Ohio. The grass is *Uniola latifolia*, the Broad-leaved Spike-grass. It is one of the most beautiful of our native grasses and worth cultivating for ornamental purposes.... Mariette M. Herring, Winnebago Co., Ill. Your plant is *Mertensia Virginica*, (formerly called *Pulmonaria*) the Virginian Cowslip or Lungwort. It is one of the most beautiful of our native plants, and better deserves cultivation than many imported ones. The plant is a perennial, and if it does not perfect seed, may be propagated by division of the root.... T. E. Goodrich, Ford Co., Ill., sends *Tradescantia Virginica*, noticed in the August basket. There are several varieties, all easily cultivated and very pretty. In botanical names when there are more than three syllables the accent is on the last but two, and thus: *Tradescan-ti-a Vir-gin-i-ca*. The name *officinalis*, which is often used as a specific name, comes from the Latin *officina*, a shop, and is applied to many plants which were or are sold as drugs in the shops.

Spontaneous Generation.—P. Garabrant, Morris Co., N. J., proposes to leave to the *Agriculturist* the settlement of the question "Will ground germinate grain or weeds if there are no seeds in it?"—If Mr. G. has read the back volumes of the *Agriculturist* he will have seen that we have taken very strong ground against spontaneous generation. We have no proof that plants are multiplied in any other than the way provided by nature. With all the knowledge we have at present, we should answer his question with an emphatic NO.

Mixing of Strawberries.—L. C. Church, Plymouth Co., Mass. It is likely that strawberries with perfect flowers will mix more or less, if planted together, but as this will not materially affect the fruit, it is of no practical consequence, unless you wish to preserve the seeds or plants of any particular kind in a pure state.

A Good Tomato.—The Fejee is a good tomato. It is of medium to large size, nearly smooth, of a dark red, or salmon color, with a solid, meaty flesh, and is of fine flavor. If tomatoes were sold by weight—which really gives their value—the overgrown, deep scalloped sorts which have to be broken into pieces before they can be peeled, would be discarded. Any smooth, solid tomato is preferable to the irregular ones, but commend us to the Fejee, *alias* Lester's Perfected.

"Big Things."—J. D. Ellis, Columbia Co., N. Y., writes to the *American Agriculturist*, condemning the mania for producing "big things." He asks, "Why is a pumpkin weighing 200 lbs. better than five weighing 40 lbs. each; or a strawberry that must be carved like a muskmelon, more desirable than a larger number averaging one to a mouthful?" In some things, undoubtedly there is little gained by enlarging specimens to unusual size; but in many fruits and vegetables large growth gives superior quality. Thus the apple, peach, cherry, etc., are improved by increase of size. But even where this is not the case, producing extraordinary specimens is merely a gratification of curiosity, an innocent though perhaps unprofitable amusement.

Great American Exhibition of Pumpkins, Squashes, and Ornamental Gourds.

The Second Annual Exhibition of PUMPKINS, SQUASHES, AND ORNAMENTAL GOURDS, at the office of the *American Agriculturist*, 41 Park Row, New York City, opens on Wednesday, Nov. 4th, 1863, and the following Prizes will be paid by the Publisher, upon the official award of competent Committees.

CASH PREMIUMS.

A—For the Heaviest Pumpkin or Squash.....	\$10.00
B—For the 2nd Heaviest Pumpkin or Squash....	5.00
C—For the 3d Heaviest Pumpkin or Squash....	3.00
D—For the Best Pumpkin or Squash for cooking.	5.00
E—For 2nd Best Pumpkin or Squash for cooking.	3.00
F—For the largest yield on a single Vine.....	10.00
G—For the 2nd largest yield on a single Vine.*	5.00
H—For the largest and finest collection of Fancy or Ornamental Gourds*.....	7.00
I—For the 2nd largest and finest collection of Fancy or Ornamental Gourds*.....	4.00

*All to be grown by one person and to be accompanied by positive evidence from the grower, and one disinterested person who assists in gathering the specimens.

Note 1.—The specimens receiving the Prizes will remain on Public Exhibition at the pleasure of the Publisher who offers the prizes. The other specimens will be subject to the order of the exhibitors, or they will be sold at auction, or otherwise disposed of, for their benefit.

Note 2.—All Exhibitors must notify us of their intentions by Oct. 15th, and deliver specimens for competition on or before Nov. 2d. Specimens to be delivered free of charge.

Note 3.—The same specimen can compete for only one of the premiums offered above. See note, page 292.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed on our tables for exhibition since our last report:

FRUITS.—Apples: Red Astrachan, from A. J. Hall, Wallingford, Conn.... Specimens for name, and St. Lawrence; T. Briggs, Schaghticoke, N. Y.... Benoni Apples, fine; James Weed, Muscatine, Iowa.... Hyslop Crab Apple, (described under "Basket:"); H. A. Conger, Whitewater, Wis.... Specimens kept from last year; Wm. Tefft, Fordham, Mass.... Specimens for name; Wm. Howe, Mt. Vernon, N. Y.... Cranberry Pippins grown in 1862, very fine; Robert Benner, Astoria, N. Y.... Pears: Bartlett and Doyenne Boussock; Wm. Doty, Union Hill, N. J.... Specimens for name; Wm. Van Brunt, L. I.... Fine clusters of Seckels; Peter Voorhees, Nyack, N. Y.... Peaches: Specimen for name; J. W. Hughes, Staten Island, N. Y.... Fine basket Crawford's Early; C. W. Idell, West Washington Market, New-York City.... Seedling; Wm. L. Plume, Brooklyn, N. Y.... Grapes: Hartford Prolific; Prof. Hopkins, Metuchin, N. J.... Hartford Prolific; Wm. H. Mitchell, Harlem, N. Y.... Northern Muscadine and Hartford Prolific; G. R. Garretson, Flushing, L. I.... Early Canada or August Grape; Mr. Ripley, South Windsor, Conn.... Hartford Prolific; Wm. Tefft, Fordham, Mass.... August Pioneer; John Friske, Holliston, Mass.... Berries: Cut-leaved Blackberry; S. A. Halsey, Astoria, N. Y.... Lawton Blackberry; Jno. B. Peck, Yonkers, N. Y.... Twice bearing Raspberry, Belle de Fontenay, Pink Blackberries, and late Strawberries; Wm. F. Heins, Morrisania, N. Y.... Miscellaneous Fruits: Ripe Figs, large and fine; M. J. Taylor, Jr., Westport, Conn.... White Japan Melon; Mr. Godfrey, Westport, Conn.... Skillman's Netted Musk Melons, splendid specimens; Richard Bennett, Fort Hamilton, N. Y.... Plum for name; L. Pfeningner, Brooklyn, N. Y.... Cape Cod Cranberry Plant, in fruit; Wm. H. Starr, New-London, Ct.... Nectarine; B. N. Leonard, Brooklyn, N. Y.

FLOWERS.—Cut Flowers and Asters in pots; O. Judd, Flushing, N. Y.... Dahlias, Carnations, Roses, etc., C. S. Pell, New-York Orphan Asylum.... Canna Indica, very fine; Wm. F. Heins, Morrisania, N. Y.... Fine colored Seedling Petunias; Peter Henderson, Jersey City, N. J.... Balsams; Mr. Petrick, Union Hill, N. J.... Double Sunflower, *Imperiale*, perfect specimen. Lewis A. Burt, Tremont, N. Y.... Magnificent collection of Gladioluses; Andrew Bridgman, 873 Broadway, New-York City... Dahlias, Seedling Phloxes, Petunias, Heliotropes and Double Balsams, very superior; W. & J. Cranston, Hoboken, N. J.... *Bilbergia fulgens* in bloom; Isaac Buchanan, West 17th-st., New-York City; Night-blooming *Cereus triangularis*; A. P. Cummings, New-York City.... Cut Flowers; Mrs. John Harper, East 82d-st., New-York City.... Splendid collection of Seedling Verbenas; Wm. Davison, Brooklyn, N. Y.... *Caladium nymphaefolium*; Wm. Heins, Morrisania, N. Y.... Magnificent collection of Asters and Zinnias; W. P. Wright, Weehawken, N. J.... Balsams, Prince's Feather, Coxcomb, and Fancy Gourds; Wm. B. Westcott, 309 Madison-st., N. Y.... Balsams; Mrs. Wm. Hamon, N. Y.

VEGETABLES.—Curious growth of Sweet Corn; Wm. Bergen, East New-York.... Cucumber grown in Bottle; E. W. Probasco, Clinton, N. J.... Tree Tomato, extra; G. M. Usher, Port Richmond, N. Y.... Cucumber and Melon hybridized; H. W. Olcott, Mt. Clair, N. J.... Fejee Tomato; Dr. A. Barber, Brooklyn, N. Y.... White Cucumber, very fine; W. G. McLaughlin, Harlem, N. Y.... Cuban or Grape Tomatoes; W. M. Doty, Union Hill, N. J.... Long Blood Beet, Red Turnip, Yellow Tomatoes, Curious growth of Carrot and Tomato, superior Corn, and Lima Beans; J. W. Perkins, St. Joseph's Hospital, N. Y.... Purple Egg Plant, improved variety, White Egg Plant, Okra, Beefsteak, Yellow Plum, Yellow Cherry, Red Plum, Fig, Apple, and Cuban Tomatoes, and Winter Cherries; Wm. F. Heins, Morrisania, N. Y.... Large Purple Egg Plant, weighing 4½ lbs; John G. Freeman, Ravenswood, N. Y.... Sugar Beets; John B. Vroom, Blooming Grove, N. Y.... Fancy Gourds; Daniel Rankin, Mt. Vernon, N. Y.... Peach-Blow Potatoes, good, first crop from Scrub-Oak land; M. Foley, Central Islip, N. Y.... Two Purple Egg Plants, very large, weight 5½ and 7½ lbs; Mrs. A. A. McElwee, Walker Valley, N. Y.... Cucumber, 3½ lbs., and Long-necked Squash, 20 lbs.; W. C. Aubert, New-Durham, N. J.... Fejee Tomatoes; W. W. Davis, 130 Grand-st., Jersey City, N. J.... Tree Tomato, curious specimen; G. M. Usher, Port Richmond, N. Y.... Purple Egg Plant, largest, weight 8 lbs. 10 oz.; Robert McGarrety, gardener to Frederick Wiggins, Rye, N. Y.

MISCELLANEOUS ARTICLES.—Specimen of Raw Silk, O. U. de la Harpe, Great Salt Lake City, Utah.... Red Currant Juice preserved in bottle; Wm. M. Doty, Union Hill, N. J.... Mediterranean Wheat; A. Milne, Stamford, Conn.... Mammoth Millet; Mrs. A. A. McElwee, Walker Valley, N. Y.... Fruit of Skunk Cabbage, (*Symplocarpus foetidus*); J. M. Knowlton, Tarrytown, N. Y.

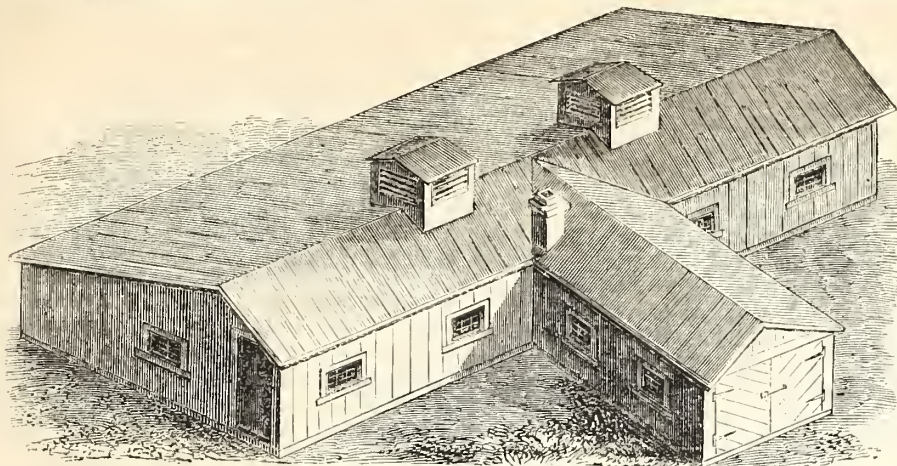


Fig. 1.—ELEVATION OF PIGGERY.

Care of Swine—Plan of a Piggery.

Because swine are blessed with keen appetites, strong digestion, and hardy constitutions capable of resisting a great amount of neglect and ill-usage, they have been, and in too many instances yet are, the worst used animals kept for the profit of man. And as if to add to the abuse, their endeavors to make the best of ill treatment, has been charged to the account of their natural uncleanness, and the idea that wholesome meat can not be made by feeding animals with garbage, has caused pork to become the horror of dietetic reformers, who pronounce it unfit for human food. It were as wise to condemn the use of milk, and to pronounce cows unfit for civilized communities, because some individuals persist in confining them in filthy stables, and dosing them with distillery slops. In his native state, the hog is as dainty in his taste as other animals, and his lair is found in a dry situation, well cushioned with clean leaves, unsoiled by any neglect of his own. Civilization has affiliated him with the degraded members of the human species, and brought his name to reproach by associating it with the vile among men. Within a few years past, however, a change for the better has been apparent, and many readers of the *Agriculturist* are inquiring for good plans for piggeries, for the best methods of rearing and fattening swine, and other kindred matters pertaining to their welfare and ultimately to the profit of their owners. It would be within the mark to say that in most instances, twenty per cent of saving can be effected in food, and in additions to the manure heap, by a well regulated building for the accommodation of swine. We therefore take pleasure in laying before our readers the accompanying illustrations engraved from plans forwarded by Mr. Roseburgh, of Amboy, Ill. They were designed and constructed for use on his

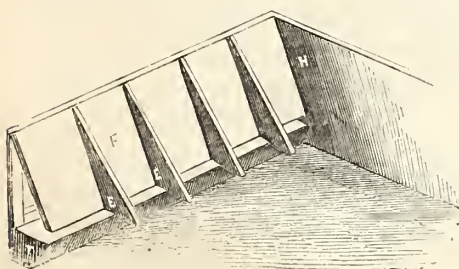


Fig. 2.—FRONT PARTITION.

own premises, and have therefore the merit of being the production of a practical man. Fig. 1, represents the elevation. The main

building is 29 by 50 feet, and the wing 12 by 16 feet. It is supplied with light and air by windows in front, ventilators on the roof, and by hanging doors or shutters in the upper part of the siding at the rear of each stall or apartment—these last are not shown in the engraving.

Fig. 3, shows the ground plan. The main building has a hall, *H*, 6 feet wide, running the entire length. This is for convenience of feeding, and for hanging dressed hogs at the time of slaughtering. The remainder of the space is divided by partitions into apartments, *A, B*, for the feeding and sleeping accommodation of the

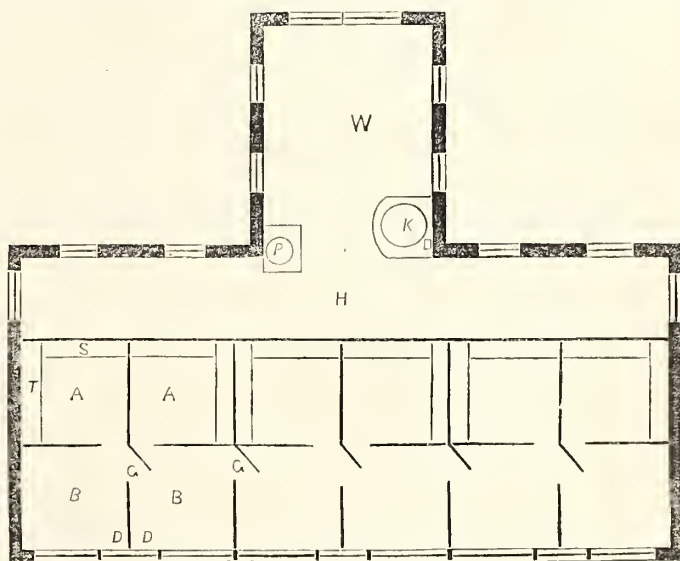


Fig. 3.—GROUND PLAN OF PIGGERY.

porkers; these are each 8x16 feet. The rear division of each apartment, *B, B*, is intended for the manure yard. Each apartment has a door, *D, D*, to facilitate the removal of manure, and also to allow ingress to the swine when introduced to the pen. The floors of each two adjoining divisions are inclined toward each other, so that the liquid excrements and other filth may flow to the side where the opening to the back apartment is situated. Two troughs, *S, T*, are placed in each feeding room. That in the front, *S*, is for food, and *T*, for clear water, a full supply of which is always allowed. This is an important item, generally overlooked; much of the food of swine induces thirst, and the free use of water is favorable to the deposition of fat.

An excellent arrangement (shown in Fig. 2,) is adopted to facilitate the cleaning of the troughs, and the transferring of the hogs to the main hall at slaughtering. The front partition of each apartment, *F*, (fig. 2,) is made separate,

and contrived so as to be swung back, and fastened over the inside of the trough, *T*, at feeding time, or when cleaning the trough. It may also be lifted as high as the top of the side partition, *H*, when it is desired to take the hogs to the dressing table. Triangular pieces, *E, E*, are spiked to each front partition, and swing with it, forming stalls to prevent their crowding while feeding. These are supported, when the apartment is closed, by notches in the inner edge of the trough, made to receive them.

The wing, *W*, is 12 by 16 feet. This answers for a slaughtering room. In one corner, adjoining the main hall, is a well and pump, *P*, from which, by means of a hose, water is conveyed to the troughs. At the opposite corner, *K*, is a large iron kettle, set in an arch, for cooking food, and for scalding the slaughtered swine. We would suggest that in many localities it would be a desirable addition to have this wing built two stories high, the upper part to be used for storing grain for the hogs, and also that a cellar be made underneath for receiving roots.

The Care of Horses.

Some persons, in their anxiety to subdue their horses, take every opportunity to worry and beat them, "to let the beasts know who is master," they say. They whip, scold, and beat them on principle. Now, who does not know that such treatment addressed to a child, with the idea of subduing him, would inevitably sour his temper, and render him disobedient and obstinate? As certainly will this be the case in the discipline of a domestic animal. Instead of this, it should be our aim to let the horse know and feel that we are friendly to him and desire his well-being. This may show itself by avoiding whatever will tend to annoy and provoke him, by kindness in the tone of voice, in the way of handling him, by occasionally fondling and stroking him, and by various unmentionable things which will at once occur to those

familiar with this noble animal. He will understand their meaning, and they will affect his character. A horse so treated, will be a pleasant beast to handle, he will keep and fatten better, will be in better health, and will do more work than one managed differently. This should be done from the animal's earliest years, but even if neglected while young, the horse may thus be taught to love his owner.

Regularity and system.—This will show itself in determining the time and amount of feeding and of working. Nearly all the diseases to which the horse is subject, come from irregularity in these respects. If he is under-fed and over-worked, the tone of his system will become relaxed, and disease be likely to set in. So if he is over-fed, and has deficient or irregular exercise, he will contract another set of diseases. The man who is regular and systematic in his own habits of living, is most likely to enjoy health and long life, while he who indulges in

excesses of any kind is sure to suffer from frequent and violent attacks of illness, and end his days prematurely. It is hardly less so with man's favorite animal, the horse.

Change of diet, cleanliness, and good shelter should not be overlooked. For the horse running at large, as in the wild state, the diet which nature gives him is all-sufficient, but for one confined, stabled, and worked, much attention should be given to his food. Hay and oats are doubtless the best food, all things considered, but even these should have an occasional variation. Carrots, potatoes, bran, fresh cut grass, should be given him in their place and time. During Summer it seems only simple justice that, when practicable, the horse should be treated for a time to that food which is most natural to him—fresh grass. If every stabled, hard working horse could have a summer vacation of several weeks in a pasture, it would soften his dry and cracked hoofs, correct his digestion, improve his wind, his skin, and indeed renovate his entire system. But where this indulgence can not be enjoyed, a horse should have frequent messes of loosening food, such as roots, bran mashes with cut straw, fresh grass, etc.

As to cleanliness, both good looks and health demand this. A horse well curried will make a peck of oats go much further than one un-groomed. Good shelter saves many a horse from taking cold when coming in from work, and adds much to his health and daily comfort.

Diseases in Animals—A Useful Society.

Announcement is made in English Journals of the formation of a "Society for the Prevention of Disease among Domestic Animals." The prospectus declares that in Great Britain, live stock to the amount of \$30,000,000 is annually destroyed, principally by contagious diseases. It is proposed by the Society to aid in reducing this enormous loss, by collecting information and statistics concerning the diseases of animals; by affording advice and assistance to stock-owners, wherever general outbreaks of disease occur; by ascertaining periodically the health of stock in the countries from which foreign animals are derived; by stimulating inquiry as to the most advantageous means of disposing of diseased animals or their produce, so as to secure the largest amount of salvage for stock owners, and by adopting all possible means to check such a traffic in diseased animals as tends to the spread of plagues, or to the sale of diseased meat to the public.

This movement is not without interest to stock breeders on this side the Atlantic. The importation of cattle and sheep to the United States is yearly increasing, and already we have had in the pleuro-pneumonia excitement, an experience of the disastrous results which may come without some proper precautionary measures. It would undoubtedly be a proper subject for legislation to devise means whereby the importation of diseased animals could be prevented. Quarantine laws are very stringent as regards persons coming from unhealthy ports, and it need not be stated that the sale of diseased animals often proves of fearful detriment to the public health. But, as all are aware, years of agitation and discussion of a subject are usually required before legislative action can be had, and meantime, the evil may be upon us. We know of no way in which the matter can better be brought before the public, and if needed, the enactment of proper laws be finally secured, than by the formation of a

society similar to the one referred to above. This subject may well claim the attention of State Agricultural Societies, and to their especial notice we commend it.

Glanders in the Horse.

The most marked symptom of this fatal malady in horses, is a discharge from one or both nostrils. As, however, the same appearance may follow other less severe disorders, no horse should be condemned as glandered, unless other well marked indications of this disease are observed. Mayhew in his "Illustrated Horse Doctor," gives in substance the following directions for making an examination of a suspected case. The animal's head should be turned toward the strongest light attainable. The examiner should then place himself by the side of the horse's head, not in front, but in a situation where, if the animal snort, the person is in no danger of having the ejected matter thrown upon him. Such an occurrence might be followed by the most serious consequences, as the discharge from glanders is very poisonous, and if absorbed into the system would cause death. The examiner should raise the wing of the nostril and inspect particularly the membrane situated more internally than the skin, seen at the commencement of the nostrils. This membrane is easily distinguished by its fleshy and moistened aspect, as well as by its situation, the termination of the skin being marked by a well defined margin. If, on this membrane, any irregular or ragged patches are conspicuous, if these patches are darker toward their edges than in their centers, and if they nevertheless seem shallow, pallid, moist, and sore, the animal may be rejected as glandered. Should any part of the membrane after having been wiped with a bit of tow, seem rough, or have evidently beneath its surface, certain round or oval shaped bodies, the horse is assuredly glandered. The membrane may present a worm eaten appearance, or be simply of a discolored, and heavy hue. In the first case the animal ought to be condemned; in the second, it is open to strong suspicion. The other general symptoms of glanders are: first, loss of appetite, quickened pulse, and a staring coat. Soon after, a slight discharge issues from the nostril, and usually one of the lymphatic glands grows fast to the jaw, becomes hard and insensitive, and from being wholly imperceptible in the healthy animal, enlarges to about half the size of a chestnut. Ultimately the discharge thickens, encrusting the hairs over which it flows, and adhering to the edges of the nostril. This is finally followed by ulceration of the internal parts of the nose, until death relieves the animal.

No successful treatment has yet been found for glanders, and hence the greater necessity for prevention. It may result primarily from the impure air of ill ventilated and foul stables, from neglected catarrh, or from long continued exhausting labor, with stimulating food. It is also highly contagious, so that the infection may be taken from a stable where a glandered horse has been kept. An animal in high condition contracting this disease by infection, will usually have it in the most acute form, and die within a short period. If it has been engendered by natural causes, it may remain chronic and in an undeveloped stage for years. Horses in such a case are most dangerous, as they are capable of imparting the disease to others, while it may not be suspected in themselves. When once it is clearly determined that a horse is thus

afflicted, the sooner he is dismissed from the world, the better for him and the community.

The Bar Horse-Shoe.

Though it is not advisable to adopt this shoe often, or long at a time, there are occasions when it is very useful. By continuing such a shoe around the heels, the pressure is taken off from one part and is equally diffused over the whole. Obviously, such a contrivance is beneficial when the hoof is cracked, when corns appear, and in cases of thrush. After it has been worn three or four weeks, or as soon as the disease abates, it should be dispensed with. If not taken off, the frog of the foot will suffer under the continued pressure of the bar. Whenever this shoe is used, care should be taken in driving to avoid slipping. Neither heavy draft nor great speed should then be required of the horse.

Scratches in Horses.

C. G. Siewers, Campbell Co., O., gives his experience as follows: "The best remedy I have every tried is to walk the horse up and down in running water two or three times a day, for a few days; this always cures my horse. The cause I ascribe to a filthy stable, as my horse never gets the scratches, unless I employ a certain lazy farm hand in the neighborhood for a make-shift; he and the scratches come together."

How to Send Grain to Market.

To the Editor of the American Agriculturist:

It is unaccountable to me that so many farmers have not yet learned how to send hay and grain to market, so as to make them pay the most profit. I see boat loads and car loads of such produce passing through my neighborhood on its way to your city, hundreds of miles distant. It brings prices that would make a Western farmer's pocket jingle merrily, only that a large part of the money stops in the hands of the transporters, to pay freight. Now, railroads and canal boats are excellent institutions, but I have never yet found so good a way to send corn to market, as on the four legs of a well fattened animal. A bullock, or a hog will pack away a few bushels of corn more snugly than any freight master could do, and it brings better prices after they have worked it over into beef and pork, than in the raw state. With the exception of wheat, and perhaps rye, I would not sell a peck of grain from my farm, except for seed. Along in the Summer, when pasture is scarce, and plenty of cattle are to be picked up, I secure enough to consume all the corn I can spare, over what will be needed to fatten my hogs, (these I raise at home,) and just before cool weather commences, I set the beef factories to work. The chips give me profit in the shape of manure, enough to make the operation pay, even if I could only get the same price for the grain as before feeding it out; but there is a gain here, too. When I read about Illinois farmers and others using corn for fuel because it is cheaper than coal, I think they need instruction on this point. If they have not capital enough to buy stock to eat up their grain, let them borrow the cattle, and agree to return so many pounds of fattened beef, for each animal, in the same way that sheep are taken on shares; it would be mutually beneficial to themselves, and to those who have more animals than they can keep profitably. I

know that many men living on new lands will laugh at the idea of using manure, but the laugh will be on the other side not many years hence, when their lands begin to show signs of weakness, as those of western New-York have done. It is very easy to keep a soil fertile, but a slow and costly operation to restore a worn out one. But whether the manure be used or not, I believe it will be found to pay to feed out grain before sending it to market. JONATHAN.

Sale of South-Down Sheep at Thorndale

The large amount of space devoted to a full report of the sale of South-Down sheep from the flock of Mr. Samuel Thorne, is justified by the fact that it is of general, we may say national importance. The beneficial influence which the dispersing of such improved stock through the country will have on our flocks, can hardly be estimated. As is well known, the animals disposed of by Mr. Thorne, were descendants or direct importations from the best flocks in the world, and it may be questioned whether a collection of sheep can be found even in England, superior to that from which these were sold. In answer to inquiries made of Mr. Thorne, we learn that the 81 ewes disposed of as reported below, yielded at the last shearing 419 lbs. of clean wool, an average of 5 lbs. 2 1/2 ozs. per head. The rams were shorn unwashed, and gave from 8 to 12 pounds per head. Another fact of much interest may be stated for the benefit of many readers of the Agriculturist, who have made inquiries upon the subject. A cross of the South-Down ram upon the Merino ewe, produces the finest sort of lambs for marketing. This has been practised at Thorndale for years, and, Mr. T. informs us, has proved one of the most profitable parts of sheep husbandry.

The recent sale, held Sept. 2d, was very well attended, the day being propitious, and the bidding was spirited, although prices were hardly what might have been anticipated in view of the demand for sheep, and the reputation of the flock. However, as will be seen below, enough was realized to prove that the raising of improved sheep is a business that will pay. Want of space compels us to omit further introduction.

EWES. YEARLINGS.

- 1. Ewe by Archbishop, dam by No. 6, grand dam an imported Ewe, from the flock of Henry Lugar, Esq.; To P. W. Jones, Amherst, N. H. \$25 00
2. Do, by do., dam by imported Prize Ram, 112, g. dam an imported Ewe as above; J. C. Tatum, Woodbury, N. J. \$22 00
3. Do, by do., dam by No. 6, g. dam an imported Prize Ewe; Hon. E. Cornell, Ithaca, N. Y. \$20 00
4. Do, by do., dam by Young Salisbury, g. dam an imp. Prize Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$26 00
5. Do, by do., dam by No. 6, g. dam an imp. Prize Ewe; Hon. E. Cornell, Ithaca, N. Y. \$21 00
6. Do, by do., dam by No. 6, g. dam an imp. Prize Ewe; Hill & Jones, Delaware, Ohio \$37 00
7. Do, by do., dam by No. 6, g. dam by 112, gr. g. dam an imp. Ewe from Duke of Richmond's flock; G. H. Brown, Washington Hollow, N. Y. \$41 00
8. Do, by do., dam by No. 19, g. dam an imp. Ewe, as above; Hon. E. Cornell, Ithaca, N. Y. \$28 00
9. Do, by do., dam by No. 6, g. dam an imp. Webb Ewe; Hill & Jones, Delaware, Ohio \$40 00
10. Do, by do., dam by 112, g. dam an imp. Webb Ewe; R. A. Alexander, Woodburn, Ky. \$31 00
11. Do, by do., dam by No. 6, g. dam an imp. Webb Ewe; Hon. E. Cornell, Ithaca, N. Y. \$37 00
12. Do, by do., dam by No. 6, g. dam an imp. Webb Ewe; G. H. Brown, Millbrook, Wash'n Hollow, N. Y. \$41 00
13. Do, by do., dam by Young Salisbury, g. dam by No. 6, gr. g. dam by 112, gr. g. dam an imp. Webb Ewe; J. S. Homans, New-York \$31 00
14. Do, by do., dam by No. 19, g. dam by 112, gr. g. dam, imp. Richmond Ewe; Hon. E. Cornell, Ithaca, N. Y. \$33 00
15. Do, by do., dam by Young Salisbury, g. dam by 112, gr. g. dam an imported Prize Ewe; J. C. Tatum, Woodbury, N. J. \$30 00
16. Do, by do., dam an imp. Webb Ewe, by Reserve; Wm. Hurst, Albany, N. Y. \$50 00
17. Do, by do., dam an imp. Webb Ewe, by Young Norwich; R. A. Alexander, Woodburn, Ky. \$51 00
18. Do, by do., dam an imported Webb Ewe, by Henry Webb's Pet; R. A. Alexander, Woodburn, Ky. \$51 00
19. Do, by imp. No. 14, dam by Young Salisbury, g. dam by 112, gr. g. dam an imported Prize Ewe; Hon. E. Cornell, Ithaca, N. Y. \$38 00

- 20. Do, by do., dam by No. 6, g. dam an imp. Ewe; Hon. E. Cornell, Ithaca, N. Y. \$13 00
21. Do, by do., dam by No. 6, g. dam an imported Lugar Ewe; Hon. E. Cornell, Ithaca, N. Y. \$37 00
Average..... \$35 39

EWES—TWO YEARS OLD.

- 22. Ewe by No. 5, dam by No. 6, g. dam an imp. Prize Ewe; Hon. E. Cornell, Ithaca, N. Y. \$16 00
23. Do, by do., dam an imp. Prize Ewe; R. A. Alexander, Woodburn, Ky. \$9 00
24. Do, by do., dam an imp. Prize Ewe; G. H. Brown, Washington Hollow, N. Y. \$1 00
25. Do, by do., dam an imported Ewe; Hon. E. Cornell, Ithaca, N. Y. \$50 00
26. Do, by do., dam by No. 6, g. dam an imp. Prize Ewe; Hon. E. Cornell, Ithaca, N. Y. \$16 00
27. Do, by do., dam by No. 6, g. dam an imp. Prize Ewe; J. W. Alsop, Middletown, Conn. \$40 00
28. Do, by do., dam by No. 6, g. dam an imp. Ewe; Hon. E. Cornell, Ithaca, N. Y. \$15 00
29. Do, by do., dam by No. 19, g. dam an imp. Richmond Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$51 00
30. Do, by do., dam an imp. Webb Ewe; Sandford Howard, Boston, Mass. \$66 00
31. Do, by do., dam an imp. Webb Ewe; Hon. E. Cornell, Ithaca, N. Y. \$15 00
32. Do, by do., dam an imp. Webb Ewe; R. A. Alexander, Woodburn, Ky. \$30 00
33. Do, by do., dam an imp. Webb Ewe; Sandford Howard, Boston, Mass. \$63 00
34. Do, by do., dam by No. 6, g. dam an imp. Webb Ewe; Sandford Howard, Boston, Mass. \$45 00
35. Do, by No. 31, dam by 112, g. dam an imp. Lugar Ewe; Hon. E. Cornell, Ithaca, N. Y. \$58 00
36. Do, by do., dam by 112, g. dam an imp. Prize Ewe; Hon. E. Cornell, Ithaca, N. Y. \$37 00
37. Do, by do., dam by 112, g. dam an imp. Webb Ewe; Sandford Howard, Boston, Mass. \$51 00
38. Do, by do., dam an imp. Webb Ewe; S. W. Robbins, Wethersfield, Conn. \$55 00
39. Do, by do., dam by No. 6, g. dam by 112, gr. g. dam an imp. Webb Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$65 00
40. Do, by do., dam by 112, g. dam an imp. Webb Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$60 00
Average..... \$53 37

EWES—THREE YEARS OLD.

- 41. Ewe by Young Salisbury, dam an imp. Prize Ewe; R. A. Alexander, Woodburn, Ky. \$92 50
42. Do, by do., dam an imp. Webb Ewe; G. H. Brown, Wash. Hollow, N. Y. \$13 00
43. Do, by do., dam by 112, g. dam an imp. Richmond Ewe; Sandford Howard, Boston, Mass. \$45 00
44. Do, by do., dam an imp. Webb Ewe; R. A. Alexander, Woodburn, Ky. \$15 00
45. Do, by No. 6, dam by 112, g. dam imp. Lugar Ewe; R. A. Alexander, Woodburn, Ky. \$40 00
46. Do, by do., dam by 112, g. dam an imp. Webb Ewe; Wm. Hurst, Albany, N. Y. \$40 00
47. Do, by do., dam an imp. Lugar Ewe; J. C. Tatum, Woodbury, N. J. \$32 00
48. Do, by do., dam by No. 19, g. dam an imp. Lugar Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$35 00
49. Do, by do., dam an imp. Lugar Ewe; J. C. Tatum, Woodbury, N. J. \$30 00
50. Do, by do., dam an imp. Webb Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$95 00
51. Do, by do., dam by 112, from an imp. Richmond Ewe; E. Thorne, Po'keepsie, N. Y. \$25 00
52. Do, by do., dam an imp. Webb Ewe; J. S. Homans, New-York \$37 00
53. Do, by do., dam an imp. Webb Ewe; G. H. Brown, Wash'n Hollow, N. Y. \$37 00
Average..... \$12 25

EWES—FOUR YEARS OLD.

- 54. Ewe by No. 6, dam an imp. Lugar Ewe; E. Thorne, Po'keepsie, N. Y. \$35 00
55. Do, by do., dam an imp. Prize Ewe; S. W. Robbins, Wethersfield, Conn. \$31 00
56. Do, by do., dam an imp. Webb Ewe; F. P. Kineaid, Spring Station, Ky. \$37 00
57. Do, by do., dam an imp. Webb Ewe; J. S. Homans, New-York \$33 00
58. Do, an imp. Webb Ewe by Reserve; Wm. Hurst, Albany, N. Y. \$31 00
59. Do, an imp. Webb Ewe by Young Norwich; Wm. Hurst, Albany, N. Y. \$51 00
60. Do, an imp. Webb Ewe by Reserve; Wm. Hurst, Albany, N. Y. \$45 00
61. Do, an imp. Webb Ewe by Young Salisbury; E. Thorne, Po'keepsie, N. Y. \$40 00
62. Do, an imp. Webb Ewe by the sire of Archbishop; Wm. Hurst, Albany, N. Y. \$18 00
Average..... \$39.

MISCELLANEOUS.

- 61. Ewe by 112, dam an imp. Lugar Ewe; P. R. Close, Greenwich, Conn. \$35 00
66. Do, by No. 6, dam by 112, g. dam an imp. Richmond Ewe; J. W. Alsop, Middletown, Conn. \$29 00
67. Do, by do., dam an imp. Webb Ewe; R. A. Alexander, Woodburn, Ky. \$28 00
68. Do, by 112, dam an imp. Lugar Ewe \$26 00
69. Do, by No. 6, dam by 112, g. dam an imp. Richmond Ewe; J. W. Alsop, Middletown, Conn. \$32 00
70. Do, by do., dam an imp. Prize Ewe; S. T. Angel, Salt Point, N. Y. \$26 00
71. Do, by 112, dam an imp. Webb Ewe; Wm. Hurst, Albany, N. Y. \$12 00
72. Do, by do., dam an imp. Prize Ewe; R. A. Alexander, Woodburn, Ky. \$49 00
73. Do, by do., dam an imp. Prize Ewe; J. W. Alsop, Middletown, Conn. \$30 00
74. Do, by No. 19, dam by 112, g. dam from an imp. Richmond Ewe; E. Griffin, Clinton Corners, N. Y. \$29 00
75. Do, by 112, dam an imp. Webb Ewe; J. S. Homans, New-York \$23 00
76. Do, imported from the flock of the late Jonas Webb, Esq.; J. S. Homans, New-York \$20 00
77. Do, imported from the flock of Henry Lugar, Esq.; J. W. Alsop, Middletown, Conn. \$22 00
78. Do, an imported Lugar Ewe; J. H. Allen, Pleasant Valley, N. Y. \$25 00

- 79. Do, by 112, dam an imp. Richmond Ewe; J. H. Allen, Pleasant Valley, N. Y. \$30 00
80. Do, by do., dam an imp. Lugar Ewe; D. Haywood, Copake, N. Y. \$25 00
81. Do, by do., dam an imp. Prize Ewe; J. H. Allen, Pleasant Valley, N. Y. \$20 00
82. An imported Prize Ewe; Wm. Hurst, Albany, N. Y. \$13 00
83. An imported Webb Ewe; J. S. Homans, New-York \$11 00
Average..... \$25 53

RAMS.

- 1. Imported Prize Ram Archbishop; G. H. Brown, Washington Hollow, N. Y. \$500 00
[He was selected and purchased from the flock of the late Jonas Webb, Esq., in 1850, at a cost of 250 guineas, (\$1250). He won the 1st Prize in the Yearling Class that season at the Royal Show, and, as will be seen by reference to the Catalogue of Mr. Webb's last Southdown Sale, was used more largely by him than any other Sheep.]
2. Three yrs. old Ram by Young Salisbury, dam an imported Prize Ewe; John Bard, Barrytown, N. Y. \$50 00
3. A two yrs. old by No. 5, dam by No. 6, g. dam an imported Prize Ewe; G. Armstrong, Orange Co., N. Y. \$25 00
4. Do, bred by the late Jonas Webb, Esq., got by 88, dam by Reserve; E. Thorne, Po'keepsie, N. Y. \$125 00
5. Do., same as No. 4; Josiah Kirk, Sag Harbor, L. I. \$40 00
6. Yearling, by No. 14, dam by Young Salisbury, g. dam by 112, gr. g. dam imp. Webb Ewe; J. C. Tatum, Woodbury, N. J. \$30 00
7. Do, by Archbishop, dam an imp. Webb Ewe by Reserve; Thos. George, Newburgh, N. Y. \$52 00
8. Do, by do., dam an imp. Webb Ewe, by Young Norwich; P. W. Jones, Amherst, N. H. \$47 00
9. Do, by do., dam an imp. Webb Ewe, by Reserve; Sandford Howard, Boston, Mass. \$131 00
10. Do, by do., dam by Young Salisbury, g. dam by 112, gr. g. dam imp. Lugar Ewe; J. Robinson, Clinton Corners, N. Y. \$38 00
11. Do, by do., dam by No. 6, g. dam an imp. Prize Ewe; A. W. Storie, Dutchess Co., N. Y. \$30 00
12. Do, by do., dam by No. 6, g. dam by 112, gr. g. dam an imp. Richmond Ewe; J. O. Sheldon, Geneva, N. Y. \$55 00
13. Do, by do., dam by Young Salisbury, g. dam by 112, gr. g. dam an imp. Lugar Ewe; E. M. Bottsford, Newtown, Conn. \$26 00
14. Do, by do., dam by 112, g. dam an imported Prize Ewe; Sandford Howard, Boston, Mass. \$57 00
15. Do, by do., dam by 112, g. dam an imp. Prize Ewe; E. Thorne, Po'keepsie, N. Y. \$70 00
16. Do, by do., dam by 19, g. dam by 112, gr. g. dam imp. Richmond Ewe; P. W. Jones, Amherst, N. H. \$41 00
17. Do, by do., dam by No. 6, g. dam an imp. Prize Ewe; Wm. Hurst, Albany, N. Y. \$50 00
18. Do, by do., dam an imp. Webb Ewe by Reserve; Sandford Howard, Boston, Mass. \$35 00
19. 6 yrs. old, by 112, dam an imp. Prize Ewe; F. P. Kineaid, Spring Station, Ky. \$50 00
Average..... \$73 26

Two of the animals advertised, Lots No. 63 and 65, died before the sale, leaving 109 the number actually sold. The average price obtained for the whole was \$44.92.

THE RAMS REFERRED TO IN THE FOREGOING PEDIGRES, ARE AS FOLLOWS:

112. (Gaiety) was imported from the flock of the late Jonas Webb, in 1855. Winner of 2d Prize at the Royal Show at Lewes, was purchased at Mr. Webb's Annual Letting for 130 guineas (\$650).
No. 6, sire 112, dam an imported Webb Ewe. He was winner of First Prize at the U. S. Show in 1856, and of First Prize in Aged Class at N. Y. State Fair in 1859.
No. 19, sire 112, dam an imported Prize Ewe.
Young Salisbury was bred by the late Jonas Webb, sire the First Prize Yearling Ram at Salisbury.
No. 14, bred by Wm. Rigden, Esq., Brighton, England. Winner of the First Prize at Chichester in 1860.
No. 5, sire 112, dam an imported Ewe from the flock of Henry Lugar, Esq.
No. 30, sire No. 6, dam by 112, g. dam an imp. Webb Ewe. Winner of First Prize in the Aged Class, at the N. Y. State Fair at Watertown, in 1860.

Spreading Straw, or Composting it.

We are often told of the fine effect produced by simply spreading straw on land in the Fall, and allowing it to lie and rot. It protects the roots of clover and grain in the Winter, and shields them from burning suns the following Summer. This practice is common at the West and South. On the large wheat fields of those sections, it would be quite laborious to haul grain home to the barn-yard for threshing, as we do at the North and East, and then after it had been fed out or mixed with manure, to cart the strawy dung back again in the Spring.

The western plan doubtless has its advantages. Yet we question whether the waste of straw is not more than enough to pay for the extra labor required by the eastern practice. When left on the field, straw has little manurial value. It is dry, woody matter, and amounts to little more than a good mulch. If drawn to the cattle sheds and housed, it would serve in part as a coarse fodder, and as litter for all kinds of stock. It is of no slight importance to keep stock clean and warm in Winter. Then, by absorbing their liquid excrements and being mixed with the solid, it makes a large stock of valuable manure.

Fig. 1.—BITTER-SWEET (*Solanum Dulcamara*.)

Talks About Weeds....V.

POISONOUS PLANTS.

Several inquiries have recently been made at the office of the *Agriculturist* concerning the alleged poisonous qualities of two very common plants, the Bitter-Sweet, and the Nightshade. These are both species of the genus *Solanum*, to which the potato also belongs. The Bitter-Sweet is *Solanum Dulcamara*, a perennial half-shrubby vine, with leaves presenting a considerable variety in shape, but generally with two ear-like lobes at the base like those represented in the engraving. The flowers are borne in clusters, their purple star-shaped corollas and bright yellow stamens making them quite showy: these are followed by a berry about the size of a pea which is bright red when ripe. In Autumn, the brilliant fruit of the vine makes it very conspicuous and attractive. The plant is sometimes cultivated as an ornamental vine; it runs to the height of 8 or 10 feet, and is used like other climbers to cover walls and unsightly buildings. Bitter-Sweet is a native of Europe, but it is found growing wild in most of the settled portions of this country. It is found in waste places, along the borders of meadows, etc. A recent case, in which three children died suddenly, was attributed to poisoning by eating the fruit of the Bitter-Sweet. It is not known positively that the children partook of the fruit, but as there was a plenty of it to which they had access, it is supposed that it caused their death. Since this circumstance came to our knowledge, we have been at some pains to look up the records, and find that there is a great diversity of opinion as to the poison-

ous character of the berries. Some high European authorities state that they are positively deleterious, while others declare that they are harmless. We can only account for this diversity of opinion by supposing that difference of soil might vary the character of the plant. It is well known that the active properties of plants are greatly modified by differences of climate. We are disposed to regard the plant with suspicion. An infusion of its twigs is sometimes used medicinally, and narcotic effects have been produced by an overdose; although it does not follow that the berries possess the same properties as the twigs, yet in the present uncertain state of our information, we should advise discarding the plant altogether from cultivated grounds. The berries are so showy that they are likely to tempt children to eat them; though we can not say that they are poisonous, we are not able to say that they are harmless, and we would advise our readers not to tolerate the plant, as the risk is altogether too great.—Another species, *Solanum nigrum*, the Common Nightshade is very common about dwell-

ings, and is often found as a weed in gardens. It is a coarse annual, 1 to 2 feet high, and very much branched. Figure 2 will give an idea of the shape of the leaf. The flower is white and the berries black. This plant is much more common than the Bitter-Sweet, but not being so showy either in its fruit or flowers, is much less

Fig. 2.—NIGHTSHADE (*Solanum nigrum*.)

likely to be noticed. The remarks upon the poisonous qualities of the Bitter-Sweet will apply also to this. It should be exterminated.

A "Shocking Horse."

This name does not, in the present instance, indicate a four-legged beast afflicted with heaves, spavin, etc., but a simple contrivance to facilitate the shocking or "shooking" of corn, as cut at the ground. Though long in use in some parts of the country, and heretofore described in the *Agriculturist*, it may be new to many of our readers. It consists of a light pole, *a*, 16 to 18 feet long, with two supporting legs 5 feet from



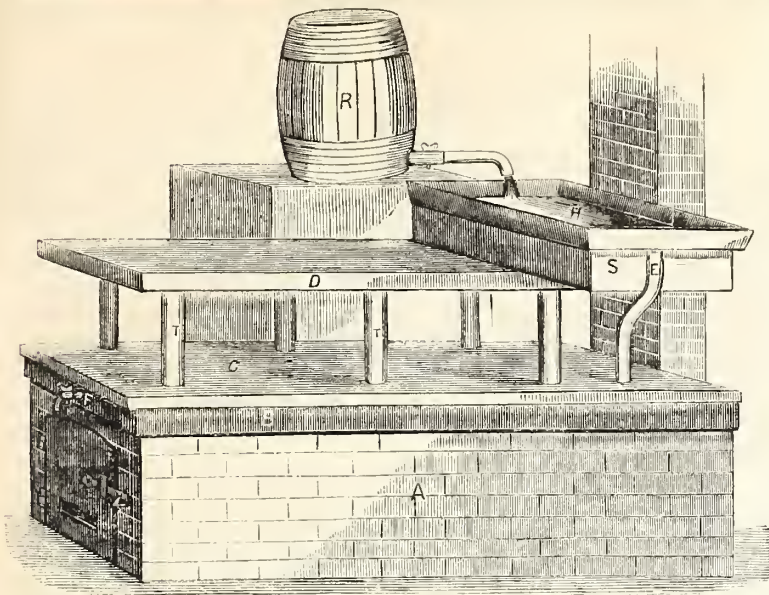
the end, and a cross pin, *b*, about 4 feet long, 2 feet from the end, at right angles with the pole. This pin should be about an inch in diameter, and the hole to receive it made large enough to allow it to be slipped in or out easily. This implement is to be placed with the pin where the shock is to stand, the stalks set up in the four corners, and when the shock is made, the pin and pole may be withdrawn and the apparatus moved to the place for the next shock. It will save considerable time in setting up the first stalks, which are usually placed about a standing hill, and will also obviate the necessity of afterward tearing open the shock to get at the uncut stalks, when the corn is to be husked.

Wheat on Clover Sod.

C. S. Mason, Wayne Co., N. Y., writes to the *Agriculturist*: "I have always had the best success in sowing wheat on sod ground. I mow clover one year only for hay, and after cutting, turn the sod under five or six inches deep, and harrow lengthwise once, and then diagonally once. The wheat is drilled in from the first to the tenth of September. Sod ground will stand drouth, or if the season be wet, the water has a chance to drain off. The wheat grows strong in Autumn, stands Winter better than if sown after barley, oats, or peas, and ripens early."

[We know by successful experience and by much observation, that turning under a heavy growth of clover, is an excellent preparation for a wheat crop. The clover gathers from the atmosphere a large amount of nitrogenous material, which is specially adapted to the wants of wheat, while the buried roots and stems help to keep heavy soils light and porous. Our practice at the West was to sow clover on the wheat in Spring, pasture it in Autumn, mow the next year, and then turn under a heavy second growth, and sow wheat directly upon it, without a second plowing. Or, after having pastured it in Autumn, the following Spring the stock were kept off, and the first growth was plowed in while in bloom. This was left fallow, the weeds were harrowed down occasionally, and in Autumn the field was thoroughly harrowed and cross-harrowed, and the wheat was sown. This latter plan was adopted when the wants of stock required the pasturage in Autumn, or when the soil needed recruiting by the heavy sward and first large growth of clover. This treatment gave an increased crop of wheat every second or third year on the same land, besides the hay and pasturage.

When needed, a top-dressing of plaster was sown on the wheat in Spring, with the special object of promoting a strong growth of clover. The effect of this application was very distinctly seen, when a land was left unplastered.—Ed.]



Miles' Improved Sap Boiler.

The apparatus represented in the above illustration was devised by Henry Miles, Addison Co., Vt., who sends a drawing and description for the *American Agriculturist*, with the remark that it is not yet patented, and perhaps never will be. It was intended for evaporating maple sap, but is equally applicable to boiling down sorghum juice. As it contains some novel features, which Mr. Miles considers valuable, we publish it for general examination. In the sketch, A, represents the arch, built in the ordinary manner, to accommodate the boiling pan, B, resting upon it. The pan is of sheet iron, 20 inches wide, and 6 inches deep. A rim of hemlock strips, $2\frac{1}{2}$ inches wide, fitting close within the edge of the pan, is added to prevent the sap or syrup from boiling over. The pan is furnished with a faucet, F, through which to draw off the syrup. A cover of boards, C, nearly steam tight, is placed over the pan, resting upon the rim. In this cover, $1\frac{1}{2}$ inch holes are bored to receive hollow posts or tubes, T, T, to convey the steam to a wooden conductor, D. These posts or tubes are each 9 inches long, and $2\frac{1}{2}$ inches in diameter. The dimensions of the conductor are not given, but the drawing indicates a wooden box with an interior, 12 inches wide, and 3 inches high. The conductor, D, conveys the steam to the steam box, S, (dimensions not given) in which rests the heater, H, a sheet iron pan, 20 inches square and 3 inches deep. An opening from the steam box, not shown in the engraving, allows the escape of the waste and condensed steam. A wooden tube, E, passes from the heater, H, to near the bottom of the boiling pan, B. The reservoir, R, for receiving the cold sap, is placed above the level of the heater, H, and is connected with it by a tube.

The object of this arrangement, as will be readily seen, is to use the steam escaping from the boiling liquid, to heat the raw sap before its introduction into the boiler. At first it would seem that any obstruction interposed to the freest escape of the steam, would require an increase of heat and consequently of fuel to expel it, and that this would more than counterbalance any advantage accruing from heating the sap with the steam. Mr. Miles asserts that his experience and that of his neighbors, has proved that there is an actual gain in fuel by covering the boiling pan, from the fact that the external cold air is excluded, which would abstract a

great amount of heat from the boiling surface. He says that the steam will take good care of itself, and find its way out without any difficulty, and that the heat imparted in its passage through the condensing box, will be sufficient to raise the cold sap to nearly the boiling point. Our own idea of evaporation has always been, that there should be the largest possible surface of liquid exposed directly to the air, in order to get the best results.

The air acts as a sponge to suck up the fluid, so to speak. It is well known that evaporation goes on most rapidly when the atmosphere is dry, and when a current of air passes over the surface of the fluid. In the apparatus here proposed, a moist atmosphere, or rather pure steam is constantly over the boiling liquid. On further considering the subject, we are inclined to think the amount of heat saved in barely bringing the cold sap to a boiling heat would hardly repay the loss incurred in evaporating under cover. We may perhaps be in error. A practical test would be to evaporate a certain amount of sap, with the cover on, and the same quantity with it-off, and compare the amount of fuel consumed.

Cheap and Good Straw Hives.

E. J. Ferris, of Lake Co., O., J. T. Smith, of Unlontown, and several others, inquire how to make the straw hives referred to in the July *Agriculturist*. While at M. Quinby's, we examined quite a variety of straw hives, mostly patented by different parties. We will describe one of the best forms, one which is unpatented, and can be made by any person with moderate skill. The size depends upon what is required. If for a particular kind of honey-boxes or movable frames, the size must be

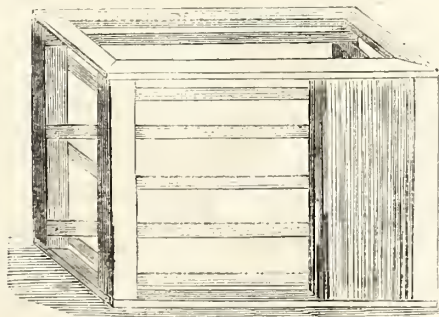


Fig. 1.—FRAME FOR THE STRAW.

made to correspond with what is wanted. It is a square or parallelogram, to be covered with a flat board to receive the surplus boxes, and over this a wooden box with sloping or flat roof, and projecting over the sides to shed rain. The essential part or body of the hive is made as follows: For the upright corner-pieces, cut 2-inch square stuff to the required length.

Upon the *inside* of these nail three pieces of lath for the sides and ends, putting one strip around both top and bottom, and one in the middle, as seen in fig. 1. Then nail flat thin strips, 2 inches wide, around the top and bottom, covering the ends of the uprights, as also shown in fig. 1. Next cut clean, straight straw, in a cutting-box, to just the required length to fit into the sides. Pack this straw in firmly upon the sides, and nail strips of lath on the outside, as shown in fig. 2, and the thing is done. To prevent crowding off the inside strips while packing in the straw, it is well to have a false box just the size of the inside, and slip this in while packing the straw. To prevent the spreading of the lath, bind them together at the middle points with wire running through the straw, especially on the longer sides of the hive. Straw hives are grateful to bees, cool in Summer and warm in Winter, and with the straw standing perpendicular, as above described, it sheds off all rain. As 2 inches thickness of straw would seem to be more than is needed, if the corner-pieces be 2-inch stuff the outside slats might be

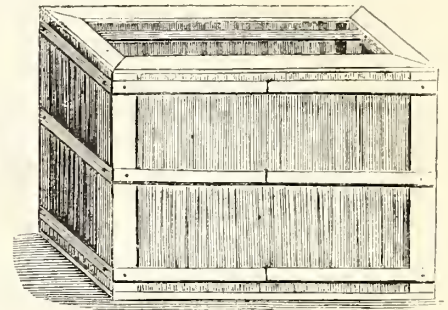


Fig. 2.—THE STRAW FRAME COMPLETED.

let into the pieces the depth of their thickness, though this would somewhat increase the labor of making them. They are quickly and cheaply made, and are neat in appearance, especially if the wood be planed; this is not essential, however. If the wood-work be painted, they will look still more attractive.

For the *American Agriculturist*.

A Cure for the Sorrel.

The death of this pest would be hailed with as great joy as that of poor Cock Robin was with grief. The bull could afford to pull the bell that rang its death knell, for henceforth hay would be more plentiful in many a scanty meadow. But it is not dead, as the meadows with their large red patches testify. It is found not only in the fields of the slothful, but in those of the diligent. To be sure it is most abundant on the former, Mr. Slack descants upon the adhesive qualities of sorrel thus: "It is of no use to try to get rid of it. It is one of those things that is doomed to come. Wan't weeds a part of the curse upon the soil? What is to be, will be, and there is no use in fighting against nature." Slack is provoked at any complimentary allusion to the ruddy aspect of his fields. Pray don't sorrel grow every where? Not exactly every where. It is found in great abundance on old meadows where the grass begins to fail. The philosophy of this fact may be that the grass has sucked out all the aliment in the soil suited to its nature, and the sorrel comes in as a succession crop. It is worthy of notice that sorrel abounds in soils that have been long manured with uncomposted fish. This manure stimulates the land to a large production of cereals, and when it is laid down to

grass, it very soon relapses into sorrel. It also comes in extraordinary quantities upon reclaimed swamp land imperfectly drained.

Now the remedy I have to propose for sorrel, is an old fashioned one, and requires money and labor. Apply manure either as a top dressing or for hoed crops. Every farmer must have observed that sorrel is not troublesome upon a rich, newly seeded meadow. The clover overshadows it, if it undertakes to grow, and the herds-grass and other grasses obscure it for several years. The sorrel is only a gentle hint from nature, that the last grist of manure put into her hopper is ground out, and needs to be resupplied. You can have fodder only as you keep the hopper full. If the soil is wet, there is no effectual remedy but in drainage. In upland meadows the manure will last several years. When the sorrel reappears, apply manure, and if the grass is feeble, sow grass seed at the same time.

CONNECTICUT.

Tim Bunker on Starting a Sugar Mill.

"Who'd have thought of ever seeing a sugar mill in Hookertown!" exclaimed Seth Twiggs as he looked at that new institution just put up on the Shadtown road.

"And such lots of sorghum too," said Deacon Smith. "Almost every farmer has a patch."

"The age of meracles ain't past yet," said Tucker in a meditative mood.

"I wonder if there'll be any rum made of the leavings," inquired Jones expectantly, recalling his experience on a sugar plantation.

"Not a bit of it," said Seth, with a twinkle in his eye and an extra puff at his pipe. "Suckers will go dry in these parts."

Ten years ago, I should as soon have thought of seeing an elephant in my barn yard, as of seeing a sugar mill in Hookertown. In the first place there was nothing to make sugar of, except a few maple trees, and they did not require a mill. And then there was not enterprise enough to start a new project of that magnitude. We, most of us, believe in foreordination and had not put down sugar making as among the things that were destined for Hookertown. We expected always to get our sweetening by barter, just as our fathers and mothers did before us—a pound of cheese for a pound of sugar, and brown sugar at that. We expected too to eat a slave-grown article because we could not get any other. But they say they are getting off the notion of forced labor on the sugar plantations, in Louisiana, and I suppose when the States got to making a change, they thought they might as well make a change all around, and have free sugar North and South. At any rate it is a settled fact, that we have a sugar mill, where they are going to make molasses this Fall, and where they may make sugar by and by. I suppose half the farmers in town won't pay a dollar for sweetening next year, and some will have a few barrels of syrup to sell. The world moves, notwithstanding the war, and I am not sure but the war has given a good many enterprises a new hoist. You see it has made sugar and molasses dear, and that has set Yankee wit at work to get these things out of our own soil. In raising sugar at the North, it makes a great deal of difference whether that article is eight cents or sixteen cents a pound.

We have been getting ready for this business some years. The seed sent out from the *Agriculturist* office, introduced the plant, and taught us that we could grow it as well as corn. Jake Frink could see that it looked like broom

corn, and was no humbug. It would pay to raise it for fodder for cattle, and hogs ate it greedily, and would thrive upon it wonderfully well. There was no chance to lose much. Some made syrup from it, the first year, and put it up in bottles, and exhibited it at the county fair. It looked like syrup, tasted like it, and went well on buckwheat cakes. But we had no mill to grind the cane, and no conveniences for boiling down the juice, and that was the great objection to going into the business.

Last Winter we talked the matter up in the Farmers' club. Men in whose judgment we had confidence, said the thing would pay. Mr. Spooner, who is ready for every good word and work, said there was no good reason why we should not make our own sweetening, at home; that the farmers in the town paid out twenty thousand dollars every year for this article, and they might just as well keep that amount in their own pockets. Deacon Smith read extracts from the agricultural papers, showing what they were doing out West, raising two and three hundred gallons of syrup to the acre, and clearing over a hundred dollars above working expenses. He said the crop last year was worth several millions of dollars, and that the business was increasing rapidly wherever they had learned to make the syrup.

Seth Twiggs said they had started a mill at Smithtown, and it worked well. He brought along several bottles of the syrup made at the mill, and to convince the skeptical, sent it around for trial. It was found that it made good gingerbread, it sweetened coffee, and filled the place of molasses completely. After a fair trial, and several weeks talking, in which every man made sure that the syrup would not bite, we got the club up to the question—"Shall Hookertown have a sugar mill?" This was the name the thing seemed to take of itself, though I suppose they will make nothing but syrup at present. It was agreed that the syrup was the thing we all wanted, and we were all ready to go into it if the thing could be made to pay. Two men agreed to build the mill, and put into it every thing necessary to grind the cane and boil the syrup, if they could have cane enough to make it an object. They wanted three hundred acres pledged. This, with what they raised themselves, they thought would make it a safe enterprise.

To get the cane pledged in a community of small farmers, many of them not having more than ten acres under the plow, was a good deal of an undertaking. It was agreed to appoint a committee for each school district, to see how much could be raised. There were fifteen districts in the town, and it would take about twenty acres to each district. Mr. Spooner took the matter in hand in his district, and worked as hard as any of us. Some subscribed two acres, and some a half acre. We raised about three quarters of the pledges here, and for the rest we had to go to Shadtown.

The results of the Winter's work are, that we have a wonderful increase of sorghum in all this region. A patch may be found on all the best farms and on some of the poor ones, and even in the gardens of the mechanics. A quarter of an acre of sorghum will make a barrel of syrup, if it does only moderately well. We shall not have syrup enough to supply the town, perhaps, but we shall give the business a good start, and wake up the sleepers. I should not think it strange if we became exporters of syrup in a few years, and Connecticut syrup may yet stand as high in the market, as Connecticut River shad. The mill is all up, and the

machinery in, and they will be ready to grind as soon as the cane is fit. I do not see any reason why New England should not raise its own molasses. We have plenty of unoccupied land, and capital to invest in the crop, and in mills to manufacture it. All that is needed, is a few individuals in each town to talk the matter up, and show how it can be done. There must be concert of action, and then the whole business will go easy. The sorghum is coming into favor much more rapidly than the potato did, and it would not be strange if it wrought as great changes in our husbandry.

Hookertown, } Yours to command,
Sept. 10th, 1863. } TIMOTHY BUNKER ESQ.

Gift Enterprises and Other Humbugs.

We had supposed that the "Gift Enterprise" business was about "played out" in this country, since the frequent and thorough exposures of the knavish character of the business, which have from time to time appeared in the *Agriculturist*, and various other journals. Occasionally however, we receive a circular indicating that there are yet parties ready to be duped by golden promises, and rogues prepared to take advantage of their ignorance. One of these programmes is now before us. It dates from a "National Art Gallery," and proposes to sell "Twelve Magnificent Steel Plate Engravings," at the low price of *One Dollar* each, and to furnish with each engraving a valuable gift, valued at from 50 cents to \$100. In addition to all this, 50 United States Bonds of \$100 each are offered as additional premiums, and "as each print will have a limited issue of less than ten thousand copies, these Bonds must soon be distributed." In what manner the distribution is to be made, is not stated. As the "fools are not all dead" yet, we suppose some investments will be made by those who have not already been "bitten" by the same operator.

"Honor among thieves" has long since passed into a proverb, but its fallacy is being continually shown. A recently exposed swindle is in point. Letters marked "strictly private" were received by numerous parties, in which the writer proposed to sell them gold coins of the denomination of \$1, at 50 cents each. They were warranted to be such complete imitations of the genuine, as to defy detection; not even the banks would refuse them. None but a rogue, or a man of very weak honesty, would bite at such a bait, but the temptation proved too strong for many, who forwarded the dollar, and received their coins in return. As was promised, they readily passed as genuine, "even at the banks." Elated with their success, the dupes speedily sent larger amounts, from \$5 to \$25 for more coins, but they could get no replies. It turned out that the specimens first sent as a bait, were genuine coin, but the rascal appropriated all *additional* remittances, rightly judging that parties attempting to purchase counterfeit money, would be in no haste to complain of the swindle to the authorities. Ultimately, however, the matter was brought to light, and the ingenious operator is now in confinement awaiting his trial. He deserves punishment for holding out the temptation to the unwary, of making money dishonestly. The rule heretofore given needs to be often repeated, viz.: *avoid dealing with all parties who offer to give more than a dollar's worth, for a hundred cents.* They can not continue to fulfill such contracts without dishonesty to some one, and the loss will usually fall upon those who are caught by splendid offers in circulars and advertisements.

Useful Rules for Measurement.

I submit for the benefit of readers of the *American Agriculturist* a few rules for ascertaining the capacity of vessels, and for the measurement of solids of the descriptions named. It is unnecessary to state their importance to all who have to measure grain and other produce, and the necessity of being able to estimate accurately the capacity of vessels temporarily made, as well as those permanently used; and as it is well known that very many of those who are passing large quantities of goods of all sorts through their hands daily, do not know how to ascertain the correctness of the capacity of the vessels they are in the habit of using, and may therefore unknowingly cheat or be cheated, the necessity of such a knowledge is evident.

1.—To find the cubical contents of rectangular vessels.

RULE.—Multiply the length by the width and height.

Example.—What is the cubical contents of a vessel 30 inches long, 30 inches wide, and 60 inches high?
 $30 \times 30 \times 60 = 54,000$ cubic inches, *answer*.

2.—To find the cubical contents of cylindrical vessels.

RULE.—Multiply the square of the diameter by .7854, and the product by the height.

Example.—What is the cubical contents of a vessel 30 inches diameter and 60 inches high? *answer*.
 $30 \times 30 = 900 \times .7854 = 706.86 \times 60 = 42,411.6$ cubic inches.

3.—To find the cubical contents of rectangular tapered vessels, mathematically called prismoids and frustrums of a pyramid: used for agricultural purposes in weigh-hoppers, etc.

RULE.—To the sum of the area of the two ends add four times the area of the middle in a line parallel to the base, and multiply this sum by one-sixth of the perpendicular height.

Example.—What is the cubical contents of a vessel 60 inches high, 21 inches square at the top, and 40 inches square at the bottom?

$20 \times 20 = 400$, area of top.
 $40 \times 40 = 1600$, area of bottom.
 $4 \times 30 \times 30 = 3600$, four times area of middle. *answer*.
 5600×10 , (one-sixth of the height,) = 36,000.

4.—To find the cubical contents of round tapered vessels, (frustrums of cones.)

RULE.—To the sum of the square of the diameter of the two ends add four times the square of the diameter of the middle: multiply this sum by .1309, and the product by the perpendicular height.

Example.—What is the cubical contents of a vessel 20 inches diameter at the top, 40 inches diameter at bottom, and 60 inches perpendicular height?

$20 \times 20 = 400$, square of top diameter.
 $40 \times 40 = 1600$, square of bottom diameter.
 $4 \times 30 \times 30 = 3600$, four times square of middle diameter.
 $5600 \times .1309 = 733.04 \times 60 = 43,982.4$, *answer*.

In the 3rd and 4th examples, the middle diameter or distance across is obtained by adding the diameter of the top and bottom together, and dividing the amount by 2.

A bushel contains 2150.42 cubic inches, 1.244 or nearly $1\frac{1}{4}$ cubic feet, or 9.31 gallons. A gallon contains 231 cubic inches, and there is therefore 7.48 or nearly $7\frac{1}{2}$ gallons in a cubic foot. Hence, dividing the number of cubic inches contained in a vessel by 231, we find the number of gallons; or, dividing by 2150.42, we have the number of bushels it contains. Or if the contents of the vessel is given in cubic feet, then, by multiplying them by 7.48, (or $7\frac{1}{2}$), we find the number of gallons; dividing by 1.244, (or $1\frac{1}{4}$), gives the number of bushels it contains. As, however, there are many men who can easily do the first four rules in arithmetic, but are puzzled at, or altogether unable to work out decimals, I subjoin the two following rules by which they may find out the number of gallons or bushels a vessel contains, without the use of decimals. These rules, it will be observed, are only for the calculation of *gallons and bushels* in round vessels; for their actual cubical contents, they must be worked out by the first four rules.

5.—To find the number of gallons and bushels in a cylindrical vessel with parallel sides, as, for example, a bushel measure.

RULE.—Multiply the square of the diameter in inches

by the height in inches, and divide the product by 294 for gallons, or by 2738 for bushels.

Example.—What is the number of gallons and bushels contained in a vessel 30 inches diameter and 60 inch high?
 $30 \times 30 = 900 \times 60 = 54,000 \div 294 = 183\frac{3}{4}$ gallons, and
 $54,000 \div 2738 = 19.57$ bushels, *answer*.

6.—To find the number of gallons and bushels contained in round taper vessels.

RULE.—To the sum of the square of the diameter of the two ends add four times the square of the diameter of the middle: multiply this sum by the height, (all in inches,) and divide the product by 1764 for gallons, or by 16,428 for bushels.

Example.—How many gallons and bushels are contained in a vessel 20 inches diameter at top, 40 inches diameter at bottom, and 60 inches perpendicular height?
 $20 \times 20 = 400$, square of the top diameter.
 $40 \times 40 = 1600$, square of bottom diameter.
 $4 \times 30 \times 30 = 3600$, four times square of middle diameter.
 $5600 \times 60 = 336,000 \div 1764 = 190\frac{1}{4}$ gallons, and
 $336,000 \div 16428 = 20.49$ bushels, *answer*.

Although as has been remarked, the 5th and 6th rules are to facilitate the calculations of the description of vessels named, by those who do not understand decimals, it will be apparent at a glance that they are simple, and useful to all who have such calculations to make.

A similarity in the whole of the examples given will be observed. This is done to enable a comparison to be made in the contents of vessels of similar sizes, but of different shapes.

Schenectady Co., N. Y.

WM. TOSIACI.

For the American Agriculturist.

A Clay Soil no Curse.

How often do farmers whose lands are clayey, complain of their hard, stiff soils, so inclined to be cold and wet in Spring, baked hard in Summer, and tedious to work at all times! Very well, these are bugbears to shiftless farmers, but not so to enterprising men. Wet and cold in Spring? Shows they need draining. Baked stiff in Summer? Shows they need manuring and diligent working. Tedious to till at all times? Yes, very likely, more toilsome than sandy land; but then how much more productive and durable. In his "Principles of Agriculture," Thaez says: "Land should be chiefly valued according to its consistence; the greater the degree of this quality which it possesses, the nearer does it approach to first class land; but the smaller the proportion of clay, and the larger the quantity of sand which enters into its composition, the more rapidly does it fall in value." What say Jersey and Long Island farmers to that? What say the Arab farmers to the value of their shifting sands? Are not the clay lands of old England the most productive that the world has ever seen? Clay, if not mixed with foreign and noxious ingredients, contains in itself elements of fertility. It holds the rich deposits of many ages, which only need bringing to the influence of air and tillage to make them yield their riches to the cultivator.

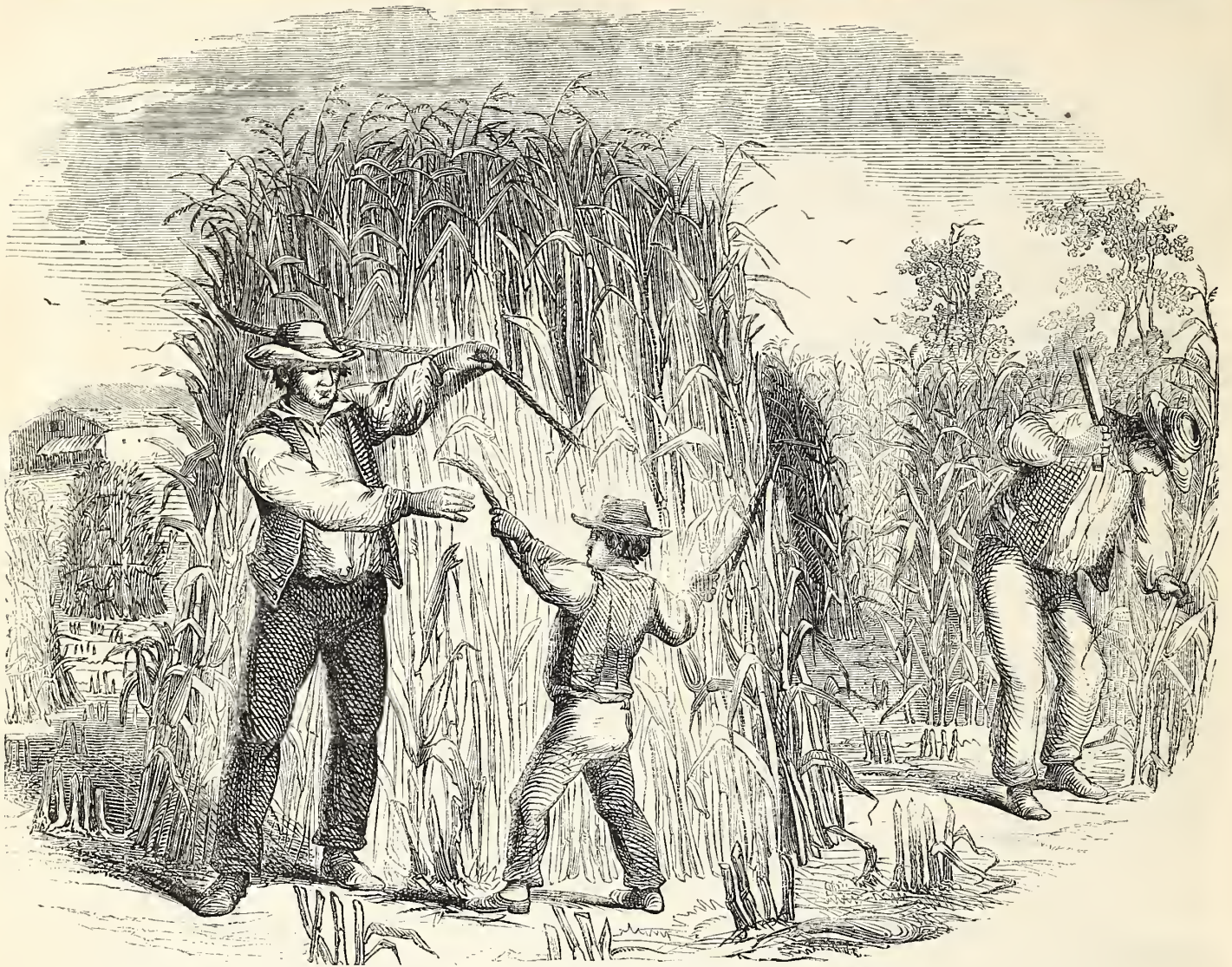
Moreover, clay is very retentive of all manures applied to it, while sand soon leaches them away. How often do we hear the owners of sandy farms complain in this wise: "Oh! it's just like putting water into a sieve!" Sandy soils are easier to work, but in the long run the clays are usually most productive. Some very interesting results have been achieved by dressing sandy soils with clay, the clay seeming to add positive fertility, as well as to increase its consistency. But in the question between clay and sandy land, probably all will agree that the best soil lies between the two extremes, a clayey loam being better for all ordinary purposes than either pure clay or pure sand. Z.

[There is no doubt that clay lands, if rightly treated, are the best, unless entirely made up of tough brick clay. Plants need a bed of fine

earth for their delicate roots to flourish in. A clay soil, well drained and deeply broken, furnishes this bed. Remove all surplus moisture by thorough drainage, then turn up the soil deeply for the action of air and frost, and you have just the kind of land that will bear good crops, and last forever. If devoid of sand enough to make it friable, a good mixture of muck, manure, sod turned under, or other vegetable matter, will help to ameliorate it. Were we hunting a farm to-day, we should chose a stiff soil, investing only a part of the capital in the soil, and using the rest to put it into good condition for the same reason that we would buy one good machine rather than two poor ones.—Ed.]

Pedigree in Plants.

The general superiority of *blooded* animals, that is, those whose pedigree can be traced through families possessing marked and fixed points of excellence, is now generally conceded. It is acknowledged that an equal number of the Durhams, Devons, and Herefords, among cattle, of Merinos, Southdowns, and Cotswolds, among sheep, etc., will, as a class, show superior qualities to the miscellaneous stock known as natives. But the same principle of superiority from breeding among plants, has not yet been as fully recognized. Yet there is abundant reason for supposing that the same law is equally prevalent in the vegetable as in the animal kingdom; that "like begets like," and that observance of this law may be turned to most profitable account by cultivators. To some extent this is acted upon, in saving the best seeds of grain and other products, but it is only recently that definite experiments have indicated how great improvement can be realized by proper and continued selection of seed. The experimental researches and success of Mr. F. F. Hallett, of Brighton, England, have already been noticed in the *Agriculturist*. New interest, has been excited in this subject recently by a meeting of a large number of the leading farmers of England, to inspect his farm and witness the progress of his operations. From year to year this gentleman has selected, not only the best heads of wheat, but the best kernels of the finest ears, and used them for seed. One of the visitors says, "two or three features in the appearance of the wheat fields forcibly struck us, namely, the extraordinary strength of the stems which enabled them to withstand a very severe storm occurring July 21st, and maintain their upright position; the uniform size of the ear, and the absence of 'under-corn' (dwarfed wheat). We counted on one stool 42 ears, all of which were of the same size and as near as possible, of equal height." In reply to the question, "What was the average product of his wheat crop last year?" Mr. Hallett said he should keep far within the limits of truth in stating that the *maximum* was six quarters (48 bushels per acre), and the *minimum* four and-a-half quarters (36 bushels) per acre. He also gave three instances which had come to his knowledge, of large productiveness of the improved wheat, which yielded respectively, 72 bushels, 62 bushels, and 60 bushels per acre.—Now what has been done in England, can be repeated here. No one can fix the limits to which productiveness may be carried by following out similar experiments. May we not hope in a few years to find improved "breeds" of wheat, of corn, and other cereals in this country, as well marked, as are the established strains of horses and cattle?



AUTUMN SCENE—SECURING THE INDIAN CORN HARVEST.

The scene represented above is peculiarly American. Nowhere else does the maize plant add beauty to the landscape, and abundance to the resources of the Nation. In other lands, the failure of Wheat is followed by scarcity of food, and suffering among the poorer classes. In many sections of our own country, Indian corn is the principal dependence for human food, and in case of necessity it can be generally substituted for other cereals, as has been repeatedly done in sections where the wheat and rye crops have come short of the demand. It is the abundance of corn and its excellence as an article of food, that enables us yearly to export such immense quantities of other grain to foreign lands. To this staple, as much, if not more than to any other one production, is our national prosperity due. Without it as cheap food for their laborers, the cotton planters could never have made the production of their favorite crop a paying operation. If ever cotton was "King," maize was "Prime Minister," and has now worthily succeeded to the throne, even in the South. For beauty of appearance no cultivated plant may better claim such honor. Its stately form, clad in garments of fairest green, gracefully bearing aloft a jeweled scepter, and bedecked with golden crown, proclaims its royal prerogative. Nor is the simile altogether fanciful when its habits are regarded. It must live upon the fat of the land. The richest stores of the farm must be laid at its feet; from infancy to maturi-

ty it will brook no neglect. But unlike too many sovereigns it makes grateful return for the homage it exacts from its dependents. The general crop during the present year, though not as large as has been gathered heretofore, from early and recent unfavorable weather, is yet a fair one—enough to supply the home demand, and leave a large surplus for export.

Much loss is experienced every year from neglect of the corn crop after it is ready for harvesting. As we have frequently said, cutting up by the ground is every way preferable for most sections. Care is required in curing the stalks. If the stooks are made too large, or carelessly put up, they may heat, or be soaked with rain, and mould, and much of the corn be spoiled. If the corn is to be husked directly from the stalk as standing in the field, it is desirable to have it completed as early as practicable; otherwise the birds, mice, and other depredators will take a large toll. We have seen the golden ears peering from a wreath of snow in Winter, having been left uncared for, except by vermin; such management, it need not be said, is not the most profitable farming. The first fruits of the crop should be gathered for seed, carefully selecting the best ears from the most prolific stalks. These should be carefully trussed together by braiding the husks, and hung where they will thoroughly dry before freezing; much seed corn is spoiled by neglect in this particular. After the corn is removed

from the ground, it is desirable that the remaining stumps be broken down before plowing for the following crop; otherwise they remain a vexatious impediment to cultivation. This can be done by drawing a roller or a rough stick of timber across the field when the ground is frozen.

How are you Marketing your Fruit?

Fruit can be knocked from the trees by shaking, by beating the limbs with long poles, and by other rough ways; it can be picked up in baskets and dumped into a wagon box, and taken to the nearest village and sold—at a very low price. By this treatment good fruit can be rendered nearly worthless, or at least fit only for immediate use, while the same fruit carefully picked and properly packed, would bring a price enough higher to amply repay all the extra care of preparation. We may say with truth, that a bruised apple is a spoiled apple. An apple which would last for months, will, after it gets a slight bruise in falling, soon decay and become worthless. The first thing to be attended to in marketing fruit, is the picking. Hand picking and careful handling—as careful as if the fruit were eggs—is absolutely necessary if we would get good fruit to market in good order. If the trees have been properly trained with low branches, most of the fruit may be reached by some kind of a self-supporting ladder, and there are several fruit-pickers which

may be advantageously used to reach those otherwise inaccessible. If the fruit is to be disposed of at the nearest market town, it will pay to use care in picking, but if it is to be consigned to a distant city, it is absolutely necessary to do so. During the first week or two after it is taken from the tree, fruit loses a considerable amount of moisture, or "sweats," as it is termed, and it is necessary that this process should be through with before packing. The "sweating" may be done upon a barn floor, or the fruit may be put in heaps in the orchard and covered with straw if there be danger of frost. Fruit should be kept at an even temperature, and as cool as possible without freezing. From the time that fruit is mature it constantly tends to decay, and that state in which we say the fruit is "in eating" is one step toward decay. The process can be made to go on slowly, or be retarded almost indefinitely, by keeping the fruit at a sufficiently low temperature. After the fruit has gone through the sweating process, it should be barrelled. It is better to make two grades of quality, separating the finest from those less large and fair. A few poor looking apples will injure the sale of a barrel of otherwise first class fruit. Never mix sorts, even if they closely resemble each other, and mark each barrel with the name of the fruit. It is of the greatest importance that the packing should be so done that the fruit will not shake about and bruise one another in carriage. The use of packing material is now generally abandoned, at least for apples, but the fruit is pressed into the barrel so strongly that shaking is prevented. The head may be pressed down by means of a lever, as shown on page 9 of the *January Agriculturist* for 1861. A convenient screw-press for the same purpose is sold at agricultural ware-houses.

Strawberries and Other Small Fruits at the West.

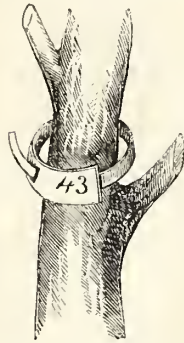
Mr. S. S. White, Mercer Co., Ill., sends to the *Am. Agriculturist* his experience with small fruits, which we give for the benefit of our western readers. He finds "Hovey's Seedling (well fertilized) worthless. Wilson's Albany suffered most from drouth. Burr's New Pine, and three other Pines are small, but the fruit sweet. Triomphe de Gand does not bear as well here as at the East, but the fruit is large, and the flavor very good. The Hudson, an old market berry, has been more prolific with me, and bears the drouth better than any other variety; the berry is firm and the flavor reasonably good. I shall discard all the varieties I have tried or seen tried in the West, except Triomphe de Gand, Wilson's Albany, Hudson, and Austin."

Mr. W. thinks that our directions for planting in narrow beds will not answer for the West, where land is plenty and labor scarce. He makes his plots of the dimensions of a quarter of an acre, manures well, and plows deeply. He then, by the aid of a line stretched across the plot, puts the plants out 12 to 15 inches apart in the rows, and sets the rows at three feet apart. "To dress the bed, use the cultivator early in the Spring twice, and two or three times after the vines have done fruiting. If no cultivator is at hand, use the small double-shovel corn plow. A man or boy will go over a quarter of an acre in an hour, and brush off with his hand the dirt from such plants as may get covered. Expense of work with cultivator \$2; hire of girl 6 days to elip runners \$2; pulling weeds in rows, the season \$1. Whole necessary expense of culture \$5. Yield of berries, 25 to 40 bush-

els on a quarter of an acre plot, according as the season is wet or dry." Mr. White advises his western friends not to be content with the strawberry alone, but to grow other small fruits. Houghton's Seedling Gooseberry, and the New Rochelle blackberry have done finely with him. The Hudson River Antwerp is the only good variety of Raspberry that will stand the winter in his locality without covering. Letters of the character of Mr. White's are always acceptable; though we may not publish them, they are of use in enabling us to judge what varieties are best adapted to particular States and localities.

Leadon Labels for Fruit Trees.

A friend, who modestly wishes to be known as "Ignoramus," having read a note in the *July Agriculturist* upon the importance of looking to the tree labels, sends us a device which he uses, and one which may in many cases be worthy of being adopted. The engraving represents his fruit label. It is a strip cut from common sheet lead, half an inch wide at one end, and gradually tapering to a point. Strips can be cut to this wedge form from a wide strip, without waste. Near the broad end a number, corresponding to that on a catalogue, is either stamped or cut with a knife. Just beyond the number a hole is made with a square



punch or nail-set, and the small end of the label is put through this and bent over to fasten it. This appears to be a feasible plan, and one which will be found useful where there are a large number of trees to label. Should a label be thrown off by the expanding of a limb, or from other causes, being of lead, it will not be blown away and lost, as a wooden one might be.

A New Melon—The White Japanese.

This superior fruit was first introduced to the public by the enterprising horticulturist, Wm. S. Carpenter, Esq. We understand that the seed was brought to this country by some member of Com. Perry's Japan Expedition.

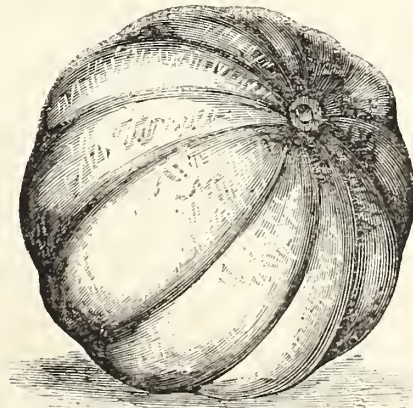


Fig. 1.—OUTSIDE OF MELON.

Though this variety has been known to a few cultivators for some years, it is to most people quite new. We have grown it for two years and are so well satisfied with it, that we are desirous that our readers should be on the look-out for it,

as the seed will soon be so generally distributed as to be readily attainable. Fig. 1, represents the general shape of the fruit, which is usually globular, though some times it is slightly oblong. The furrows are very shallow and the surface but sparingly netted. The color is one of its most remarkable characteristics, being nearly

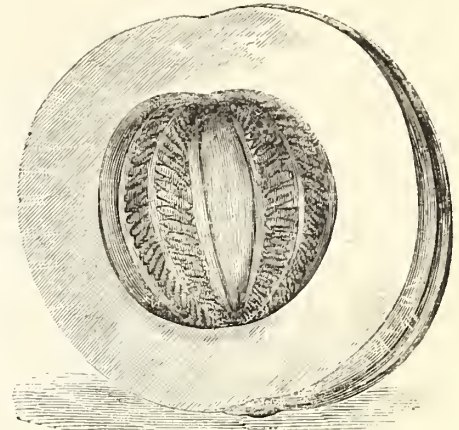


Fig. 2.—INSIDE OF MELON.

white, or at least, a greenish white. The flesh, which is very thick in proportion to the size of the melon, is greenish, tinged with orange. When well ripened, the whole flesh is eatable, the rind being scarcely thicker than the skin of an apple. The texture, sweetness, and flavor of the flesh are all that can be desired. We know that tastes differ with regard to melons, as they do with respect to other fruits, and can only say that this new variety pleases us. It is a prolific bearer, and we hope to see it introduced in place of many inferior kinds now cultivated.

How to Raise Seedling Tree Stocks.

H. K. Ackerman and others ask us to give some hints upon planting seeds for the purpose of raising nursery stocks. This is a matter which is generally left to the professional nurseryman, but there is no mystery about it, and any one who cultivates fruit can readily raise his own stocks. The soil for the seed-beds should be finely pulverized and well fertilized with old manure. The young seedlings need a tolerably rich soil to give them a good start and insure a vigorous growth the first season. Good clean and well-grown wood is essential to success, whether the stocks are budded or grafted. The seeds should be secured in the Fall. In this country it is customary to take the sound seeds of any variety, and for apples, the pomace left after making cider, is usually resorted to for obtaining seeds. In the family where much fruit is eaten, a quantity of seeds can be saved daily, if each one, after eating an apple, peach, or pear, will take the pains to preserve the seeds. A box or common flower-pot of sand should be kept standing in a convenient place, where each one can deposit the seeds from the fruit he eats. Where pomace is used, the seeds are separated by washing, collected, and dried, and then sown at once, or put into boxes with very slightly damped sand, and kept until Spring. If fruit is chosen expressly for the seeds, it is allowed to decay until the seeds can be readily separated. It is altogether best to sow in the Fall, if possible. If a large quantity is to be planted, it is best to make the drills about three feet apart, in order to allow the use of the cultivator, but if the bed be small, the rows may be at a convenient distance to work with a hoe. Having stretched a line

mark the row, open a trench with a hoe, about three inches deep, and distribute the seed as evenly as possible. Then cover with soil to the depth of three inches. A thin layer of old and well-decomposed manure spread over the rows will be of advantage. This is the usual way of planting apple and pear seeds. Pear stocks, however, need rather more care than the apple. Every means should be taken to hasten the early Spring growth, and a liberal supply of ashes to the soil will be found beneficial, and, unless in a limestone country, a good supply of lime should be given to the soil. When the seeds start in the Spring, the plants should be thinned out so that they will not crowd one another, and the growth promoted by frequent cultivation and weeding. In thinning, leave the most vigorous looking plants. In Autumn the seedlings are to be taken up, with care not to injure the roots. They are to be cut back, both at the top and roots, from one-third to one-half. Those large enough for root-grafting are placed by themselves, and the weaker seedlings are put together to be planted out in the Spring, to make another growth. Both sizes are to be preserved in slightly damp sand or earth in the cellar. During the Winter, the grafting may be done, and all be ready to put out in nursery rows as soon as the ground is fit to receive them. Cherry stones may be treated in the same way. Keep them in boxes of sand until Autumn, and then plant. In collecting peach pits for stocks, we cannot too often repeat the necessity of securing them from perfectly healthy trees. The pits may be kept in boxes, mixed with sand or earth, and exposed to the full influence of the frost; or if the quantity is large, they may be mixed with earth, and made into a mound well covered with soil, in a convenient place. When the germ shows signs of starting in the Spring, the seeds may be planted with a dibble in nursery rows. By the following Autumn the seedlings will usually be large enough for budding.

For the American Agriculturist.

Currants and How to Propagate Them.

Communicated by an Experienced Cultivator.

The Currant is one of those fruits which seem to thrive in spite of neglect, and to give tolerable crops in almost any soil and location. They will grow and produce some fruit if the bushes are allowed to have their own way and are choked with weeds. Let any one compare the fruit as ordinarily produced, with the fine specimens which have been shown on the tables at the *American Agriculturist* Office, and he will see that there is something to learn, even about currants. Any sort properly cultivated and pruned, will give far better fruit than it will if neglected, and there are new and fine sorts, requiring no more care than the old ones, which will produce fruit vastly superior. For red sorts, the Cherry and La Versailles, and for white, the White Grape and Provence, will give a good selection, though there are many others which have their advocates. The sorts in cultivation are generally of foreign origin, but some native species have lately been introduced from the far West, of which we have great hopes. For the present, however, we must be content with the European sorts. There is, perhaps, no plant more easily propagated than the currant. During the present month (October) select strong wood of last year's growth, and make cuttings of six inches to a foot long, cutting them off just below a bud, and square across. To pre-

pare the cuttings for planting, cut out every eye or bud except two or three from the upper end. Cuttings may be planted and grow without all this trouble, but if good tree-like plants are desired it is necessary to take some pains to procure them. Stretch a line across the bed where the cuttings are to be planted, and then take a spade, place its back against the line, force it into the ground nearly perpendicularly to the depth of about six inches, and throw out the soil, thus making a trench the shape of a letter V. Now set the cuttings about three inches apart, along in this trench, with their upper ends about even with the surface, as the soil will settle enough during the Winter to expose the upper buds. Throw a little soil into the trench, just enough to cover the lower part of the cuttings for one or two inches, and then with the handle of the spade, or the edge of a piece of board, crowd the soil down firmly around them. It is essential to success to bring the soil closely in contact with the freshly-cut portion, so as to exclude the air. If the cuttings are set in the latter part of September, or early in October, they will often become well rooted by Winter, and be prepared to make a vigorous growth in Spring; indeed they will do twice as well as cuttings put out in Spring. When cold weather comes on, the cuttings should have a covering of three or four inches of leaves or straw, not so much to keep out the frost, as to prevent them from being thrown out by frequent freezing and thawing. In the Spring the covering may be removed altogether, or it may be parted just over the cuttings, and left as a mulch. The soil for cuttings should be well worked; only old, fine manure be used, and a dry situation should be selected for the bed.

Healthfulness of Currants.

Mrs. W. Hauff, Richmond Co., N. Y., in a communication to the *American Agriculturist* says: "Whenever I see the abundant planting of currants recommended by you, I feel as if I must tell you that I have found this excellent fruit a sure preventive of dyspepsia. For three summers past I have made my breakfast of them as long as they were to be had, and eaten them frequently during the day besides. I find that a plateful of currants eaten with sugar in the morning, disposes of all the bad accumulations in the stomach, without giving diarrhoea, and helps to strengthen the digestive power through the wholesome acid this fruit contains, in which it is superior to the strawberry, raspberry, etc., for I have tried each in its turn. I can digest, without trouble, a hearty dinner after I have had a breakfast of currants, while at times my stomach has been so weak, that a cup full of broth or soup only, would give me pain as if a cancer was gnawing within me."—[This accords with the experience of many others, but in the treatment of dyspepsia, or any other disease, it should be borne in mind that "what is one man's meat, is another's poison." Each must experiment and determine for himself what is suited to his particular case. In general, however, it may be safely asserted that a more liberal use of this and other fruits during Summer, in place of meat, would greatly diminish dyspepsia and other ailments of the digestive organs.—It is to be remembered, however, that when currants are eaten, every berry is to be broken, before it is swallowed; the gastric juice of the stomach can not act upon the unbroken skin, and whole currants produce irritation through the whole alimentary canal, often caus-

ing colic and diarrhoea. Children and persons having defective teeth, too often swallow them unmasticated, and suffer therefore.—Ed.]

Renovation of Fruit Trees.

Mr. Wm. H. Morgan, of Harford Co., Md., writes to the *Agriculturist*: "I had a fine large apple tree which was very thrifty, but did not bear in the Spring. I dug a ditch just under the outer ends of the limbs, cutting off all the ends of the roots; and some months before the leaves of the other trees faded, this tree's leaves turned yellow. That Fall I manured the ground heavily, and in the following Spring strewn a peck of bone-dust over it, and plowed it in, and then put on a half bushel of ashes. This season the tree looks very flourishing, and has half a crop of apples upon it, while before it scarcely ever yielded a dozen, and they were small and knotty. Others of my trees which I treated in like manner, except cutting off the roots, have borne full this season."

Manuring Fruit Trees Injurious.

An indignant subscriber writes us that, in accordance with the advice of this paper, he dressed his young fruit-trees last Fall with horse manure, forking in the same the following Spring, but that his trees were injured by it. They did not put forth leaves until June, and then only after he removed the manure, headed them back severely, washed the trunks, soaked the ground, etc.

Did we ever advise to apply "horse-dung," and that in a fresh or decomposed state, as we learn yours was? Well-rotted manure, cow and horse dung together, composted with muck or sods, would be nearer to our doctrine. We have often said, and now repeat it, that perhaps the safest and best fertilizer for young trees, both fruit and ornamental, is swamp muck composted with lime at the rate of two bushels to the cord evenly distributed through it, or of ashes at the rate of about six bushels. This should lie in a heap several months, and be forked and shoveled well together several times. And when used, it will do no such harm as did our friend's hot horse dung. It will keep the soil healthfully moist in Summer, porous and sweet at all times, and will furnish vegetable food for the roots in a gradual way, just as they need it. A little old dung mixed with it will do no harm. And when applying it, let it be spread over the entire surface of the roots, not in a heap close to the trunk of the tree.

What Early Apples to Plant.

Several letters have been sent to the *Agriculturist* office asking advice as to early varieties of apples, but no letter has stated whether they were to be grown for market or for home consumption. Those who prefer a moderate quantity of choice fruit for their own use, would require a different selection from those who wished to get the most for their fruit in the market. As the best summer kinds we name: Primate, Gravenstein, Early Joe, Red Astrachan, Summer Queen, and Yellow Sweet Bough; the last three being best adapted for marketing. The Primate is an apple which will give general satisfaction and is in some places cultivated as the Early Bough, and Early Harvest, to both of which it is greatly superior. Gravenstein is a remarkably high flavored fruit, and the Early Joe is probably the best of all early apples. It

is small, but for quality we have not seen it surpassed. The Red Astrachan and Summer Queen are both showy apples, of fair quality, and their appearance causes them to bring a good price. We are the better pleased with the Summer Queen, the more we see of it. The tree is of fine shape, a good grower, and the fruit, though not of the very first class, is very fair and beautiful. A friend of ours says, that it is the most profitable fruit he raises, and all who grow it, speak well of it in this respect. We are glad to see those who live near market towns turning their attention to the best varieties of early apples; it is quite certain that they will find their account in it. The above list comprises the best sorts we know of at present.

Trials of Life in the Country.—A Hint to Visitors from the City.

To the Editor of the American Agriculturist:

I am one of those who have left the city to try farming on a small scale, in the country. My wife is an industrious and frugal housekeeper, and by our combined management, we have paid for our land and have begun to lay up a little against a rainy day. We have built a pleasant cottage, and the trees and flowering plants around it, arranged and set out by our own hands, begin to afford us much satisfaction. Our pears, grapes, apples, and other fruits, are just coming into bearing. Our children helped us plant and cultivate them, and they feel a just pride in the work of their hands. Much as they love to pluck flowers and to eat fruit, they never pick them in wanton wastefulness, but they are in fact as careful of them as are their parents.

But here begins the story of our sorrows. Coming, as we did, from the city, we have frequent visitors from town. They are wont to come in fruit time, and that in flocks. They seem to scent the strawberries and grapes fifty miles off. And when they come, they do not always wait to receive what our limited resources can afford to give, but they help themselves to whatever they can find. Last week, a family, consisting of the mother and six children and a maiden aunt, came, and the way they took to my garden and fruit-orchard was "a caution." While wife and I were busy, they rambled about, as if perfectly at home. My Delaware and Rebecca grape vines were just beginning to favor us with a few clusters. On each, were a few bunches which I had reserved, expecting to exhibit them at the next County Fair. Our visitors picked enough from these to destroy their symmetry and beauty, and of other clusters they ate freely. Then they passed through my young pear trees, tasting right and left, throwing away the half ripe, and devouring or pocketing the others. Most of these trees were now fruiting for the first time, and, after waiting many years for them, I had hoped to enjoy the first taste myself, and to have the pleasure of giving away to appreciating friends what my family did not need. But here they were virtually snatched from my very teeth!

I might go on further with the story of our annoyances and trials, but the foregoing is, perhaps, enough to show you the nature of our troubles. We do not complain so much of the money value of our losses, as of the vexation and disappointment at seeing fruit coolly plucked, after long waiting, and so much labor and care. Some city people—surely not all, or the country would be devastated—but some seem to think that fruit grows spontaneously in the country, and that the supply is unlimited, and

is common property. And the sufferer must not complain to his visitors, lest they call him stingy, but must spread for them a bountiful table, and be good natured and smilingly agreeable. Mr. Editor, you see my sore spot: pardon my wineing, and won't you use your influence through the *Agriculturist*, to cultivate a better public sentiment. A SUFFERER.

["Sufferer" is unfortunate in the character of his visitors, though instances as bad as that he relates do sometimes occur. City people are supposed to be well-bred, and generally are, and we country people all like to have them escape the prison-dwellings of the city, and come and see and enjoy our country homes. Aside from the pleasure their society generally gives, we feel a little self-complacency, in doing a sort of benevolent deed, when we take them through our grounds, and share with them some of the good things from our gardens and fruit yards—though, like "Sufferer," we prefer to have them let us do the gathering, and proffer the fruits. Of course, none but those who need the admonition, will take any offense at the hints of our correspondent.—Ed.]

The Quality of Grapes.

There is perhaps no fruit about which there is such a diversity of opinion and about which tastes differ so much as the grape. Nothing shows more strikingly the difference between a crude and a cultivated taste, than to hear the opinions expressed by the numerous individuals who subject grapes to our inspection. One person will bring us a parcel of grapes which he says are remarkable for their perfume, but before he opens the package we recognize the "perfume" as the foxy odor so disagreeable to an educated palate. We have heard a person declare that he never saw such grapes as grew on his father's farm. "Why a dish of them would fill the whole house with fragrance." This person probably never tasted a good grape, and would be perfectly satisfied with a fruit like the Charter Oak. Those who have based their standard of quality upon this peculiarity of our worst grapes, we have very little hope of. It is a peculiar taste, and argues a defective sense. Others show a more cultivated taste in selecting some of the thin skinned and least musky of the wild grapes, but their knowledge extends only to the fact that there are wild and cultivated grapes, and that the cultivated ones are generally the best. To properly judge of grapes, or any other fruit, it requires not only a refined but a cultivated taste. It needs a naturally delicate palate to distinguish flavors, and this must be educated by experience. A good grape should have a very thin skin, be quite destitute of foxy aroma, and with so delicate a pulp that the seeds can be separated by the tongue; after these prime requisites the qualities of sweetness and flavor are to be considered. We think that the Delaware may be taken as our present standard of a good grape, though with the attention now given to producing new varieties, we look for a fruit which shall be even superior to this variety. We are led to these remarks by receiving several "new seedlings" sent in to us with the regret that they were too early for our great Grape Exhibition. They were sent by persons whose taste for grapes had not been cultivated. Had they been exhibited, the senders would have been disappointed in not getting a prize, and would have been quite surprised to learn that their fruit was condemned as unworthy of cultivation.

My Asparagus Bed.

To the Editor of the American Agriculturist.

My Asparagus bed was set out Oct. 20th, with two-year-old roots, and has pleased me so well that I must tell others how it was done. Perhaps old boots, shoes, leather shavings, bones, horns, stones and other things recommended as needful might have benefitted it, though it apparently lacks for nothing, and a person who cannot get these articles should not be deterred from planting this early and always welcome vegetable. The way I did it was this: On a dry, sandy spot in my garden, I staked off a piece 15x18 feet, manured the surface heavily, and spaded two spits deep, working in another good dressing with the lower spit. The soil was rich to begin with. I set the roots in rows, eighteen inches apart, and nine inches in the row, which gave me 12 rows 15 feet long, each containing 20 roots. The crowns, when covered, were three inches below the surface, and the whole was raked off smooth. Just before Winter set in, I covered the bed with two or three inches of coarse stable manure, the finer portions of which were forked in lightly between the rows in the Spring. Weeds were kept down and the soil frequently stirred. The plants made a fine growth the following season. Since then I have followed the same method as to manuring and keeping the bed clean of weeds, and I have cut more real *giant* asparagus, each Spring, than could be eaten by a family of eight persons. GARDENER.

Brooklyn, N. Y., Sept. 15th, 1863.

For the American Agriculturist.

Crinoline in the Garden.

I have great regard for the ladies, but must tell them that their broad phylacteries do spoil our gardens. Paths wide enough for their amplitude can not well be afforded. The consequence is that if a delicate plant or trailing vine happens to stand near the margin of a border, it is sure to be crumpled or broken down by their hoops; and if they lean over to admire or pluck a flower, they are very apt to crush down several more. And then, what havoc they make in the green-house—bruising plants and knocking over the pots! How many an amiable gardener scowls when a row of hoops come to his door!

Dear ladies, what shall be done? Can't you take in sails, say about one half? Think about it. Some of our lady friends love to do light work in the garden, morning and evening, but what sad work the dewy plants and the wet ground make with their trailing skirts! "Bloomer" dresses we do not approve of for the parlor, or even the street, or church, but in the garden and kitchen, why may not something of the sort be wisely adopted? The ladies are full of ingenious contrivances, and it would seem that they could devise some sort of compromise between the sweeping folds of the parlor dress and the genuine Bloomer costume. Why should not our fashion-mongers contrive a working dress for ladies, neat, modest, tasteful, and becoming? GARDENER.

APPLES keep best when left upon the trees until quite late in the season. A white frost, and even a slight freezing will not injure them. Pick carefully, and leave them in the orchard or out-house to sweat for a few days, and only take to a cool dry cellar when there is danger of their being injured by hard frost.



SPECIMENS OF GLADIOLUS FROM OUR EXHIBITION TABLES.

Sketched and Engraved for the American Agriculturist.

The Improved French Hybrid Gladiolus.

Some years ago two or more sorts of Sword Lily or Corn-Flag were grown in the gardens, but they did not excite any great admiration. Within a few years the *Gladiolus Gandavensis* and its varieties have been introduced, and have become deservedly popular. Their great beauty, variety of color, and ease of cultivation make them among the most valuable plants for garden decoration. The engraving represents a group of flowers selected from a most magnificent collection exhibited at the *Agriculturist* office by Mr. Andrew Bridgeman, of New-York. The *G. Gandavensis*, is so called because it originated in Gand (Ghent), and it is claimed that it is a hybrid between two old species; however this may be, it sports wonderfully and has produced a great variety of most beautiful sorts,

differing in the size of flower, color and markings. Some are pure white with most delicate purple lines; others unite white, yellow and purple, scarlet or crimson, shaded in the most pleasing manner. The named varieties number several hundreds, and sell at the stores from 20 cts. to \$2 a bulb, according to their rarity. The plants will grow in any good soil; the colors come better if the ground is not made too rich. The bulbs may be planted as soon as the frost is well out of the ground. The best effects are produced by planting strongly contrasted colors in groups of three to five. When a flower stem appears, it needs to be tied to a neat light stake to keep it from being blown over by the winds. When the frost cuts down the foliage, the bulbs are to be taken up and placed in a sheltered place to ripen, and then put up in paper bags until the time for Spring planting.

The bulb planted in the Spring, will usually be found to have multiplied to two or three; and frequently numerous small bulbs, not larger than peas, are found attached. In case of a choice variety, these minute bulbs should be carefully saved and planted, as they will in a couple of years also become good flowering bulbs.

The following is a list of select varieties of *Gladiolus*. It does not by any means comprise all the fine sorts, but these kinds are good and will give satisfaction: Adonis, Archimede, Brencleyensis, Calypso, Comte de Morny, Couranti fulgens, Daphne, Don Juan, Edith, Eugene Verdier, Junon, Louis Van Houtte, Mathilde de Landevoisin, Mazeppa, Napoleon III., Neptune, Osiris, Premices de Mont Rouge, Vesta.

The Rose as a Bedding Plant.

Of upright roses we have often spoken, and shall again speak, for this is their true position. But for variety and novelty, it may frequently be recommended to use them as bedding plants, pegging them to the surface of the ground. To do this well, a bed of deep, rich soil should be prepared. The work should be done with special thoroughness at the outset, because the earth can not be enriched and spaded afterward, as well as with standing roses. Set the plants $1\frac{1}{2}$ to 2 feet apart each way, according to their habit of growth, using only young plants. Peg down the branches to the earth, from the very start, and spread them equally on every side, like verbenas, so as to cover the ground.

Of the kinds most suitable for this treatment, we would name for the latitude of this city and southward: Deconiensis (Tea), Agrippina (China), Mrs. Bosanquet and Malmaison (Bourbons;) for northward of this, we would propose: Hermosa (Bourbon), Giant of Battles, Mad. Laffay, and Duc d'Aumale (hybrid perpetuals). Cover these beds with coarse litter in the Fall, uncover by middle of April, and prune out the oldest wood and peg all down in good order. The effect of such a bed is very pleasing.

About Crosses and Hybrids.

W. K. R., of Hastings, N. Y., asks us to discuss this subject in the *Agriculturist*. We can only briefly answer some of his questions without going at length into a matter which is involved in much obscurity, and one which treated at any length would concern but a small minority of our readers. Those interested in the subject will find some very pleasant reading in the 8th chapter of Darwin on the Origin of Species. The term *hybrid* is used very loosely by gardeners and florists. By the best authors it is applied only to the product of one species fertilized by another distinct species. Hybrids are rarely fertile, though they may be fertilized by the pollen of one of the parents, and then the progeny tends to revert to the original character of the parents. Hybrids take place in nature, though rarely, and are produced to some extent by the care of the cultivator. The product of the union of two varieties of the same species is properly called a *cross*, or cross breed; it takes place with the greatest facility, and requires much care to prevent the loss in this way of desirable sorts of cultivated plants. We know of no instance where the crossing extends from genus to genus. We shall look with much interest for the result of Mr. R's. experiment in impregnating the Tomato with the pollen of the Red Pepper. Should a hybrid be obtained, it will go to show that the Tomato was impro-

erly separated from the genus *Solanum*. We know of no instance in which the character of the immediate fruit is affected by a cross fertilization, the influence being confined to the seed, and showing its effects in the next generation, from the seed. We do not assert that this is a settled point; we have had statements to the contrary, but have seen no proof. It is an interesting subject for experiment and observation.

THE HOUSEHOLD.

"Bitters"—Worse than a Humbug.

The land is full of bitterness. We speak not now of the woe and anguish caused by war, but of what promises to be scarcely less disastrous in its results upon individuals and families. During the present year we have traveled four or five thousand miles, through different parts of the country. In all that route there has hardly been a point where the eye did not meet an advertisement of somebody's "Bitters." Upon every available space, on the walls of buildings, on the fences, on the surface of rocks and stones, upon the bridges and telegraph poles, indeed every where "Bitters,"—"Strengthening Bitters," "Healing Bitters," "Invigorating Bitters," "Life Saving Bitters," or some other "Bitters"—stare one in the face. This is most strikingly the case in some portions of Illinois. So, too, the newspapers abound in advertisements of these various bitters; and in every hotel, tavern, and down to the smallest 3 by 4 drinking shop, attractive rows of bottles labeled "Bitters" are every where to be seen. We know of large glass manufactories run almost exclusively in the manufacture of bottles for Bitters.—Now all this costs a "mint of money," and this money has already come and is coming from those who buy and drink those Bitters—showing an immense consumption.

But what are these "Bitters"?—With scarcely an exception, they are essentially a cheap form of alcohol—whiskey, gin, or rum. Most contain a little bitter extract—some more, some less—added as a blind, or as a slight tonic. Take out the alcohol, and all that remains would not amount to much—good or bad. Whiskey, or gin, that under its own proper name would not sell for fifty cents a gallon, is put into bottles costing 4 to 7 cents each, five to eight bottles to the gallon, labeled at the cost of a penny, and sold at a dollar a bottle, or at least five dollars a gallon. The attractive label, the great stories told of the healing and strengthening properties, lead people to pay these prices. This much is sheer humbug.—But there is a worse feature. We stopped at the house of a western farmer who would not for the world incite in his children a taste for and love of alcoholic drinks. Yet influenced by the advertisement in his family paper, and a religious one at that, he had bought and used several bottles of these bitters, and supposing us to be wearied with a long day's travel, he proffered us a glass of "strengthening bitters." Two of his little boys were given a spoonful each before breakfast—"to keep off the chills." We told him he was feeding them with gin, and laying the foundation for a drunkard's life and a drunkard's grave.

We constantly meet with persons who daily use these "bitters." The temporary stimulant afforded by the alcohol, deceives them into the belief that they are "invigorating," or "strengthening." When the excitement subsides, and the natural reaction and lassitude follow, they take another dose, and so go on. We say in all seriousness, that the enormous sale and use of these "bitters" is doing more to produce wide-spread dissipation and drunkenness, by begetting a taste for alcohol, than can be counteracted by the efforts of all the Temperance Societies that have yet been organized. Let us beg of every man who would not bring up his family to be drunkards, and who would keep out of temptation himself, to banish these "bitters" of every kind from his house, and discourage their sale in the community. We have had column after column

of advertisements of them offered for the *Agriculturist*, but we would as soon admit advertisements of sugar pellets which we knew to contain concealed arsenic or strychnine.

A Lung Protector.

A very absurd fashion requires men, while wearing four to eight thicknesses of cloth around most of the upper part of the body, to leave an open place in front of the lungs for the display of their white linen bosoms, and gold studs—if they have them. This front of the neck and upper chest is the very part that should be most carefully guarded from changes of temperature, for the lungs lie just back of and under the collar bone. As we can not compel the correction of the fashions, by anything we may say in the unfashionable *American Agriculturist*, let us give our antidote, one which has to our certain knowledge proved efficacious in several instances.—There is a species of soft leather, sometimes real "Chamois" skin, but usually a sheepskin imitation, which is sold almost every where for 25 to 50 cents per skin. The imitation answers as well as the real Chamois (pronounced shammy).



FORM OF THE PROTECTOR.

From the smaller end of the skin, cut off a piece like the engraving above. The rest of the skin may be used for cleaning carriages, windows, silver, etc. Put strings on each corner, to fasten it around the neck and waist. This kind of leather is so open that one can blow a light out through it, and on this account it is valuable to shut out cold, and at the same time not retain perspiration. It can be washed when soiled, the same as flannel, except that the suds and rinsing water should not be quite so hot as for flannel.

For a Sore Throat.

The best remedy we have found for a sore throat, is, on retiring to rest, to rub on the outside a little "Volatile Liniment," and swallow slowly a few drops of paregoric, letting it dissolve in the saliva, and spread along down the inflamed parts. The liniment is generally sufficient alone. Volatile Liniment is simply a mixture of sweet oil and aqua ammonia (called liquid hartshorn). These are put in a vial and shaken, using such proportion as to form a semi-liquid soap. An ounce or two can be got cheaply at the druggist's, and if tightly corked, it will keep for months. Rub it on with the fingers. We find nothing better than this for soreness of the chest or joints, or for lameness, stiff neck, etc.

To Stop Coughing.

Slight irritation of the throat may be relieved by sipping a little thick slippery elm tea, or by sucking a piece of gum arabic. These articles coat over the mucous membrane, and prevent the irritation of the air. A very few drops of paregoric held in the mouth, and allowed to trickle down the throat, will allay coughing. The best cough medicine for children, one which we have used for several years with entire satisfaction is the following:

Mix in a vial equal parts of *paregoric*, *castor oil*, and *syrup of ipecac*. Always shake well just before using. A few drops of this swallowed, but not washed down by water or other fluid, will almost always soothe a cough. Repeat the dose as often as the coughing returns. From one-fourth to one-half a teaspoonful, or even a whole teaspoonful may be given when a lesser quantity does not suffice. A large dose after a full meal may produce a little nausea. Children subject to coughs should eat very light suppers, and indeed all children should eat much less, and simpler food, at night than at morning or noon. The above mixture may be kept on hand ready prepared, as it does not deteriorate if kept corked. It may interest those afraid of mineral medicines (though they partake freely of common salt which is a mineral) to know that the ingredients are all "vegetable."

Soda and Mineral Waters.

If properly prepared, "soda water" is a refreshing and harmless drink. Though it contains no soda, it is called "soda water" because soda was formerly used in its preparation; as made at present, it is simply a solution of carbonic acid in water. Carbonic acid is a *gas* which is very soluble in water: it is the ingredient which gives the effervescence or sparkling quality to bottled cider, ale, beer, etc., and is very strikingly perceptible when a little saleratus or cooking soda is dropped into vinegar. It is seen bubbling up from the liquid, and making it to froth and foam. Under ordinary circumstances, water absorbs its own bulk of this gas; it is present, to a greater or less extent, in all drinking water, and it is its absence which gives water that has been boiled so flat a taste. Under pressure, water will absorb a much larger quantity of carbonic acid, and by means of a force-pump, the gas may be forced into water in a strong closed vessel, and it is thus made to dissolve many times its own bulk of the gas. This is the way in which soda water is made. The fountain, a strong vessel of iron or of copper lined with tin, contains pure water, and the gas is driven in by means of a force-pump, until 15 or more times its bulk of gas has been absorbed by the water. When an outlet is afforded by opening the stop-cock of the fountain, the elastic gas forces the water out, and its escape, from its solution in water under pressure, causes the foaming which we see in a glass of soda water. When taken into the stomach, carbonic acid is not only a pleasant tonic, in health, but very useful in some forms of disease, and we often have prescribed in fevers, soda powders, which are made of carbonate of soda and tartaric acid, and produce soda water in an extemporaneous way.

"Mineral waters" are those natural waters which contain so much mineral matter in solution as to affect the taste, and impart a medicinal quality.



PORTABLE GLASS SODA FOUNTAIN.

These waters hold in solution various salts, iron, sulphur, etc., and various springs of water of this character have a high reputation. In our own country, the Saratoga and several other noted springs are places of great resort for invalids; and in Europe there are certain springs of even greater reputation. It is probable that the good effects of these waters are in great measure counteracted by the miserable hotel life which is followed at such places. All the celebrated waters have been accurately analyzed, and chemical skill has succeeded in making them artificially, and in reproducing exactly similar water to that furnished by the celebrated medicinal springs. Now, one can drink

the waters without the annoyance of travel or the discomfort of a watering-place hotel, but surrounded by the conveniences of his own home. One of the most successful manufacturers of such artificial waters is Mr. Carl Shultz, of the firm of Shultz & Warker, of this City. Mr. Shultz has brought his well-known chemical knowledge to the production of an article of general utility. The waters are put up in strong glass fountains, the soda fountain in miniature, and the plain carbonic acid (or soda) water, or the various mineral waters, can be drawn in the room of the patient, in all perfection and purity. As usually drawn from tinned copper fountains, there is a danger of metallic impregnation, as the tin used for this purpose is most generally adulterated with lead. In the apparatus used by Messrs. S. & W., there is no possibility that such an impurity can occur. The water is liberated from the fountain by touching a spring with the finger, and may be drawn in any quantity desired. We present an engraving of one of these fountains, which are really neat, convenient affairs. They are sent around to families ready filled, and the bottles are called for when empty, or exchanged for others. The low price (10 to 15 cents per quart fountain,) at which soda and several kinds of mineral waters are delivered, is an important consideration, and they are worthy the attention of physicians and others having occasion to use them.

For the American Agriculturist.
Water, Hard and Soft.

The medicinal effects of water are not enough considered. Every one knows that there is some friction in the kitchen when hard water has to be employed for washing, but there is as much friction in the human frame when it is used constantly for drinking. Medical men, from Hippocrates to this day, testify that the habitual use of hard water tends to constipate the bowels. The water for domestic use in Liverpool, is quite hard, and a large proportion of the inhabitants suffer from visceral obstructions, a malady which generally abates when the sufferers leave the city and go where soft water is at command. In the best hydropathic establishments of Europe and this country, the aim of the physicians is, to get the "softest and purest water." At the famous Malvern institution, where thousands of invalids resort annually to drink the healing springs, "the spring water in the highest repute for medicinal quality, is a water only remarkable for its purity."

Who does not know that horses have an instinctive love of soft water, and refuse that from wells, if they can have access to running streams. It is the tendency of such water to produce a rough coat on horses, as well as to disturb their digestion. In England, where great pains are taken with race horses, soft water is often carried for miles to the race-course, lest the horses should suffer from hard water furnished on the ground. Youatt says: "Instinct or experience has made the horse conscious of this (the difference in water,) for he will never drink hard water if he has access to soft; he will leave the most transparent water of the well for a river, although the water may be turbid, and even for the muddiest pool." The same thing is true, more or less, with sheep and other stock.

From this, it is plainly of much importance to provide wholesome water for our families and for our domestic animals. For home use, where children and others suffer from the water in common use, a filtering cistern, or one of the various filters in market becomes an indispensable article. M.

Pure water is desirable, but spring water may be as impure as that from wells. All water passing through the soil, dissolves out soluble minerals or salts. For this reason the water of running streams is mineralized. The ordinary filter will not remove these dissolved substances: it merely takes out the coarser materials. Rain-water is the only pure liquid to be depended upon. If caught from high, clean roofs, and kept in clean cisterns, filtering is unnecessary. The peculiar taste is owing to the absence of flavoring earthy salts. After

a little practice, rain water is relished better than any well or spring water. We have not used anything but cloud-distilled water for years, and now well water has a disagreeable mineral taste.—Ed.]

Water-Proof Walks.

A method of making hard dry walks is coming into use in some parts of England, which in certain circumstances must be excellent. A hard dry bottom being prepared, it is coated with about two inches of hydraulic mortar, made by mixing together about six measures of clean gravel, three measures of sharp sand, and one measure of good hydraulic lime—usually called water-lime. The best hydraulic lime in England is called Portland Cement. Probably a larger proportion of our common hydraulic lime would be required. Those who have not access to sea-shore gravel, can usually get that which will answer, by sifting over any soil which contains pebbles and gravel. This will be improved by washing it, which can be readily done by putting a bushel or so in a barrel, and fill with water, stir it well, and pour off the water rapidly. The washing may be repeated two or three times if necessary. As the mixture sets quickly, only a few bushels should be wet at a time, and this be applied at once and smoothed down. The surface should be raised in the middle, and slope gently and evenly to the sides. The mortar can be applied and smoothed with a common shovel. It will thus form a hard surface from which water will flow off. Unless the walk bed be hard, or thoroughly under-drained, so as to be dry to the depth of 12 or 15 inches, it will heave and crack by freezing in winter. A walk like the above will not be expensive, and if well made will last a century, and not be troubled with weeds or worms. The same bedding answers admirably for the floors of cellars, green-houses, poultry houses, etc.

"Cheap Thread—One Cent a Spool!"

On our way home from the *Agriculturist* Office last night, we saw a poor laboring woman exhibiting to her friend a lot of spool thread, which she had "bought very cheap of a 'street merchant'—only one cent a spool." This morning we visited several of the "street merchants" who have displayed upon the sidewalks, and at the street corners, large heaps, a bushel or more each, of this cheap thread, and we bought a few samples to examine. Though appearing to be full spools of good thread, on measuring the length, the average amount on a spool is only $11\frac{1}{2}$ yards! At this rate "200" yards would cost about 18 cents. The best spool cotton thread is retailed now at 8 to 10 cents, the spools warranted to contain, and they generally do contain, 200 yards. But the worst thing about this "cheap thread" is, that it has no strength. The poor women will find, after spending hours and days in using it, that the stitches will break very readily, and before an ordinary garment is worn out, almost as much good thread will be needed for mending, as would have sufficed to make up the garment at first. The truth is, poor thread is very dear, even if it be given to a person. The very best is cheapest, at any price. We allude to this matter now, because that, owing to the present higher price of thread, hundreds of thousands of spools of poor stuff are being worked into the market—often mixed with better sorts.

Sealing Fruit-Bottles.

Mrs. C. H. M. Newell, Hampden Co., Mass., writes to the *Agriculturist*: "Among your many plans for securing jars of fruit, I find no mention of one that I have used several years, and find it preferable to any kind of patent fastening, and even better than the paty-pan arrangement. Cut circular pieces of thick, stout cloth, sufficiently large to tie over the jar or can. On these, cover with cement a space that will fit the opening, and

extend over the rim. While filling the jars, lay the cemented covers on the bottom of the stove oven, to soften. When the jar is ready, wipe the rim dry, and apply the covers, cement side down, smoothing out the wrinkles and tying it with a strong string. Afterward cover the top with some of the cement thinly spread. A few minutes will show, by the depression of the cover, that the contents are secure. I think you will find it the cheapest, easiest, and most expeditious manner of sealing that has come to your notice. Very many use it, and all give it their unqualified approval. The cement I use is made with 1 oz. rosin, 1 oz. gum shellac, 1 cubic inch of bees wax: melt these in a tin cup, and mix thoroughly; use gentle heat to melt or remelt, as great heat may granulate the shellac."

Don't Rock the Baby.

If all the ultimate consequences of one's acts are to be laid to his charge, the man who invented rocking cradles for children, rests under a fearful load of responsibility. The down-right murder of tens of thousands of infants, and the weakened brains of hundreds of thousands of adults, are undoubted results of his invention. To rock a child in a cradle, or to swing him in a crib, amounts to just this: *the rapid motion disturbs the natural flow of the blood, and produces stupor or drowsiness.* Can any body suppose for a moment that such an operation is a healthful one? Every one knows the dizzy and often sickening effect of moving rapidly in a swing; yet wherein does this differ from the motion a child receives when rocked in a cradle? It is equivalent to lying in a ship berth during a violent storm, and that sickens nine people out of ten. A very gentle, slow motion may sometimes be soothing, though always of doubtful expediency, but to move a cradle as rapidly as the swing of a pendulum three feet long, that is once in a second, is positive cruelty. We always feel like grasping and staying the arm of the mother or nurse who, to secure quietude, swings the cradle or crib with a rapidity equal to that of a pendulum a foot long. If any mother is disposed to laugh at our suggestions or consider them whimsical, we beg of her to have a bed or cot hung on cords, then lie down in it herself, and have some one swing it with the same rapidity that she allows the cradle to be rocked. What she will experience in both head and stomach, is just what the infant experiences.—

We insist that this rocking of children is a useless habit. If not accustomed to rocking, they will go to sleep quite as well when lying quietly, as when shaken in a cradle. If they do not, there is trouble from sickness, or hunger, or more likely from an over-loaded stomach; and though the rocking may produce a temporary stupor, the trouble is made worse thereafter, by the unnatural means taken to produce quiet for the time being.

Curing Pork Without Brine.

A subscriber, W. C., of Carbon Co., Pa., sends to his co-readers of the *American Agriculturist* his method of curing pork, which he has tried for several years with good results, and the plan is now adopted by his neighbors, all deeming it superior in several respects to the brine method: "For each hundred pounds of meat, take 5 lbs. of salt, 1 lb. of sugar, and $\frac{1}{2}$ ounce of saltpeter. Mix the ingredients well, then thoroughly rub both the flesh and the skin sides of the pork. I always do the *rubbing in* with the hand, although it might be well to use something else in cold weather. The meat should be slightly cut from the bones and filled with the mixture. After this operation is completed, the pork must be layed out on boards for three weeks, dropping on the pieces what of the mixture may remain. At the expiration of three weeks it is fit for the smoke-house."

ZINC VESSELS POISONOUS.—"S. M.," asks why no notice of zinc milk pans has appeared in the *American Agriculturist*. She thinks "they are

light, convenient, cheaper than tin, and if not punched through by sharp points, they are almost everlasting."—*Answer*:—Zinc is very easily acted upon chemically (that is, corroded or rusted,) and the salts formed are poisonous; a very small quantity produces vomiting. As these salts are of light color and easily dissolved, they are not readily seen. Sour milk, fruits, etc., constantly eat off and dissolve portions of the zinc. No substances used for human or animal food should be placed in zinc vessels, or those lined with zinc.

Pickle the Small Onions for Soldiers.

From a letter to the *American Agriculturist*, written by a nurse at one of the soldiers' hospitals at the South, and from a variety of sources, we learn that our soldiers, both in hospitals and in the field, have a strong liking for pickled onions. Almost every one cultivating a garden has more or less of small onions, too small to boil well, but just the thing for pickling, and we urge them to save every one, and pickle them to be sent in bottles, jars, or wide mouthed jugs, to the Sanitary or Christian Commissions, or directly to some hospital or camp. At our request a good housekeeper communicates her method for the readers of the *Agriculturist* as follows: Peel the onions; lay them in weak brine over night; scald them in fresh water for five minutes, not to soften them; drain off all the water; pour over them hot vinegar previously seasoned with a little cloves, mustard, and pepper boiled in. The stronger the vinegar, the less spices required to keep them. After standing two or three days, pour off the vinegar, scald, and return it to the onions. They may then be kept in any convenient covered vessel.

Drying Green Corn—Good Method.

"Housekeeper," sends to the *American Agriculturist* her method of preserving green sweet corn, which she says is always successful. (We have for a long time satisfactorily practised a similar method both with sweet corn and the common sorts): "Gather the corn while still soft; simply scald it on the ears, not boiling it soft; cut it off with a knife; spread it on plates, and dry quickly in the sun when hot, and by the fire or in an oven, at night, and when the sun is not shining warm. It sours quickly, and therefore needs rapid drying, but too high heat spoils it. Keep in a bag in a dry place. The secret of having it good when cooked, is to soak it over night, and boil it well in the same water. It is then almost as good, at any time of the year, as when first gathered. Add no more water in boiling, than will cook away, but avoid the least scorching. Any common corn may be treated in the same way, but is improved by adding a little sugar when cooking. Season with salt, and milk and butter boiled in, the same as for green peas or beans. Cream is still better."

"Higdum."

A lady sends to the *Agriculturist* a recipe for a pickle under the above name, which she says is much liked by her friends. We published something similar, a few years since, but can not recommend the compound as a particularly attractive or digestible one. It may be pleasing to some, and healthful to those who have good teeth to thoroughly masticate the stuff before swallowing it—if they will use the said teeth: "Take equal amounts of onions, green tomatoes, and of ripe cucumbers from which the seeds and skins are removed. Chop the whole together very fine; sprinkle salt over the mass, let it stand over night, and drain off the fluid thoroughly through a sieve or colander; pour over the mass and mix well with it hot vinegar, previously boiled with plenty of mustard, cloves, black pepper, and red (Cayenne) pepper. After a few days drain off the vinegar, scald, and return it. Those who relish sweet oil in salads, add this, after the final scalding. Some add wine at the same time."

[We should think there is quite enough in a mixture like the above, without adding the wine.—Ed.]

Pickled Green Corn.—A lady correspondent of the *American Agriculturist* says she has tried various methods for preserving green corn, but has always failed to keep it in cans, or in any other way than by drying or pickling it. She finds that by pickling it in strong vinegar it makes a very good winter and spring relish.—Another correspondent directs as follows: To one gallon of corn cut from the cob, add one pint of salt. This can be freshened out by putting it into clear water, letting it stand about one hour, changing the water three or four times. Cooked in milk, with butter and pepper added to suit the taste, it forms a palatable dish for winter.

Apple Butter.—"Mary" of Alliance, O., communicates to the *Agriculturist* the following directions for making apple butter: Boil a barrel of cider from sweet apples, to one third its original bulk, after having first taken out two pailfuls in which to cook the apples. Nicely pare and core sweet apples enough to make two bushels of fruit when finished. Boil these in the cider which was reserved for the purpose, until they are a little soft, then pour the whole into the boiled cider, while hot, and cook; stir it until a pulp. Sauce thus prepared, will keep good for several years.

Bird's Nest Sage Pudding.—Contributed to the *American Agriculturist*, by Mrs. P. J. S., of Litchfield Co., Conn.: Pare and cover enough apples to cover the bottom of your pudding dish. Soak one cup of sago in as much water as it will absorb, and pour it over the apples; bake until the apples are cooked soft. If it dries much in cooking, add water. The dish can be covered to prevent a hard crust forming. Other fruits can be used instead of apples. Eat with cream, milk and sugar, or other sauce made according to the taste.

BOYS & GIRLS' COLUMNS.

A Ghost Story.

Do any of our young readers ever get frightened when sleeping alone in a room, or when going through a wood, or a secluded road, or by a grave yard, by imagining that they do see or may see a ghost? Doubtless many of them have had such experiences. The writer had, when a boy, and he has never conversed on the subject, with a person who had not thus suffered. But he has grown older and wiser now, and after studying the subject, is so thoroughly convinced that there has never been a real ghost and never will be, that he could sleep as quietly near a cemetery or in a cave, as if no hobgoblin stories had ever been whispered into childish ears.—We have just read a long ghost story of which the following is the substance. A man had been fishing all day, and retired to rest at night at the house of a friend. He was awakened after midnight by a tapping at his window, and saw some white object moving about his room. He also plainly heard a curious sound "fit," "fit," "fit." In his fright, he called for his host, who ran in with a light, but was tripped up, and his light put out in the fall. Both sprang from the room, being tripped several times before reaching the door, and they waited for daylight in great terror. Then the mystery was thus explained. The fisherman on going to his room had unjointed his rod and carried it with him, forgetting to remove the minnow (little fish) used as a bait. A large white cat coming in, had snapped at the bait and been caught by the hook. She drew the line from the reel and wound it around the bed posts and chairs, and in striving to get loose made the noise "fit," "fit," "fit." The frightened man had heard these sounds and the beating of a lilac bush against the window, had seen the white ghost (cat), and stumbled over the line. Every ghost that has been reported, if investigated at the time, would prove to be as unreal, or real, as the white cat caught on a fish-hook.

Intelligence of Fishes.

A writer in a recent English work, "The Angler Naturalist," says: "That fish are not so stupid as many people suppose, is proved by a little incident which was observed at the Zoological Gardens. In some plate-glass tanks were a pike and several perch. These fishes took no notice of our entrance, and continued perfectly supine, though the keeper walked several times past their

tanks, as if about to feed them; but when he walked away from them toward the cupboard where the net with which the baits were caught, was kept, the stolid demeanor of the fish, both pike and perch, gave way to the most intense excitement. They rushed to and fro across their enclosures, straining their noses against the glass, erecting their fins, and exhibiting every token of agitation; and when the keeper, having taken the net, proceeded with it toward the bait tank, the whole shoal fastened their eyes upon him, following every movement, and constantly veering round, as if under magnetic attraction, toward whichever part of the room he turned. It was evident that these fish knew where the net was kept, that the keeper was going to fetch it, and that his doing so was a preliminary to their being fed."

Not Quite a Meteor.

A correspondent of the *Agriculturist* communicates the following incident, which recently occurred near Chillicothe, O.—Some boys who were playing in a cornfield, were startled by a loud rumbling noise not far from them, and on searching for the cause, soon discovered a large boulder (rock), which had evidently just arrived from parts unknown. One of them applied his bare foot to it, when to his great astonishment he found it extremely hot, as though it had just been ejected from the crater of some volcano. Then there was, of course, great wonder where the strange rock could have come from; some thought it had fallen from the sky, as they had read accounts of such phenomena; others supposed a volcano might indeed have burst out at no great distance. If the investigation had stopped with mere guessing, as has often happened when strange occurrences have been observed, the stone would have made quite a noise in the community; but some persevering youngster continued his efforts to solve the mystery, and was at last rewarded with the true explanation. Some one had been burning brush on a steep hill not far distant, and the boulder being set free by the fire consuming the sticks which held it in place, had come tumbling down to the plain below, and thus the meteoric explanation and other startling theories were quickly exploded.

New Puzzles to be Answered.

No. 53. *Mathematical Problem.*—Contributed to the *American Agriculturist* by John White, Alleghany Co., Pa. A farmer bought a circular tract of land at the rate of \$1 a foot for the diameter. He surrounded it with a post and rail fence at \$2 a panel, each panel being 12 feet long, and stocked it with sheep at \$2 per head. His sheep cost him three times as much as his fence, and he had 50 feet square of pasture for every sheep. What did the land, fence, and sheep, each cost?

No. 54. *Illustrated Rebus.*—A truth worth considering.



Answers to Problems and Puzzles.

Answers to Problems in September *Agriculturist* page 281. *Illustrated Rebus*, (No. 50).—C on tin ewc din dust rib rings C on tent men tea; which, properly arranged and read by the sound, reads: Continued industry brings contentment. No. 51. *Arithmetical Problem.*—A little study of this example shows that the key to its solution is found in the mathematical truth that "The product of the sum and difference of two numbers is equal to the difference of their squares." We leave it unanswered for another month, that our young readers may attempt to successfully use this key. Several have already done so. No. 52. *Enigma.*—The mystical word is Hannah. No. 49. *Mathematical Problem.*—(August No., page 249.) A could do it in 6 days; B, in 3 days.

The following have sent in correct answers; the numbers indicate the problems, etc., answered by each: Henry H. Osgood, 46; (we like to receive new problems, accompanied with solutions;) Orient, 44; M. E. Brother-ton, 44; George Eleock, 46; S. A. Dickey, 41; W. W. Dickey, 41; "Little Falls," 46; J. N. Miller, 44; C. A. Kaufman, 44; L. O. Gay, 46; Charles T. Pettit, 48; Aaron S. Littleton, 48; James D. McGiffert, 49, 50, 51; W. Jones Rodgers, 51; Wat Van Fleet, 51; Charles P. Hoffman, 51; W. Marsh, 49; John White, 49, 50, 51, 52; D. G. Jones, 49; A. A. Rudolph, 52; C. B. Miller, 49, 50,



CHILDREN OPENING THE GATE.—TRUE POLITENESS.

Engraved for the American Agriculturist.

What is the first thought on looking at this beautiful engraving? Is it about the ragged clothing of the largest boy? No, certainly; for his open, pleasant countenance, and his respectful salute, made by carrying his hand to the place where a hat ought to be, at once make you feel "I like that boy."—Not a thought is given to what he wears. His homely garb makes his kindly look and polite manner even more noticeable. *Good manners are better than fine clothing.* That is the first lesson of the picture.—But there is something more to be noticed. See how trustfully the lad's little sister nestles up to his side, and you can also tell by his brother's face that they are on the best of terms. This lad's politeness, then, is something more than *appearing* pleasant; it springs from a loving nature. He has taken no lessons in the parlor, but his heart prompts him to kind feelings, which show themselves in looks and actions: that is true politeness. We have seen a young man full of smiles and bows for young ladies, when in company, but rude and selfish toward his sister at home; and there are young ladies, so called, that are all sweetness in the parlor, but unfeeling in their treatment of their mothers; such might learn a good lesson from this poor country lad. Many persons who are good at heart might be greatly improved by taking more pains to be agreeable, but it is better to be good and kind, without appearing so, than to *appear* so without possessing those traits. Politeness may be called the oil of society, which enables persons to easily pass along without unpleasant friction. It has made more than one man's fortune. An instance is related of a former Governor of one of the Western States. When a boy, he was once holding a calf, while his mother was milking

the cow. A gentleman approached and said, "Why don't you take off your hat, my little man?" "So I will, sir, if you will hold the calf," replied the boy, respectfully. The gentleman was pleased with the quick answer, but still more with the pleasant way in which it was spoken. He at once became the boy's friend, helped him to an education, and the boy rose to distinction.—But what are these children looking at? Something in the picture tells you, and it will be pleasant to study it out. We think they have opened the gate for a man on horseback.

Boys' and Girls' Garden—No. 7.

The season of flowers has nearly past, and if you have carefully read and thought about what has been said concerning them, you will no doubt wish that it might have been longer, to study new specimens. But we have not yet done with the plants chosen for illustration. After the flower comes the *fruit*, and there is something to be learned about this. In general we are accustomed to regard fruit as something eatable, but correctly speaking, it is the ripened *pistils* of the flower, no matter what its character. In other lessons we have tried to show you the relation of the different parts of the flower, and you have probably observed that they were all subservient to the pistils: the floral envelopes—the calyx and corolla—though they make up the showy part of the flower, are only intended to surround and protect the more important parts. The stamens fulfill their office in furnishing pollen to fertilize the ovules contained in the pistil, in order that they may become seeds. The whole life of the plant is directed towards the formation of seeds by which

to continue its kind, and as the seeds are contained in the ripened pistil, it will be seen that it is the most important part of the flower. After the ovules are fertilized, the petals, stamens, and sometimes the calyx, fall away, and the pistil continues to grow, to accommodate the rapidly-increasing seeds. When the pistil and the enclosed seeds are ripe, they together form the fruit. The fruit presents a great many different forms, and the pistils frequently become very much changed from what we have known them in the flower. It was stated in the last lesson that the Pea had one of the simplest forms of pistil. Garden peas are generally gone by this time, but you will find some pods still on the Sweet Pea. The pea-pod is the fruit of the pea: that is, it is the matured pistil. The change which has taken place is mainly one of size. The little flat green pistil has very much enlarged, and the minute ovules it contained, which were smaller than a pin's head, have become full-sized peas. You will recollect it was stated that all the parts of the flower were to be looked upon as leaves modified to serve a particular purpose, and you had no difficulty in understanding that this might be the case with parts of the calyx and corolla: with the other parts of the flower it is perhaps more difficult to make you see this. Still the botanist looks upon the pistil as a modified leaf, or leaves, and he thinks that you can have no difficulty in imagining a pea-pod as a leaf folded together and bearing the peas on the part where the edges of the leaves meet. Imagine the edges of the leaves turned in a little, and you will see that they form a place to which the ovules are attached. This portion is called the *placenta*, and is a mere line in the pea, but it is much more conspicuous in other fruits.

The pistil of the pea, in ripening to become the fruit, undergoes but little change except that of size. The style withers away and the ovary grows on to form the fruit, which in this case is a pod. The ovary when ripe is called the *pericarp* (meaning around the fruit,) and this in the pea remains thin and leaf-like. The fruit of the

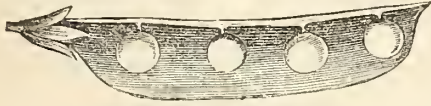


Fig. 34.—HALF OF A PEA POD.

Morning Glory is unlike that of the pea in several respects. The pistil of the Morning Glory is a compound one and we have a compound fruit. If we cut across the fruit before it is quite ripe we find that there are three divisions separating it into three compartments or *cells*, and each of the cells contains two large seeds.—When the fruit is quite ripe the pericarp becomes dry and paper like and comes apart in three pieces to allow the seeds to fall out. The fruit of the Tomato looks very unlike that of the Morning Glory, but upon cutting it open we shall find that it is not so very different. For this examination it is necessary to select a roundish and rather small Tomato, as by high cultivation the fruit has become monstrous and very much changed from its natural condition, which is to have two or three cells. The round, smooth, and regularly shaped Tomato will, when cut open crosswise, generally present the appearance represented in the figure given below. You will notice that in ripening the pericarp has become very much changed, instead of being dry and thin, as in the Pea and Morning Glory, it has become thick and pulpy. You will generally find three divisions showing that the ovary was three celled. The placenta is very large—the white portion in the engraving—and bears a great number of seeds distributed all over its surface. Each seed is



Fig. 35.—MORNING GLORY FRUIT.

made this fast to the snake's tail, lighted the match, and gave the order "Let um go." at the same time pushing the canoe away from the shore. The snake being liberated, crawled away to his den. Big Bear immediately stood up and clapped his hands, making as loud a noise as possible, which roused the snakes, and they, too, quickly disappeared. "Now look Raymun, now look, see fun," said he, and in about a minute the powder exploded, when there was fun alive, for the men, though not for the reptiles. The snakes in hundreds covered the rocks, all hissing, rattling, twining, twirling, and jumping, in every way imaginable. Col. Raymond burst into a loud laugh, but the Indian, true to his nature, maintained the utmost gravity, though doubtless he inwardly enjoyed the sport quite as well as his friend.

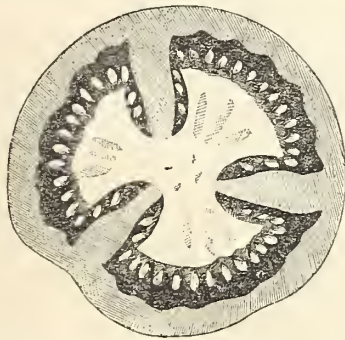


Fig. 36.—TOMATO CUT OPEN.

surrounded by an abundant pulp. Pulpy fruits like the Tomato are called berries. The Melon when cut open shows you three placentas to which the seeds are attached, but they are not united in the centre, as in the Tomato.

Origin of the Name, "Canada."

A book printed in London, in 1698, written by L. Hennepin, and entitled, "A New Discovery of a Country Greater than Europe," gives the following explanation of the name "Canada." "The Spaniards were the first who discovered this country; but at their arrival, having found nothing considerable in it, they abandoned it, and called it 'Il Capa di Nada,' that is, a Cape of nothing; hence by corruption sprung the word Canada, which we use in all our maps." More recent explorers and settlers have discovered that the name was very far from expressing the truth.

Indian Fun—A Snake Story.

The following occurrence was related by Col. Edward Raymond, one of the earliest settlers near Lake Champlain, N. Y. He was on the lake in a canoe with an Indian named Big Bear, whom he had employed to row him to a distant point. In their course they passed near a sloping ledge of rocks where lay a large number of rattle snakes asleep in the sun. The Indian looked at the Col., and inquired, "Raymun love fun?" "Yes," was the reply. "Well, then, Raymun have fun; mind Indian and hole a glum" (keep still). So he rowed silently to the shore, cut a crocheted stick of hazel, and carefully placed the crocheted astride the neck of a serpent that lay asleep close by the water's edge. "Take um now Raymun; hole fass." The Col. then took hold of the stick, keeping the serpent down, while Big Bear tied up a little sack of powder with a slow match attached to it. He

made this fast to the snake's tail, lighted the match, and gave the order "Let um go." at the same time pushing the canoe away from the shore. The snake being liberated, crawled away to his den. Big Bear immediately stood up and clapped his hands, making as loud a noise as possible, which roused the snakes, and they, too, quickly disappeared. "Now look Raymun, now look, see fun," said he, and in about a minute the powder exploded, when there was fun alive, for the men, though not for the reptiles. The snakes in hundreds covered the rocks, all hissing, rattling, twining, twirling, and jumping, in every way imaginable. Col. Raymond burst into a loud laugh, but the Indian, true to his nature, maintained the utmost gravity, though doubtless he inwardly enjoyed the sport quite as well as his friend.

Curious Letter.

An old German work contains the following curious letter from the manager of a traveling theatrical company, to his business agent: "We have arrived here safe. after a long and troublesome journey, the ordered goods have arrived in good order. The messenger has brought us, *snow* and *hail*, in good order, the *storm* came one day later. I am sorry to say that the *thunder* burst up and the *lightning* we had to patch up also. The *ocean* and *rivers*. I wish you to send by canal as the freight is cheaper, and do not forget to send us new *clouds*, and a new *sun*. But the most important thing we want is a *Bay*, as ours has been burnt. Then we want a few yards of *forests*, and at least twenty yards of clear *air*. Roll them all up, and send them immediately." These terms referred to the different parts of the scenery on the stage.

A Modest Request—A Capital Story.

It is related of President Lincoln, that recently a farmer applied to him to secure his assistance in collecting a bill against the government, for damages done by troops passing through his premises. The President referred him to the proper officer, whose duty it was to attend to such matters. But the man was anxious that Mr. Lincoln should examine the case personally, and give an order to have it settled. "Then," said he, "they will attend to it at once; otherwise I may have to wait a long time." "But I have no leisure to look after such things," said the President. "It won't take but a few minutes," urged the man. "You remind me of what occurred to a friend of mine on the Mississippi river," said the President. "He was Captain of a steamboat, and when passing through the rapids, he always took the wheel, and steered the boat himself. One day when he was in the most difficult part of the stream, a boy came blubbering up to him crying, 'Captain, Captain!'—'Well, what do you want?' 'Oh! do stop the boat, I've lost my apple overboard.'" The farmer saw the point of the story, and wisely concluded to collect his bill in the usual routine manner.

Taking it Coolly.

A not very skillful mason was employed to build an oven, which he completed in his usual style. The first time it was used, the whole structure tumbled into ruins, and the owner having found the mason, the following conversation occurred: "I have some news for you." "Ah! What is it." "The oven you built for me has fallen down." "O that is nothing new—if it had fallen up that would have been news indeed." In spite of his vexation, the owner had to laugh at the mason's coolness, and left him, to seek a good workman to rebuild the oven.

A large number of Boys and Girls

have in past years secured various articles from our premium list. Young persons are often the most successful canvassers. We have in mind a boy who secured a sewing machine for his mother; another who got a wringing machine for his mother; and a school which recently obtained a melodeon for their Room, in the same way, for everybody was ready to help them. A liberal hearted gentleman paid the freight for them. These are only examples of what has been done, and may be done again.

A CURIOUS SIGN.—A correspondent writes to the *Agriculturist*: "In Yreka, the county town of Siskiyou County (one of the northern counties of California, and on the Oregon line) the following sign hangs with glaring letters in front of a baker's establishment, viz.: 'S. Gillig's, Yreka Bakery.'" At first sight this presents nothing remarkable, but upon examination it will be seen that the letters if read backwards, form exactly the same sign. Such a coincidence is extremely rare.

A CROOKED COMPANY.—A Hibernian sergeant was drilling an awkward squad of volunteers, and spite of all his efforts, failed to bring them into a straight line. At last, out of all patience he cried out, "Oh! what a bent row; just come out lads and look at yourselves."

PREMIUMS for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the American Agriculturist.

(Premiums open to all—No Competition.)

Owing to the greatly increased cost of everything connected with publishing, and our determination not to raise the subscription price, and not to diminish the intrinsic value of the paper, but rather to improve it, we had expected to give no premiums hereafter, excepting the Great Strawberry which will be a premium to every subscriber, and ought to be enough to secure as many subscribers as could be desired. But the previous plan has worked well, and many of those who have obtained premiums hitherto, express a strong desire to have an opportunity to get some of the higher premium articles. After looking the ground all over, and making a careful estimate, we have decided to offer one general list, as named below. Any one desiring to do so, can go to work at once, and perhaps this very month get names enough for a good premium. All names sent in now, get the great strawberry plants and the two extra numbers. Note that five cents extra are needed when the "Agriculturist Strawberry" plants are desired, if to go by mail. This will, of course, be paid by the subscribers themselves.

The names (with money for each,) can be sent in as fast as gathered, so that the subscribers can begin to receive their papers. The premium will be paid to any one as soon as his list is completed. **But, let it be distinctly noted, we can reckon for premiums ONLY those names which are marked as for Premiums, when they are sent in.** Hereafter all the separate names thus sent and marked as for premiums, will be at once numbered in a special book, with the name of the sender, so that we can immediately turn to any canvasser's list, and see when it is full.

Premium clubs need not necessarily be all at one Post-Office. Each list ought to contain a fair proportion of new names, for it is to bring the paper before new subscribers, that the premiums are in part intended.

N. B.—Every article offered, is a good one—nothing second-hand or of poor make, or quality, or kind. We intend in all cases to deal fairly with every one, and esteem as special friends those who labor to promote the interests and circulation of this journal.

This list may perhaps be altered or amended from time to time, if circumstances or change of prices, etc., require, but all names sent in during any month, will be reckoned at the premium rates announced for that month.

Canvassers need not choose any particular premium until they get all the names they can. To avoid confusion, please send in the exact amount with each list of names. In special cases, the whole sum for a premium list may be forwarded, and the premium be received at once—the names to be sent in afterward.

No charge is made for packing or boxing any of the articles in this Premium List. The books and the Premiums K, to S, inclusive, are DELIVERED to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each. Every article is new and of the very best make.

Table of Premiums for 1864.

Names of Premium Articles.	Price of Premiums \$ each.	Names at \$10 each.	Names at \$20 each.
GOOD BOOKS—See terms below *			
A—American Cyclopaedia (Appleton's New)	\$56 00	130	250
B—Best Family Clothes Wringer	37 00	19	45
C—Nonparell Washing Machine	16 00	40	90
D—Sewing Machine, (Wheeler & Wilson)	45 00	98	195
E—Sewing Machine, (Wileox & Gibbs)	40 00	82	185
F—Woodruff's Mercurial Barometer	33 00	20	63
G—Woodruff's Mercurial Barometer	12 00	30	91
H—The Aquarius	10 00	25	67
I—Five Octave Melodeon (best)	36 00	170	340
J—Four Octave Melodeon (best)	25 00	120	234
K—Seven back Volumes Agriculturist,	26 68	28	64
L—Six do do do	22 44	25	58
M—Five do do do	17 20	22	48
N—Four do do do	14 96	19	42
O—Three do do do	13 72	16	38
P—Two do do do	12 48	13	24
Q—One do do do	11 24	13	13
R—Jacob's Portfolio Paper File	11 50	17	17
S—Osborn & Hoderkinson's Paints	21 50	50	78
T—Premium Cylinder Plow	10 00	32	78
U—Eagle Plow No. 20	9 25	30	69
V—Hay and Straw Cutter (best)	7 50	23	65
W—Steel-tooth Cultivator (best)	7 50	25	53
X—Family Lard and Wine Press	7 00	24	54

Descriptive Notes on the Premiums.

* **Books.**—Any person sending in 20 or more subscribers, may select from our book list (page 317) to the amount of 10 cents for each name sent in at the club price of 80 cents, or to the amount of 30 cents for each name at \$1. (No books sent for less than 20 names). The premium books will be delivered anywhere in the United States, or to the border of the British Provinces, free of all

cost, by mail or express. Many Farmers' Clubs have, by means of this premium, obtained a good library.

A-Appleton's New American Cyclopaedia.—This magnificent work is now completed, and ready for immediate delivery. It consists of 16 heavy volumes, averaging 800 large two column pages, or in the whole work, 12,804 pages! (The books fill up over a yard of shelf-room.) It is really a complete library of itself, embracing full information upon every topic of human knowledge, alphabetically arranged for convenient reference. The subjects discussed number over twenty-five thousand! It is hardly possible to name anything upon which pretty full information may not be readily found in the Cyclopaedia. Many who can not purchase the work may be able to obtain it through our Premium offer. It is worth a year's effort in raising subscribers, though not a few may make up a club of 120 names in a brief time.

B-Best Clothes-Wringers.—This is a most excellent Household Implement, which should be in every family. It can be set upon any form of tub, and by turning with the right hand and picking up the garments with the left, they are pressed rapidly and easily between two elastic rollers, and drop out into a basket quite as free from water as they can be wrung by the hardest twisting by hand. Every lady knows that hand wringing is really harder upon the arms and shoulders than even the washing; while the twisting stretches the fibers with lever power, and hastens the wearing out. All this is avoided by the Wringer, which is in truth a strength-saver, and a clothes-saver. We have had one of the first imperfectly made instruments in weekly use for nearly four years, and it is as good as ever, while it has paid for itself many times over. A child can with this readily wring out a tub full of clothes. Our Premium Wringers are of the family size, and of the best manufacture, and are provided with cogs, and with springs, so that they will wring equally well any article from a blanket to a baby's stocking. The Wringer weighs only 15 lbs., occupies but a small space, and can be carried by hand, or sent by express, or as freight to any point, and is ready for instant use on removing the light packing box.

C-Nonpareil Washing Machine.—The best recommendation we can give of this, is, that while we have tried fifteen or twenty kinds, this is the only one that our "help" continue to use without being required to do so. It acts somewhat like the old "falling mill;" the clothes are put into the hot water, and beat by two pounders which constantly turn them over. The beaters are moved alternately by a crank, provided with balance wheel which adjusts the force required so as to make the turning easy. Take it all in all, the Nonpareil is the best Washing Machine we have found. If we could find a better one, we should put it in our list, for anything that helps to reduce the hard work of washing day, is a godsend. The machine can go as freight, or by express to any part of the country, and we believe will give better satisfaction than any other yet brought out.

D-E-Sewing Machines.—We need not enlarge upon the benefits of Sewing Machines. They are doing more than all else to save the lives and health of females. It is no exaggeration to say that a woman can in a day do ten times as much ordinary sewing with a machine, as she can do by hand. We know many ladies who formerly employed a seamstress several weeks every year, but who now do all their family sewing, with less confinement and wear than when the common needle was their only resort. The interest on a fifty dollar Machine is only \$3 to \$4 a year, which is a small consideration compared to its advantages. Five hundred families ought to be supplied through our premium list this year. At least \$0 to 100 copies of the Agriculturist ought to be taken in every town, and would be if some enterprising man or woman would go round and gather them. Two or three ladies might join their efforts, and get a machine for use between them. We offer two kinds of Machines, both varieties of which we have had in use for several years, and with great satisfaction. They are both supplied with the Heummer, and are sent out with full instructions for use.—The Wheeler & Wilson Machine, we have used during five years, and can bear full testimony in its favor. More of these machines are sold and used, we believe, than of all the other good kinds together, which is a strong proof of the satisfaction they give.—This sews with a double thread, both sides of the fabric showing the same stitch.—The Wilcox & Gibbs Machine, we have used for over three years, and for most kinds of sewing it is excellent. It is very simple in its operation and can be worked by those who have the smallest amount of mechanical skill. It can be used for most kinds of sewing, and may well be adopted generally, at least where the higher priced machines can not be afforded. We know many who prefer this to any other.—For every kind of sewing, especially where the same stitch is required on both sides, we prefer the Wheeler & Wilson.

F-G-Woodruff Mercurial Barometer.—This is conceded to be the best and cheapest instrument for general use, which is now offered to the public. The peculiar form of mercury cup invented by Mr. Woodruff, renders the instrument far more portable than any thing previously made. The safe delivery of every instrument given by us as a premium, is warranted by the manufacturer (Charles Wilder, Peterboro, N. H.), when to be sent within 1,500 miles. The instruments are beautifully made, are about 3 feet long, and are sent direct from the factory, with no expense save the express charges which vary from 50 cts. to \$1.50, according to the distance. We offer two forms which differ mainly in the style of case, both being supplied with Thermometer and Vernier. The \$12 form is of course more ornamental, and the more desirable instrument, though either of them is highly valuable. A barometer is to farmers or others on land, what it is to sailors at sea—an indicator of the weather to be looked for. There are many times every year when the indications of the barometer in regard to the weather, will often be of more value than its whole price, while the interest on its cost would be less than half a dollar a year.

The habit of observation, and of scientific study cultivated in a family of children where a Barometer is used, is a valuable consideration.

H-The Aquarius.—This is an excellent little portable force-pump, useful in many ways. One can take this instrument in his hand with a pail of water, and throw a considerable stream to any point where a fire may be breaking out, and do more to quench it, than he could with a dozen pailfuls dashed on, even if the fire could be reached. We have thrown water from the ground up against the third story windows of a house. The Aquarius is very useful for watering gardens, for washing windows, carriages, etc., etc. It is provided with rubber snotion pipe, to draw water from a pail, tub or bucket, and an ejection pipe having both a nozzle for throwing a stream, and a rose or sprinkler. It has also an air chamber for giving a constant stream. It is a handy instrument, for every household, aside from its benefit as a fire engine with which many an incipient fire has been subdued.

I-J-Melodeons.—None need to be told of the pleasure given by a good Melodeon in a household, or of its utility in the Week Day and Sabbath School Room, and the Church. "Music hath charms to soothe the savage breast," and we hesitate not to say that a benign influence is exerted upon every house and school room where a Melodeon or other good musical instrument is found.—We offer two sizes in our list above, and those of a different price may be selected for a proportionate number of subscribers. (For sizes, style, prices, etc., send a stamp to George A. Prince & Co., Buffalo, N. Y., and get one of their illustrated descriptive Catalogues, which will be sent free.) We have used one of these Melodeons during four years past, and it continues to give the highest satisfaction. It has not been tuned or otherwise repaired in all that time. The premium instruments will be shipped direct from the manufacturers at Buffalo, ready boxed. They can go by railroad, steamboat, express or otherwise, as desired by the recipient. It will be an easy matter for Churches, and both Week Day and Sunday Schools to unite their efforts and secure an instrument for the public use.—Many have done so already.

K-Q—Seven Volumes of the Agriculturist.—Here is a whole, Agricultural, Horticultural, and Household Library, embracing also a large amount of interesting reading for Children and Youth, and thousands of instructive and pleasing engravings. Each volume contains more printed matter than half a dozen dollar books of the usual size. There are in each volume from one to two thousand articles and condensed items, among which every reader will find something useful to himself and family. We send them post-paid (as in the above table,) in new clean numbers, printed from stereotype plates as needed. The last number of each volume contains an index to the whole volume. (Any person preferring them bound, can receive them in this form, neatly done, at an expense of 65 cents per volume, for the cost of binding, and extra postage required when mailed in this form—or if called for at the office, or sent by express, or otherwise, if not to be prepaid, at a cost of only 25 cents per volume.) Let every one selecting this premium be sure to name what volumes are desired, or how many of each, as duplicates of any number can be chosen if preferred.—We can only supply from volume 16 to volume 22 inclusive. The previous volumes are not stereotyped.

R-Best File for the Agriculturist.—Jacob's Portfolio file, made just to fit the Agriculturist, with the name of the paper gilded on, is exceedingly convenient. It is a neatly embossed or stamped cover, made so that each successive number of the paper can be inserted in a minute, when it is strongly held in. The numbers thus fastened together are as convenient as a bound book. When one volume is completed, it can be removed and stitched together, and the numbers of a new volume be inserted. A single cover will answer for a dozen or twenty successive years. It is without doubt the most perfect paper file yet made. It is sent post-paid, as above.

S-Water Color Paints.—Those offered (Osborne & Hodgkinson's) are the best of American Manufacture, and though not so fine for artist's work, as some of the imported (which now sell at six times the price), they answer very well for common sketching, particularly by children and beginners. They are especially useful to children, as their use tends to develop a taste for form and color, and skill in the use of the pencil. We send them post-paid, in a neat mahogany case containing 24 small cakes of assorted colors, with brushes, etc.

T-U—Premium Plows.—The two named in the table above (Cylinder and Eagle No. 2), are two of the best farm plows in use, and will doubtless give ample satisfaction to any one securing them as premiums. We have not space for a particular description. The Eagle Plow is well-known. The working of the Cylinder Plow, and other items concerning it are described on page 136 of Volume XX, (May 1861).

V-W-Hay and Straw Cutters—Steel-toothed Cultivators.—These implements are of first importance to all farmers, some of whom may find it most convenient to secure them through our premium list. We send the best implements we know of at the prices named.

X-Family Lard and Wine Press.—This is a very convenient Household implement for pressing out lard or tallow, the juices of Grapes, Currants, Berries, etc.

Other Premiums.—We have on trial several other articles, and expected to offer more of them this month—but those most carefully experimented with, did not prove good enough to be strongly commended. Other new articles are on trial—some of which may be offered next month. A new Apple Parer was decided upon, but we can not yet get the promise of a supply. Any future premium articles will be offered on similar terms to those in the table above, these terms being the most favorable possible.—We still solicit further suggestions from subscribers in regard to what would be most desired in the Premium List.

The Markets.

AMERICAN AGRICULTURIST OFFICE. } New-York, Friday Morning, Sept. 15, 1863. }

TRANSACTIONS AT THE NEW-YORK MARKETS.

Table 1: Receipts. Flour, Wheat, Corn, Rye, Barley, Oats. 25 days this month, 26 days last month.

Table 2: Sales. Flour, Wheat, Corn, Rye, Barley. 25 days this month, 26 days last month.

Comparison with same time last year.

Table 3: Receipts. Flour, Wheat, Corn, Rye, Barley, Oats. 25 days 1863, 26 days 1862.

Table 4: Sales. Flour, Wheat, Corn, Rye, Barley. 25 days 1863, 26 days 1862.

Exports from New-York, Jan. 1, to Sept. 16.

Table 5: Exports from New-York, Jan. 1, to Sept. 16. Flour, Wheat, Corn, Rye, Oats.

Exports of Breadstuffs from the United States to Great Britain and Ireland, each of 17 years, ending Sept. 1.

Table 6: Exports of Breadstuffs from the United States to Great Britain and Ireland, each of 17 years, ending Sept. 1. Flour, Wheat, Corn, Rye, Oats.

Exports from the United States to the Continent of Europe, for nine years, each ending Sept. 1.

Table 7: Exports from the United States to the Continent of Europe, for nine years, each ending Sept. 1. Flour, Wheat, Corn, Rye, Oats.

Exports from Canada to Great Britain and Ireland, via St. Lawrence R., in each of years, ending Sept. 1.

Table 8: Exports from Canada to Great Britain and Ireland, via St. Lawrence R., in each of years, ending Sept. 1. Flour, Wheat, Corn, Rye, Barley, Oats.

Receipts of Breadstuffs at the head of tide water at Albany, by the Erie and other New-York Canals, from the Commencement of Navigation, May 1st, to and including Sept. 9th, in the years indicated.

Table 9: Receipts of Breadstuffs at the head of tide water at Albany, by the Erie and other New-York Canals, from the Commencement of Navigation, May 1st, to and including Sept. 9th, in the years indicated. Flour, Wheat, Corn, Rye, Barley, Oats.

Table 10: Receipts of Breadstuffs at the head of tide water at Albany, by the Erie and other New-York Canals, from the Commencement of Navigation, May 1st, to and including Sept. 9th, in the years indicated. Flour, Wheat, Corn, Rye, Barley, Oats.

We present above a series of tables prepared expressly for the American Agriculturist, which give, in a very condensed and convenient form for study and reference, the various transactions in Breadstuffs, not only during the past month but for a series of years past. The figures are compiled from an immense number of records, partly from official sources and partly gathered by ourselves. These figures are believed to be very reliable, as no labor or care has been spared to make them perfect. The tables tell their own story so plainly that there is little necessity for explanatory remarks.—Table 1 shows that, excepting in barley, the Receipts at this Port have been less than during the previous month—oats falling off one half. The Sales of Wheat, Flour and Corn have been large.—Table 2 shows a similar falling off in receipts when comparison is made with the same time last year; the falling off in wheat and oats has been very marked. The smaller Receipt is noteworthy.—The Exports (table 3), are also considerably less this year than last.—Tables 4 and 5 show that while the exports for the grain year, ending Sept. 1, were somewhat less than for two years previous, yet they were much larger than in any year between 1847 and 1861. This enormous export of our breadstuffs during each of the past three years (tables 4 and 5), have had a very benign effect upon the finances of our country. Every bushel of wheat or grain exported has saved the export of its value in gold, and has in reality added so much to our aggregate national resources. We can hardly hope for the continuance of so favorable a state of things during the next ten or twelve months, as our advices from abroad show positively that the foreign harvest has been very good, and less of our breadstuffs will therefore be needed. Still, Great Britain never produces enough to supply the home consumption, and as we can furnish breadstuffs cheaper than any other country, there will doubtless continue to be fair shipments of our surplus, which is

considerable, as we have old stocks of wheat on hand, and the past harvest was fully an average one. We had reports of serious disaster to the growing corn by frost, on the closing nights of August, but later accounts show that though the injury was considerable, it was far less extensive than the first newspaper reports indicated. The drouth still prevailing in some sections will further reduce the yield, yet on the whole there will be a fair crop of corn—perhaps nearly an average one, taking the whole country together, if no further casualty occurs. With the remaining stock in the country from last year's crop, there is not the least danger of a scarcity. . . . The Breadstuff markets in this city were less freely supplied and were quiet during most of the past month,—prices fluctuating frequently. Recently rather more favorable market news from Europe, and a rise in Gold and Sterling Exchange, encouraged export buyers, and heavier purchases have been made, the market closing buoyantly. . . . Cotton has been in fair demand,—falling off in price early in the month, but closing at rising rates. The stock here on the 1st inst. was only about 15,000 bales. . . . Provisions have been quite plenty, and prices have been unsettled. The demand has not been very active. . . . Tobacco has been more sought after, owing to the frost reports, and has been held with more firmness. . . . Wool has been in brisk request, particularly within the past ten days, chiefly for manufacturing purposes, especially army cloth-contractors having made very heavy purchases. Prices are firmer and advancing. . . . Hay, Hops, and Seeds have been in more demand. . . . In most other agricultural products, transactions have been moderate. The annexed table will show the changes in prices, since our last, and also the closing quotations.

CURRENT WHOLESALE PRICES.

Table with columns for August 19, Sept. 17, and Sept. 18. Rows list various commodities such as Flour, Corn, Wheat, and Hops with their respective prices.

pastures, went at 6c.@64. Average of all sales about 9 1/2c.

Milk Cows.—About 100 per week are now offered at the regular yards. The demand is not brisk; common to good fresh milkers sell at \$30 to \$40 each; first class \$45 to \$50; fancy animals, at higher figures.

Sheep and Lambs.—Receipts have averaged 15,800 per week for a month past, which is a great increase over the previous month. They have been selling well, and just now there is a large demand for store sheep to winter over. Good fat sheep are worth, for butchering, 5c. per lb., live weight; common sheep, 4 1/2c. Lambs are abundant, and sell slowly at \$2 1/2 to \$3 1/2 each.

Live Hogs.—Are in pretty good demand, at 5 1/2 @ 5 3/4 c. per lb., live weight, for corn-fed; and 5 1/4 c. @ 5 1/2 c. for distillery hogs. Receipts average 9,500 per week for a month past.

The Weather.—For a month past has been hot and very dry. From Aug. 17th, to Sept. 18, less than one inch of water fell, all told, the most of this inch on the night of Aug. 29th. Pastures and meadows are drying up, and the buckwheat crop will doubtless be short. Early sown winter grain will hardly vegetate until we have rain. Our daily notes, condensed, read: August 19, to 24, clear and hot—25, cloudy, P. M., slight shower at night—25, N.E. rain A. M., clear, cool, P. M.—27, clear cool—28, light rain—29, clear and fine A. M., cloudy P. M., with rain at night—30, clear, cool, with hard frost in some portions of the West—31, clear, cool, fine—September 1, cool, light rain—2, to 10, clear, fine, moderately cool, getting dry—11, clear A. M., cloudy P. M.—12, 13, light rain, but not enough to do any good—14 to 16, clear, dry, warm—17, passing clouds and shower at night.

Rain Fall for August 4.59, most of which fell before the 12th. The Barometer has marked a pretty even track—from 29 3/4 inches to 30 3/4 inches.

Thermometer at 6 A. M., New-York. [Observations carefully made upon a standard Thermometer (Fahrenheit).—r indicates rain—s, snow.]

Table showing thermometer readings for July and August, with columns for temperature and weather conditions.

Table showing thermometer readings for August and September, with columns for temperature and weather conditions.

Table showing thermometer readings for September, with columns for temperature and weather conditions.

To Sunday School Teachers and Others.

The Book of "Lessons for every Sunday in the Year," has given a satisfaction, and met with a success far beyond any one's expectation. It was at first written on a plan prepared by the Editor of the Agriculturist for his own School, and the copyright was freely given away to others who undertook to supply the public demand that sprung up. It has been adopted and used generally in the Sunday Schools and families of almost all Christian Denominations alike. . . .

From the Sunday School Times (Philadelphia,) March 14. "A NEW QUESTION BOOK.—We have just been examining a little book published by Orange Judd, (of New-York City,) called "Lessons for Every Sunday in the Year," and have risen from the examination with a feeling of thankfulness that such a book has been made. . . .

The Book can be obtained at the Agriculturist Office in large or small quantities, at the uniform price of 10 cents per copy. If to go by mail, the postage to be pre-paid, is 3 cents each copy in packages of ten or more. . . .

Table listing prices for different quantities of the book: 1 copy, 11 cents; 4 copies, 52 cents; 7 copies, 80 cents; 2 copies, 28 cents; 5 copies, 66 cents; 8 copies, 104 cents; 3 copies, 42 cents; 6 copies, 80 cents; 9 copies, 118 cents.

Business Notices.

Eighty Cents a Line of space.



THE CRAIG MICROSCOPE.

This is the best and cheapest microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters or 10,000 times, and is so simple that a child can use it. . . .

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY. Fifty cents per line of space for each insertion. One whole column (145 lines), or more, \$60 per column. . . .

Wanted.

A GARDENER who has a Mechanical genius, and the use of carpenter's tools. Applicants for the place will give their qualifications, expectations, and references in full. . . .

WANTED An experienced Gardener, having a knowledge of fruit culture. Address G. S. NORMAN, Reisterstown, Md.

WANTED TO RENT by a practical FRUIT GROWER, a small place of 10 to 20 acres, good soil and buildings. . . .

FOR SALE—A Farm of 180 acres, near Trenton, New Jersey—suitable for Dairy Truck or Grain—Water front on a navigable stream. . . .

900 ACRES of choice improved Farm land, in Will Co., Ills., 40 miles from Chicago, 10 miles S.E. from Joliet on the Illinois canal, and six miles south of New Lenox Station on the Chicago and Rock Island R.R. . . .

FOR SALE.—A Splendid Farm of 335 acres, in La Grange Co., Ind., with extra good buildings, good Orchards, good fences and running water. . . .

New Brunswick Nurseries, N. J.

EDWIN ALLEN offers a full assortment of nursery articles, too full to enumerate. The stock of PEAR TREES is unusually large, and in beauty of growth and form unequalled. . . .

60,000 CONCORD GRAPE VINES, ONE YEAR OLD, FROM CUTTINGS.

No. 1, \$3 00 per 100, or \$70 00 per 1000. No. 2, \$6 00 per 100, or \$50 00 per 1000. No. 3, \$40 00 per 1000. GEORGE SEYMOUR & CO., South Norwalk, Conn.

A Supplement to Dr. Ure's Dictionary of Arts, Manufactures, and Mines.

1 large 8vo. vol. Cloth, \$5 00. Sheep, \$7 00.

This volume of Ure's Dictionary of Arts, Manufactures, and Mines, contains the additional knowledge which has accumulated within the past ten years. Not a year has passed but that some important improvements in the Arts and Sciences have taken place, all of which form an important increase to knowledge, which can not well be dispensed with by those who are engaged in the various pursuits in which they are employed.

The Natural Law of Husbandry.

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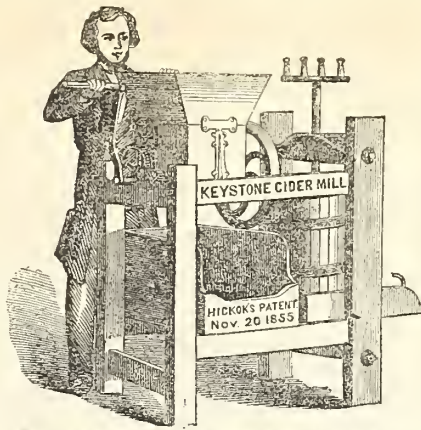
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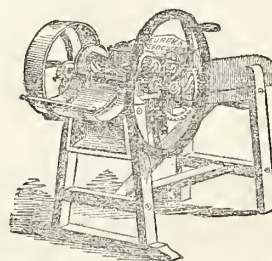
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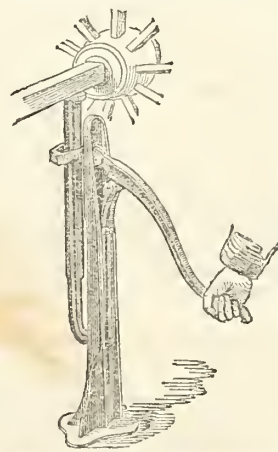
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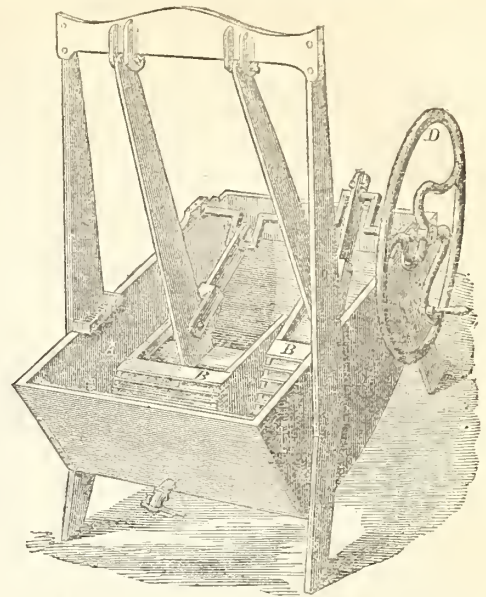
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A GREAT "Baker's Dozen." Fourteen for Twelve.

We want a large number of new readers to see, and get acquainted with the *Agriculturist* before January, for those who do so, will generally bring along other new readers to begin with the next volume. For this reason, and as a special bounty, we make the following offer:

Every new name arriving on and after October 1st, will be at once entered on our books to the end of 1864, and receive not only volume 23 complete, but also the remaining numbers published this year—all for a single year's subscription—if the name is distinctly stated to be a new one, as noted below.—Thus:*

New Subscribers for 1864, received during October, will get the paper for November and December, of this year, FREE.—(14 months for the price of 12.)

Those received during Nov. will get December FREE.

N. B.—The above offers extend to all new subscribers, whether they are received singly, or in clubs, or on premium lists, or from Agricultural Societies, or otherwise.

* N. B.—Since many old subscribers are renewing in advance, it is important that new subscribers' names be marked as "NEW" when sent in, if the extra numbers are desired, for we shall not send these extra numbers unless they are specially and definitely asked for.

GOOD PAY is offered to those who collect Clubs of Subscribers. See page 313. This is a good time to get them; the above "Baker's Dozen," and the Strawberry Premium, will aid canvassing now. See next item.

THE GREAT STRAWBERRY is for all Subscribers for 1864, who apply in accordance with terms. Read the terms carefully through, on page 259. The substance of these terms, is, that the great "Agriculturist Strawberry" is being multiplied as rapidly as possible, and the plants produced will be distributed free next year, as far as they go, beginning with the names in the order of application and entry on our books for 1864. Those to receive the plants by mail will need to send, in addition to the subscription, 5 cents to pay for oil-cloth and postage on the plants. We hope to have plants for all who receive the *Agriculturist* for 1864. No distinction will be made between old and new subscribers.

Postage on the *Agriculturist* is only 3 cents per quarter, if paid in advance by the recipient. The old dispute about the weight, is settled by the new law which allows 4 ounces instead of 3; no copy weighs 4 ounces in any case. Any postmaster who insists upon charging more than 1 cent per number, when paid quarterly or yearly in advance, is either too ignorant to hold office, or is guilty of extortion. We ask the name of any one who hereafter exacts more than the above amount of postage, as has been illegally done hitherto, in some cases. The new law is too plain to admit of doubt.

Specimens or Extra Numbers are costly, and each copy requires two cents postage paid in advance. So they cannot be scattered around very freely. When needed for canvassing, the judgment of the applicant will in each case decide whether both the paper and the postage should be at the expense of the Publisher. Except when to be used solely for our benefit, the postage at least should be provided for.

CLUBS can at any time be increased, by remitting for each addition the price paid by the original members, if the subscriptions all date at the same starting point. The back numbers will of course be sent to added names.

A Pleasurable Announcement.

Our readers will doubtless be greatly pleased to learn of the return of Mr. Mason C. Weld, to resume his labors in the *Agriculturist* Office. A year ago he was temporarily called away, on short notice, to an important place in the country's service, and, as Lieut. Colonel of the renowned 25th Regiment Connecticut Volunteers, he has taken an active part in the restoration of Louisiana, and in the reopening of the Mississippi by the capture of Port Hudson. His regiment having served out their time and received their honorable discharge, Mr. Weld will immediately enter upon the more peaceful labor of gathering and spreading information through the columns of this journal.—Our good Agricultural Ship has never before been so well "manned" as it is now to be. With the constant and earnest editorial labors of Prof. Thurber and Lieut. Col. Weld, both of whom have had the most thorough practical and scientific training for their profession, also of Messrs. Fitch and Taber, who have long been engaged in the office, and with the efficient editorial aid of Mr. Clift, Mr. Gridley, and several other practical and intelligent observers in different parts of the country, in addition to a widely extended circle of voluntary correspondence, we feel justified in promising a still further large advance in the intrinsic value of the *Agriculturist*. Our aim is, to condense into these pages the largest possible amount of useful and reliable information upon all topics relating to the labors of the Farm, Garden and Household. To this end we shall continue to enlarge the working force. The more thought and labor we can concentrate upon the paper, the more valuable will every line become to the reader. It is not too much to say, that nowhere else can one obtain in the same space, or for so little money, so much of really valuable information. We take no little pride and pleasure in contrasting the present facilities of this journal, with what they were ten years ago when the writer was almost literally "captain, mate, and all hands."

Our thanks are due to an appreciating circle of readers, now close on to eighty thousand, and soon to be a hundred thousand, we hope.—As the circulation enlarges, we are able to make further improvements, without increasing the cost to the reader.

We bespeak a continuance of the favor so generously bestowed, and promise to spare no expense or effort to merit it in a still greater degree. Will our present readers each gratify us, at this time, by a word to friends and neighbors, informing them of what are the plans and aims of the publisher, and how useful and interesting the paper may be to them. We would like to begin the next year with the round One Hundred Thousand. Will the reader of this supply at least one name towards this result? Every new name received this month will come in for an extra allowance of two months' papers, as noted in another column. The Great Strawberry to be distributed, will, we hope, prove a valuable gift; but aside from these extra inducements, the *Agriculturist* shall be made a treasure to every household—a valuable guide for the Farm, the Garden, and the Household—and a source of pleasure and profit to the Young. O. J.

American Agriculturist.

For the Farm, Garden, and Household.

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; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

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AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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

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Suggestions and Notes for the Month.

November with its sounding blasts gives warning of the advancing march of Winter, and the prudent man will heed the signal. Everywhere may be noticed the care with which Nature protects her children. The summer glory of the trees has departed, but the fallen leaves spread thickly about the roots, prepare them to withstand the benumbing frosts; and many a bulb and tender sprig and waiting seed, lie snugly nestled within the folds of the kindly shelter. No woven blanket could better protect the pastures and meadows, than does the downy mat formed of the withered blades of grass. Here, too, are safely kept the myriad seeds of flowers that will gladden the fields when Spring shall waken them to life. Nor are the countless tribes of animated creatures forgotten. Warned by unerring instinct, the bee has filled its cells with abundant stores, and fears neither cold nor famine; flies and their congeners have sought sheltering crevices; many insects have burrowed in the earth, and for others, a special form of life has been devised, and their chrysalides hang from fence and bush; the squirrels are gathering nuts and acorns with which to regale themselves in the intervals of their long winter nap; in the wilder regions the bear is looking out his hollow tree, and each animal is rejoicing in the thickened coat which shall shield him from coming storms. Let the husbandman note these kindly provisions, and be equally provident for the creatures entrusted to his care. There may be danger that some domestic animals will be injured by excess of kindness. They should be protected, but not pampered. A horse confined in a close shelter, kept warmly blanketed, fed with unsparing hand, and but little exercised, will be liable to inflammatory diseases from

every slight exposure. Sheep huddled together in warm pens, kept inactive and supplied with abundant food, will be enfeebled themselves, and in the case of breeding ewes, their progeny will also suffer. As with human beings, the first requisite for withstanding severity of weather is robust health and vigor of constitution. With these and plenty of food, animals entirely unsheltered will successfully resist almost any inclemency of the season. But it is both humane and economical to give that amount of shelter which will not interfere with hardiness. A creature exposed to the full force of a winter nor'wester, will shiver off a surprising amount of fodder, and usually of fat also. The importance of this leads us to repeat what we have often said in the *American Agriculturist*, that a large part of the food consumed is used up in the system, actually burned, to furnish animal heat. The need of this repetition is seen in the absence of shelter for stock on hundreds of farms, particularly at the West. We believe it would not be saying too much to assert that the hay and grain annually wasted—burned up for want of protection to animals—would keep twenty-five per cent. more cattle and sheep than are now raised in this country. If any whose animals are unsheltered, are yet doubtful on this point, let them commence experimenting. Build stables or rough sheds for part of the stock, and keep an exact account of the feed consumed by them, in comparison with an equal number allowed to run at large: we have no doubt as to the result. In addition to considerations of profit, there is no little satisfaction in the merciful treatment of dependent creatures. The howling of unsheltered cows and bleating of neglected sheep are anything but soothing music, while the grateful pleasure which even dumb animals can express in return for proper care, will add not a little to the enjoyments and the attractions of farm life.

Work for the Farm, Household, etc.

Animals.—Keep them always improving. Comfort for the animal is money in the purse of the proprietor. Take them up early for the animals' sake, for the pastures' sake, and for their manure. Provide warm sunny sheds for young cattle, close sheds or boxes for colts, open but warm sheds for sheep, where they can have the range of a dry yard.

Barns and Stables.—A clapboard loose or gone, or a great crack under the door, lets in the cold, and the horse or cow must have more fuel for the fire within the body to counteract the cold from without. Pure air is essential, but let it not come in chilling currents upon man or beast. With ventilators above for the escape of bad air, there will generally be enough good air stealing in almost insensibly through the seams and crevices; if not, admit it from some point where it will not blow di-

rectly upon the animals. Every stable should have one glazed window, and better several.

Butter may be made almost as well at this season as in June, if the feed of the cows is good enough. Sugar-beets and carrots, with plenty of sweet hay and corn-stalks cut up and flavored with bran, corn meal, or cotton seed or other oil-cake with salt as a condiment, will secure the cream which will make yellow butter without annatto, and plenty of it.

Cellars.—The fetid air from decaying vegetables is as bad as the malaria from a swamp; hence be very careful in storing vegetables and in frequently examining those already in the cellar, to remove all roots and leaves beginning to decay. Thorough draining, ventilation, and plenty of lime whitewash, are good, both for the things kept in the cellar, and for those living above it. A little hydraulic lime mortar, with bits of stone and broken glass, are good stoppers for rat-holes. The best cellar temperature is one as low and equable as possible above freezing. In fact a little frost is better for apples than too much warmth. Potatoes endure rather more warmth than apples and other fruits; these must be kept cool, but sweet potatoes will bear quite a high temperature, and should be put in the driest and warmest part of the cellar. Sashes with double glass and an intervening thin space of confined air, are nearly equal to stone walls, in shutting out cold. Protect the exposed walls with a bank of earth outside, or what is neater and better, spent tan-bark, if it be conveniently accessible.

Cisterns.—Pure clean rain water is better for man and beast than well or spring water medicated with lime and other salines dissolved out from the soil. If not already done, empty and clean foul cisterns early, when rains may be depended upon to fill them again. (See note on examining cisterns and wells, elsewhere.)

Corn.—Dampness and frost combined, injure it for food, and especially for seed. Much of the corn brought to this market is sold as "unsound." The sooner it can be husked and placed in dry cribs, the better. The crib should never be more than 3 or 4 feet wide, and let abundant openings be left, by slats at the sides. The eaves should project far over the sides of the corn-house, to prevent storms beating in upon the sides. A rat-terrier dog chained under or in the corn-house, is the best rat-trap.

Corn Husks.—There is a ready sale for this article at about \$10 per ton at the farm in many sections. It is not worth this for fodder, and the difference, if it be cash, will pay for saving them. Torn into fine shreds on a hatchel, they are better than straw to fill beds.

Draining.—There is hardly a farm in America on which some work at surface or under-drains may not be done to advantage this month. So long as the ground is unfrozen, this important

work may be pushed forward. Surface drains should be arranged upon a well-matured system, and protected from washing, by securing a distribution of the surplus water upon grass land, or by stoning the bottoms, or securing a gentle flow of water by greater width. Underdraining the garden will advance spring working a week or two, and make the product much better, by letting in warm air and preventing the chill produced by the evaporation of the water from the surface during Summer. The same results are produced in the field. It pays on almost all soils, even those usually considered dry. Clear the obstructions from the dead-furrow drains in the winter grain. Frost will not kill wheat or rye; frozen water in the soil will. Water in freezing expands one-eighth of its bulk, and tears and heaves the roots; perfectly dry soil does not expand in freezing; and soil merely moist expands but little.

Fuel.—It takes the heat of almost one half of green wood to dry the other half. Therefore keep the Winter's fuel dry and under cover. It will save fuel, time, vexation and health, and be a mercy to the housewife.

Grain usually keeps better in the bin than in the mow or stack, especially where mice abound, while in the bin it is ever ready for market. Do not burn the straw, even in the new rich prairie regions. Let the cattle lie on it. If it can not be used, let it lie even five or ten years; there will in that time surely be some place that will be benefited by an application of well rotted vegetable matter. Clean the grain well for market. A bushel of chaff, foul stuff, or shrunken grain in 100 bushels will lower the price of the whole 3 to 10 cents per bushel—an important difference, and one which will pay well for an extra fanning and screening.

Hedges.—Thorns and other deciduous hedge plants may be set until the ground freezes. Leave evergreens until next May.

Hogs.—They fatten most on the same food when weather is warm. As cold weather comes on, give the hogs warm pens well supplied with dry litter, feed regularly—gradually increasing the amount of food and its richness. Hogs kept in pens will always dung in an out of the way corner, frequently persisting in its being under cover, doubtless for convenience in cold or rainy weather. By watching their habits, and exercising a little *persuasion*, when the pen is first occupied, a great advantage in cleanliness may be secured. For early pigs turn in the males now. Sows run about 4 months (109 to 123 days.)

Horses need clean, well ventilated, and well lighted quarters. They are fastidious in regard to food and drink. The nervous, high-strung nature, which gives the horse his energy, endurance, spirit, and docility, cannot be maintained without constant and judicious care. Young and old horses should be brushed clean or curried daily, blanketed in cold weather, using light woolen blankets in-doors and warm generous ones after exercise and out of doors, especially if exposed, even for a few minutes, to wind, or cold drafts of air. These blankets should cover neck, breast, and flank well. No animal takes so quickly the temper of his master or driver as the horse; so be firm and gentle with him.

Implements on many farms are depreciated more by exposure than by use. Rust is the enemy of iron, and soaking and drying will warp and open, or weaken the firmest wood-work.

Ice Houses.—Ice is becoming year by year more necessary to the comfort, economy, and health of the entire community. During this month prepare ice houses for the reception of the new crop. See that the drainage is good, and that there is no chance for a draft of air, in or out, at the drain. If you have no ice-house, put one up at once if practicable; 10 feet square and 10 feet high, is a good common size. If placed on a side hill, it will save lifting the ice in filling.

Leaves—It will pay to collect all the leaves accessible, for the manure heap, for the hog pen, and for horse and cow stalls. Here they furnish a good fertilizing material; they are also excellent as a mulch.

Manures.—“Your muck is your maun”—manure is money—is an old English farmer's proverb as true as gospel. In England ‘muck’ is the generic name for every thing of the nature of animal or vegetable manure, or substances in decomposition. (With us it is generally used to denote the black earth found in swamps or low places, and consisting of decayed roots, and vegetable matter.) To secure all valuable qualities in the droppings and urine of animals, and by allowing them to ferment in connection with inert vegetable substances, to convert the whole into the greatest quantity of available plant food, is the great study of the successful farmer. The “muck” of the swamp, straw, swamp hay, and all other vegetable matters easily decomposed, are desirable to use as bedding and absorbents in the stalls, or to mingle with manure in the compost heap. Save every thing of the kind to add to the manure, and use all means necessary, to prevent disadvantageous heating, fire-fanging, etc.

Plowing.—There are few if any soils which are not better plowed in the Fall than in the Spring, for early culture. So long as the ground continues open, keep the plow running. The sod begins to decay, and is quickly decomposed in the Spring. The frosts kill the weeds, and also affect the inorganic part of the soil, causing it readily to dissolve; and more than all other benefits are the getting ahead with spring work, securing dryness of the soil, and ability to plant much earlier.

Potatoes.—Warmth with moisture is injurious, next to actual freezing. Dryness, and a cool but not freezing atmosphere, in the cellar or earth-covered heap, are essentials. When in out-door heaps, dig a deep trench around them with an outlet, so as to keep the bottom of the heap always dry. Add more earth to the heap only as needed by the increasing cold, always patting down each layer of earth smoothly, to shed rain.

Poultry well cared for, pay by the eggs and manure produced. The secret of having eggs all the Winter is, to give the hens the advantages of Summer, viz.: warmth, shelter, light, water, and some animal food to supply the absence of insects which they gather in Summer, with lime enough to make egg shells. They devour and grind up the weed seeds among the grain tailings fed to them; they eat almost every kind of grain. Bones pounded fine, and scraps of fresh meat they devour greedily and convert them into eggs. We find that a cake of scraps from the fat boiling establishments, placed where the hens can pick at it, always keeps the egg machine in operation; if the supply runs out, the eggs are missing.

Pumpkins.—Avoid bruises in handling; store in a cool dry place, always free from frost; remove seeds when fed; dry as directed last month.

Sheep are fast taking the position in American agriculture, which they should. The high price of both wool and mutton is effecting this. The sheep owner or breeder should be a true lover of sheep and watch them carefully, see personally to their wants, anticipate their needs, know them all individually. Thus he will mark the deficiencies of ewes, in form, in wool production, in fattening ability, in breeding qualities, and so match them that their faults will be corrected in their progeny; or he will from the outset devote certain ewes, or their lambs to the butcher, and by thus weeding out his flock, keep it ever improving. Select such bucks as will correct defects, and sort the ewes accordingly into several flocks. Provide secure protection against storms, but give all breeds some range in open yards. April lambs must be spoken for this month. See p. 334. on fattening.

Roots.—A good root cellar is one of the indispensables of good farming. It is one-sided farming into which an extensive use of roots for stock food does not enter, and much of the farming of the United States is very one-sided. Before storing, roots should be clean and dry. Store them so that the turnips may first be used, the sugar beets, mangels and rutabagas subsequently—carrots being used through the stabling season as a pleasant tonic

and appetizer for horses, and for milk-cows, mixed with other roots, or cut up and fed by themselves.

Turnips.—It is best to let them stay in the ground until the tops are decidedly frosted, but not so long as to endanger the freezing of the root. They keep longer and wilt less, placed in heaps, strawed and covered with earth, than in any but a very good root-cellar. However stored, have them first dry and free from soil.

Weeds.—Gather weeds into windrows and burn them; do not move far, nor so as to scatter the seeds.

Winter Grain.—The advantage gained by feeding off a rank growth in the Autumn, is questionable after the near approach of cold weather. The danger is, that some spots will be too much denuded of the winter mulching which the foliage affords.

Orchard and Nursery.

Last month's remarks regarding work here, apply with equal force this month. In order to have a good orchard, the work must begin with care and conscientiousness on the part of the nurseryman, and be continued with equal care on the part of the purchaser and planter. The best trees from the best nursery may easily be ruined and rendered valueless, by bad treatment from those who buy them, while, on the other hand, no after care will make a good vigorous tree of one which has been maltreated in its early growth. Careful selection of the trees, and an equal care in planting them, are among the main essentials in starting an orchard.

Cider.—Use clean sound fruit, and see that every part of the process is conducted in a neat manner. Much more fruit is frequently stored than can be used or sold, and this excess may often be profitably converted into cider or vinegar.

Cions may be cut at any time after vegetation ceases if they are kept carefully buried until Spring.

Cellars where fruit is stored should be kept open as long as they can be without freezing. When closed for the Winter, provide for ventilation.

Fruit.—Apples which may have fallen or been bruised in picking, should be marketed as unsound fruit or made into cider, or fed to stock, or they may be dried, as noted on page 341. Hand-picked apples should be placed in barrels and kept as cool as possible without being touched by frost. Toward the close of the month, after they have undergone what is termed sweating, sort them thoroughly and head up the barrels, handling with care; one bruise rots the apple, and the disease spreads rapidly to others. Apples packed in *dry* oats, leaves, bran, or cut straw, and kept cool, will remain fresh and sound long after their usual time of decay. Some kinds of winter pears bear the same treatment, but it is usually better to keep these upon shelves, not touching each other, and covered with paper. The change of color indicating the ripeness of each one may be readily observed; or each pear may be handled.

Insects are now in their dormant state of larva, or their eggs, containing germs of future trouble, are upon the twigs or bark. Cocoons and collections of eggs are now more readily seen as the trees are naked. Destroy them as soon as discovered.

Label everything in the nursery or orchard according to some plan. If labels are used upon the trees, see that they are of a permanent kind, and at the same time not likely to do injury. If, as is preferable, the record is kept by a map, see that every change or new planting is promptly recorded. The value of a fruit is doubled by having the correct name for it.

Manuring should be done in the orchard. Fruit-trees repay good feeding. Use a liberal dressing of old manure or compost.

Mice.—Young trees will need protection where these are troublesome. Wrappings of paper, tarred cloth, sheet-lead, and various other appliances, have been suggested from time to time. We have not tried any of these, but have found the hard tramping of the snow around the trees effectual.

Nursery Rows.—Plow between them and turn the furrows toward the trees.

Seedlings of nursery stocks, intended for root-grafting, should be taken up this month and stored in the cellar to be worked during the Winter.

Seeds of apples, pears, etc., and stones of peaches, etc., may be planted as directed last month.

Seed Beds.—Seedlings, especially those of evergreens, need some protection the first year. Sift some dry sandy earth over them, and cover them with leaves or cedar boughs.

Kitchen Garden.

There will be plenty of work in a well managed garden until freezing weather stops all operations. The crops still remaining out are to be harvested, and the ground everywhere to be cleaned up, so that every available portion of refuse shall go either directly to the compost heap, or to the pig sty, or cattle yard. All work of preparation done now, will greatly facilitate labor next Spring. In stiff soil it will pay to throw the ground up in ridges with plow or spade, and leave it thus to the mellowing influences of the frost. The details of operations are the same as those given last month.

Asparagus.—Cover with coarse manure. Make new beds, according to directions given last month. The ground can hardly be made too rich. Manure is the secret of the "Giant Asparagus."

Beets.—The harvesting and storing should be completed before hard frost comes.

Cabbages.—These should be covered for Winter as advised in last month's calendar. Finish putting young plants into cold frames.

Carrots.—Dig and store the remaining crops early in the month.

Celery.—Continue to earth up in dry weather. Harvest before severe weather. Stand it upright on level ground and cover with boards and bank up with earth. Allow no earth to fall between the stalks. Latterly, we have practised putting enough for early winter use into the cellar, covering with earth, and leaving the rest where it grows, well banked over with earth when first struck by killing frost.

Cold Frames.—Prepare for use, and set in them, the cabbage, cauliflower, lettuce plants, etc., requiring winter protection. Cover with glass or shutters during cold nights, but keep open by day as long as the weather will admit. When Winter sets in, cover securely, banking up about the sides, and put straw, leaves, etc., over them to exclude frost. Every mild day, open for a short time.

Drain every wet and heavy spot. The whole garden will be all the better for draining; it can be worked enough earlier in the Spring to make it pay.

Mice.—Let no rubbish be left to harbor them. Guard against their intrusion into the cold frames. Dishes of meal, poisoned with arsenic, will soon dispose of them.

Onions.—Cover with litter to protect those sown late to be left in the ground during the Winter.

Parsnips and Salsify are improved by leaving in the ground until Spring. Dig enough for use during Winter, and cover with earth in the cellar.

Poles, stakes, frames, etc., should all be carefully gathered, and housed for future use.

Rhubarb.—Set roots with crowns, any time before the ground closes. Cover with coarse stable manure, to protect the roots and enrich the soil.

Spinach.—Hoe and thin the plants, and cover with straw or other litter.

Turnips.—Gather before injured by frost, and store for household use, and for feeding to stock.

Fruit Garden.

If the weather continues mild, hardy plants may be put out with advantage. We some time ago gave our reason for preferring to have a separate garden for small fruits, rather than mix up fruit and vegetables in the same ground. Whenever sufficient land is at command, it is altogether better for both, to have them separate. Now is a

good season to lay out such a garden, drain and prepare the soil, making all ready for Spring.

Blackberries may be set as directed last month.

Currants and Gooseberries.—Be sure to provide for a good stock of these. Currants particularly, seldom fail. Set out rooted plants, or start cuttings. Ample directions are given in the last and present numbers. Manure old beds.

Dwarf Trees.—Apples and Pears may be set out this Fall. In selecting varieties it is well to heed the advice given by 'Connecticut' on another page. Buy only of parties of known reliability, and be willing to pay a little more for a thrifty well grown tree, rather than take an inferior one because cheap.

Grape Vines.—If you have not already a vine, plant one—or rather several. We have now so many good sorts, that every one can find a grape that will suit even the most unfavorable climate. Planting may be done now. Set out one or two year old well rooted plants in soil deeply spaded and well enriched, and in a locality where water does not stand. Prune this month and lay down the vines. Read article on page 340. Yearling vines, cut back at this season may be protected by having a mound of earth drawn up around them.

Raspberries.—Bend down the canes and cover slightly with earth. New roots may still be set out.

Strawberries.—Give their winter protection to both old and new beds. Straw, spent tan bark, or forest leaves may be used.

Flower Garden and Lawn.

The Chrysanthemums have the garden all to themselves at this time, save here and there a straggling flower that has escaped the first frost; glorious flowers they are to help us prolong the season of bloom into Winter. We look upon the desolation which frost has made in our borders, and sigh for the favorites of Summer, as we remember the tender care with which we cherished them. The memory of the pleasure their beauty gave us should incite us to prepare for their return. We do not wish the readers of the *Agriculturist* to be of that class who have a fever for gardening every Spring, but which subsides, as soon as the novelty and excitement are over. We would have them look upon gardening as a pleasure which is best enjoyed when its labors are distributed throughout the year. To work and play for future results, is a moral lesson, which can be learned even in the smallest flower garden. During this month, much can be done in preparing for next season's enjoyment. Care for the things we already have, acquiring additions to our stock, and laying out new grounds, or changing old ones, to better suit our improved taste, will give abundant work for November.

Bulbs.—Some are to come out of the ground and others are to go into it. Gladioluses, Tigridias, Amaryllis, Habranthans, etc., should be lifted before the ground freezes. Let them dry off in the sun, and store them away in a cool place, secure from frost and mice. The Dutch Bulbs, such as Hyacinths, Tulips, Crocuses, etc., should have been planted last month, but better now than not at all. These flowers are great ornaments to the garden in Spring, and produce the best effects in masses. The soil should be light and rich, and if disposed to be wet, drainage is to be secured by removing the soil to the depth of 15 inches and putting in a layer of 2 inches of small stones, brick rubbish or the like; put a layer of good soil over this, working in a plenty of old manure. The bed should be 3 or 4 inches above the general level, to allow for settling. In putting out the bulbs, Hyacinths should be set about 9 inches apart, Crocuses 3 inches, and Tulips 6 inches. Hyacinths produce a fine effect when planted in a circular or oval bed, in rows of distinct colors, one within another. The tops of the large bulbs ought to be 3 inches below the surface. After planting, cover with a good coating of coarse litter manure. The bulbs are to be had at moderate prices at the city seed and florist's stores.

Climbers.—All the tender ones are to be removed from the trellises and protected by a slight covering of earth. The Wistaria will not flourish in many northern localities without this care.

Chrysanthemums.—Keep neatly tied up, and when the frost has destroyed the flowers, the roots may be taken up, divided, and re-set.

Dahlias.—Lift the roots on a fine day, before freezing weather. Care should be taken not to break the roots from the stem. Be sure to have them correctly labeled before they are put away. Dry the roots for a few hours in the sun, and store away in a cool vegetable cellar, under the stage of the green house, or in boxes, or barrels of dry sand, in any place where they will not freeze.

Hedges of deciduous shrubs may be set now. Hedges of dwarf pears are highly recommended by friends who have tried them. The young trees are set two feet apart and grown like any other hedge; they fruit very well treated in this way. Such a hedge would be an appropriate boundary between a fruit and flower garden.

Frames and Pits.—The plants in these should have air every fine day and be carefully covered at night. If mice trouble them, set poison or traps.

Lawns.—Rake off the fallen leaves. These will be needed for protecting plants in the borders, or as additions to the compost heap. Give a good top-dressing of fine compost, and roll if necessary.

Perennials.—Phloxes, Dicentra, and others, may be divided and replanted.

Roses.—The tender varieties may be potted and placed in a pit, or cool part of the green house, or be wintered in the cellar. The climbing sorts do better if laid upon the ground during Winter.

Protect all tender things. Even hardy herbaceous plants will come out all the better in the Spring, if a few forkfuls of manure are put over their roots. The broadleaved evergreens, such as Kalmias, Rhododendrons, Holly-leaved Barberry, etc., need some shelter. Cedar boughs stuck in among them, or a rough thatch of boughs made over them, seem to answer better than tying up in straw. Where evergreen boughs cannot be had, a screen can be made with sticks, and a few bundles of straw. This is not needed so much as a protection from the cold of Winter, as to shield them from the changes of temperature in Spring. Even with the Rhododendron some care of this kind will repay all the trouble it costs.

Shrubs and Ornamental Trees.—Hardy sorts may be planted now, taking plenty of time to do it well.

Green and Hot-Houses.

In this country any glass house for plants is popularly called a green or hot house, without making any distinction between the two. Strictly speaking, a green-house is a building intended to preserve tender plants from the effects of frost, and without any regard to growing them. The temperature is kept low—from 35° to 45°. In the hot-house plants are to grow and flower, and the temperature ranges from 60° to 75°, or even higher, according to the character of the plants it contains. Some houses are constructed with a partition, and the heating apparatus so arranged that the advantages of both a green and hot house can be combined under one roof. Of course directions for management can be given only in the most general terms, as each house will require a treatment corresponding with the end to be accomplished.

Where the green-house is used merely for storing plants, the care required is but little. Having put the house properly in order, and stored it with those plants needing winter protection, or which are only to be forced at a future time, attend particularly to ventilation, as the change from out-door air to a confined room should not be suddenly made. During rains, fogs, and frosty weather, the doors and windows should be closed, and before the end of the month some fire heat will be beneficial. Little water will be needed, and but little care in other respects; the

plants may be left to a quiet rest. The decayed leaves should be picked off as they appear, and everything be kept neat. A good stock of bulbs should be potted to be taken to the forcing house at intervals for a winter bloom. The green-house is also the appropriate place for keeping a supply of the various plants to be taken to warmer apartments for flowering during the Winter.

The hot-house should be attractive even thus early in the season, as many of the blooming plants have not ceased to flower since their removal from the borders, and others are coming into bloom. A nearly uniform heat should be maintained, ranging from 55° to 65°, or even 70° in some collections. One of the first things requiring attention, is to have a full stock of young thrifty plants put in a growing condition, to furnish a succession of bloom during the entire Winter.

Bulbs should be brought from cooler apartments only as they are wanted to bloom.

Cane-lilies are beginning to push out anew, and some of the flower-buds are well swollen. Syringe and water more freely, giving them light and air.

Fires will need careful attention, as a little neglect often causes much mischief. Most of the plants being tender, a near approach to the freezing point will check their growth, while too much heat will unduly force them.

Grapes.—Prune and lay down, or tie up vines which have ripened their wood. Give them a season of rest now. If the roots are in an outside border, cover them with manure, straw, etc.

Insects.—Keep them in check at the beginning, or they will increase rapidly. Hand-picking, syringing, and tobacco fumes, are appropriate antidotes.

Pots, tubs, and boxes, containing growing plants, should be frequently examined. Keep the drainage open, remove weeds and moss, loosen the soil, and add liquid manure or rich earth to those plants which are flagging. Prune or pinch to a good form, and have them all arranged in a convenient handsome order, the lower growing varieties in front.

Soil for potting should be liberally provided for immediate and future use, it improves by keeping.

Verbenas, Pelargoniums, Petunias, Salvias, and other bedding plants, should be started from cuttings to provide a supply for winter flowering, and for planting out in the Spring.

Water.—Give moderately, more to rapid-growing plants than to those which are resting. Syringe the floors and walls frequently, to induce evaporation.

Apiary in November.

Prepared by M. Quinby—By Request.

The apiarian who has attended to his work at the right time, and has everything now in the right place, will find but little to do among the bees this month. Hives may be painted at this season without seriously injuring the bees in them. If not satisfied with the condition of the winter stocks, examine them again on a cool day; many things may be now ascertained which were difficult to observe in warmer weather. Kill the bees of very small colonies even now. It is almost impossible to get them through the Winter, and most of the honey, if they leave any, will not be fit for the table.

Any one having the movable combs can make the straw hive available the coming winter. Make the inside of the same dimensions as the wood hive. As soon as ready, any time this month or next, transfer bees, combs, and honey, to the straw hive. To the hive described on page 301 of the *Agriculturist*, there should be added during cold weather, a mat for the top, made nearly like one of the sides. In the "leaf" hive, the frames are not attached to the sides or top. For this, a square box, or basket of straw instead of the wooden box, can be made, to set over the frames for the Winter. Straw hives made in this way, are much superior to the conical style, for wintering the bees, especially if used only for Winter and Spring.

The number of patent hives, instead of diminishing, is increasing yearly. Not one in a hundred possesses any real merit over the old box style. The readers of the *Agriculturist* should be guarded against humbugs in bee hives, as in other matters.

At this season the venders will be around, and if they can ascribe no other merit to their hive, than the fabulous quantity of honey stored, because the bees could work best in their hive, it will be safe to let them pass. If the story of a large yield is true, these peddlers are generally so ignorant in the matter, as not to know it is owing to the colony, pasturage, feeding, robbing, etc. Every body having experience knows that with a suitable cavity for deposit, bees will store as much honey in one place as in another, whether flour barrel, nail keg, or square box. A hive for improved bee culture is not expected to increase the amount of honey, but to facilitate the division of it—so that we can take a portion of it, leaving the rest for the bees—and to render easier the inspection of the interior. Aside from the movable comb hives, it is difficult to find an improvement over the old box, with the surplus boxes added. One not sufficiently acquainted with the nature of bees to take advantage of some of the facilities offered by the movable combs, would do better to use the simple box, until he has acquired the requisite practical knowledge to make the others profitable.

Pumpkins, Squashes, and Gourds.

The **Second Annual Exhibition of PUMPKINS, SQUASHES, AND ORNAMENTAL GOURDS**, at the office of the *American Agriculturist*, 41 Park Row, New York City, opens on Wednesday, **Nov. 4th, 1863**, and the following Prizes will be paid by the Publisher, upon the official award of competent Committees.

CASH PREMIUMS.

A—For the <i>Heaviest</i> Pumpkin or Squash.....	\$10.00
B—For the 2nd <i>Heaviest</i> Pumpkin or Squash....	5.00
C—For the 3d <i>Heaviest</i> Pumpkin or Squash....	3.00
D—For the Best Pumpkin or Squash for <i>cooking</i> ..	5.00
E—For 2nd Best Pumpkin or Squash for <i>cooking</i> ..	3.00
F—For the largest yield on a single Vine.....*	10.00
G—For the 2nd largest yield on a single Vine....*	5.00
H—For the largest and finest collection of Fan- cy or Ornamental Gourds*.....	7.00
I—For the 2nd largest and finest collection* of Fancy or Ornamental Gourds*.....	4.00

*All to be grown by one person and to be accompanied by positive evidence from the grower, and one disinterested person who assists in gathering the specimens.

Note 1.—The specimens receiving the Prizes will remain on Public Exhibition at the pleasure of the Publisher who offers the prizes. The other specimens will be subject to the order of the exhibitors, or they will be sold at auction, or otherwise disposed of, for their benefit.

Note 2.—All Exhibitors must notify us of their intentions by Oct. 15th, and deliver specimens for competition on or before Nov. 2d. Specimens to be delivered free of charge.

Note 3.—The same specimen can compete for only one of the premiums offered above.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

A Full Basket.—In these pages we present a large number of items, many of which are too important to be overlooked, merely because they are in smaller type.—We have many letters still unanswered. Many who do not find a special reply to their queries will find their answer in some of the more extended articles, or in the Calendar. The great majority of our queries concerning grape vines, for instance, are satisfied in the article on page 340, and so with other articles. We can safely say that the short items given on these pages require more varied information to write them, and more care in preparing them, than the rest of the paper. Questions are often received which we can not answer, nor can any one. New questions occur which can only be settled by actual experience. Asking questions is vastly easier than answering them. There is now on file a letter containing fourteen distinct queries; these cost the writer but little trouble, but it will take a great deal of thought to answer some of them. We do not speak of this with a view to discourage questions, for we like to have them, but to excuse ourselves to those who may think that they are neglected.

Sending the Premium Grape-Vines.

—Premium Vines which were secured last Summer, will be sent out the first week in November. The Concord will be marked by a string tied around each, *inside* of the oil-cloth; all the others will be Delawares. Unpack

them carefully when received, and slightly bury them, root and stem, in moist soil for a day or two, and then, if to be left long before transplanting, uncover the stem portion. Set out in a dry soil, preparing a deep wide border or bed, with plenty of rotten manure if the soil be not already good. Rotten sods, muck, or black surface soil, make a very good bed. When the ground begins to freeze hard, cover the vines lightly with litter or straw, to prevent alternate thawing and freezing. Too much straw may harbor mice. The vines have had two seasons of growth, and are well rooted. The smallness of the Delaware vines may disappoint some who do not know how weak a growth this variety always makes for the first two or three years. Our vines are fully as good as those of similar age usually sent from nurseries.

Paper Mill Waste.—“R.” of Chester

Co., Pa., writes to the *Agriculturist*: “Near my place is a paper mill, from which runs a large quantity of stuff containing soda, lime, ink of old papers, and dirt of the rags. By digging a hole in the ground and turning the wash in, I can obtain it all. Now if I haul weeds, dirt and such stuff, and turn this wash on it and thus compost it, will it be of use to the land? ... There is likewise a large quantity of “bleach” (chloride of lime) thrown out into the race which I can get. “Will it benefit the mixture?” To the former query we answer, *yes*; to the latter, *probably*.

The Expected Crop Reports from

the Agricultural Bureau have not come to hand, at the early date we are obliged to go to press in order to work off our large edition in season. To be of any special value, however, the reports for September should certainly have been ready for the public earlier than Oct. 19th. There is a widespread and growing feeling, that we need at the head of the Agricultural Bureau a man who is more efficient, and less of a politician. There are good men in the subordinate positions—Saunders, Glover, Grinnell, &c.—but what can these avail, if the head be defective. We had hoped for better results than any they yet manifested. Of this more, when Congress meets.

Emigration to Delaware.—G. W. Fortune,

Ashtabula Co., O. There is on foot an organized plan for encouraging emigration to the State of Delaware. The Circular of the Association formed for this object, states its purpose to be “the improvement of the State by the introduction of agriculturists, artisans, manufacturers, and tradesmen from other States. It is proposed to accomplish this by giving information concerning the desirableness of the State as a place of settlement, and by employing agencies to form companies of colonists, and facilitate them in their immigration and location.” Governor William Cannon, as President, heads the list of officers. The movement appears worthy of attention from those desirous of changing their location, but our advice in all such cases is for each one to personally visit and minutely inspect any locality, before taking any steps toward settling in it.

An Aged Lady's Investment.—There

resides at Elizabeth, N. J., a lady in her 98th year, who was therefore 18 years old at the close of the Revolutionary War. She speaks like a true patriot of the stirring scenes when the foundation of the Republic was laid, of the Government whose whole existence she has witnessed, and of passing events. She has had some money at interest in bonds and mortgages, but recently transferred it to the U. S. bonds, expressing her desire to aid the Government all in her power. Fortunately, she and many others can now serve both their own and their country's interests by investing in these bonds, for we know of no better-paying good security. Those who took these bonds early in the year, will, the first of this month, receive interest at the rate of 6 per cent. in gold, which at the present premium is equal to nearly 9 per cent. interest. Some interesting information on this topic will be found in the circular on page 348.

Sunday-School Question-Book, No. 2.

—The great number of persons who have used the little book called “Lessons for Every Sunday in the Year,” will be pleased to learn that “*Series No. 2*” is to be issued during this month. This new book is on the same general plan as No. 1, and is designed to follow it, though it may be used independently. It has received a great amount of labor, and is very complete. We feel quite sure it will be esteemed the best Sunday-School book ever issued. It embraces the whole New Testament, and contains a very great amount of matter condensed into a small compass, and yet in so plain and simple a manner as to be adapted to small children as well as to older scholars. The price (10 cents, or 14 cents if sent by mail) is the same as the first series, and will barely cover its cost. Persons sending for either book should be careful to state whether No. 1 or No. 2 is desired. See last column on page 347 of this paper.

Ought Stable Floors to Slope to the Rear?—Floors thus sloping allow the urine to flow off away from the animals, hence they are so constructed. Geo. P. Bissell, King Co., Wash. Ter., protests against this practice, and presents forcible reasons. He says: "No sound animal seeking rest takes a position with the fore-feet higher than the hind, but rather the reverse. The philosophy of it is, that the fore-legs (of neat cattle and horses) are straight and calculated to support the greater weight (without muscular effort). Suppose the horse to be in motion, then every one can see the hind-legs to be instruments of progression, and that the fore-legs do little more than catch the rebound, and sustain the weight of the body. Do urge it upon the whole world to cease torturing their animals by forcing them to stand with their weight thrown upon their hind-legs."—Mr. Bissell constructs his stable floor of slats, with spaces between them sufficient to let at least all the liquid excrements fall through, while the rear of the stall is $\frac{1}{4}$ to $\frac{1}{2}$ inch higher than the front.

Tight Mangers Objectionable.—G. A. Jening, Henry Co., thinks that tight mangers may be injurious to the health of horses, as they are required to feed with their noses thrust into the hay or other fodder, and are thus excluded from fresh air, and dust is drawn into the lungs. He proposes a manger made of strips two inches apart, with a frame work follower to rest upon the hay, the latter to have interstices large enough for the horse to readily draw out the hay. This may be somewhat of an improvement, though we do not apprehend injurious results from the use of the box manger.

Scalding Hen Lice.—"H. P." writes to the *American Agriculturist* from Marietta, O., that his poultry house was swarming with lice, which covered the nests, roosts, floor and sides. As an experiment he gave the whole apartment a good drenching with hot water from a sprinkler, repeating it three times, and the vermin have disappeared. They will probably appear again soon, unless the hens also are cleansed. Give them ashes mixed with sulphur in which to dust themselves.

What is the Matter with the Potatoes?—"Workman," has left with us some potatoes of the Prince Albert variety, in which the tubers are studded all over with small potatoes from the size of a small pea to that of a pullet's egg, and asks the cause of this growth. We suppose that on account of the drouth the first formed tubers stopped growing and ripened. Favorable weather following the ripening of the first, a new growth started, and the eyes which would, if planted in Spring produce stems, now develop small tubers. This difficulty being due to a peculiarity of the season, we can suggest no remedy. Gardeners sometimes produce new potatoes in a manner somewhat similar to this second growth of tubers, by keeping potatoes in a cool place through the Summer, retarding vegetation as much as possible, and picking off whatever sprouts appear. In Autumn these potatoes are packed in boxes alternately with layers of light soil 5 or 6 inches in thickness, and kept in a cellar or other place where the temperature is about 60°. In three months they get a crop of small potatoes which are produced at the expense of the large ones, and without any growth of vines.

Farmers' Clubs—How to Organize One.—"G. P." Athens Co., O. The simpler the organization the more effective. Every member should be able to carry the constitution and by-laws in his head. In case a library is wanted, or any special business is to be conducted, tools owned, or work done by the club, special regulations will be required; but when it is only desired to hold meetings for discussion of agricultural subjects, to exchange ideas and seeds, and have a good social time once a week or fortnight, you will need only a Chairman, to be elected at one meeting to preside at the next, a Secretary and Treasurer perhaps, to be elected for the season. These, with one or two other active men, should constitute the executive committee, and manage the affairs of the club, make some simple rules, appoint meetings, and in short, do every thing which the club does not itself do, all their doings which affect future interests of the club being subject to its approval. The principal responsibility will devolve upon the Secretary, or the Chairman of the Executive Committee, who should be the recognized business man of the club. Clubs which have any other constitution than an understanding to behave like gentlemen, usually neglect it.

Corrosive Sublimate for Trees.—Milton Painter, Balt. Co., Md., writes to the *Agriculturist* that, having an English elm badly injured by insects upon its foliage, he bored a small hole nearly through the body of the tree, filled it with powdered corrosive subli-

mate, and stopped up the hole with wax. This was done six or seven years ago, and the leaves have been nearly untouched until the present time. The same was tried upon small locust trees, and it caused the borers to back out in less than 48 hours, and they have not since troubled the trees. He proposes to try the same treatment for the cure of "black knot." Notwithstanding the testimony of Mr. P., we are quite skeptical upon the subject of medicating trees, and are disposed to attribute his apparent success to causes not connected with the treatment. We should be glad if it were proven beyond doubt that a poison could be introduced into the circulation of a plant in sufficient quantity to render it free from the attacks of insects, and not injure the tree. We do not assert that it cannot be done, but much doubt it. If any other friends have trees upon which they are willing to risk the experiment, we should like to have them try it and report the results. There are plenty of locust, and plum-trees also, fit for no other purpose.

Maiden's Blush Apples.—We have received, through the kindness of N. Farnum and Solon Robinson, a box of apples from the nursery of James Smith, of Des Moines, Iowa. The fruit was all fine, but the specimens of Maiden's Blush were remarkable for their beauty. Nothing more perfect in surface, form, and color, can be imagined than one specimen of this, which is still upon our exhibition table. It is so wax-like in appearance that not only people in general, but distinguished pomologists have doubted, from merely looking at it, that it was a natural fruit. We have had waxen fruit mistaken for the natural, but never before had a real fruit which people insisted upon calling artificial. The deception, if such it can be called, was so perfect that we were obliged to label the apple "not wax." The tree is a good bearer, and the fruit of fair quality for table, cooking or drying.

The Apple Pie Melon.—Mrs. G. P. Cook, Saratoga Co., N. Y., writes to the *American Agriculturist* that she considers the apple pie melon a valuable acquisition to the housekeeper. Her method of using it is, to add tartaric acid or pie-plant (rhubarb) to give flavor in making apple or mince pies. For custards, the stewed melon is strained, thinned with milk to the consistence of sweet cream, seasoned as for ordinary custard, and one egg added for each pie.

Value of Names for Fruit.—Fruit always sells better if it has a name. It should, of course, always bear the correct name, great confusion is often caused by ignorant persons who have fruit for sale, giving false or fanciful names to well known and named varieties. No person, except the originator or introducer of a new fruit should ever name any fruit without consultation with recognized pomological authorities, or the concurrence of some well known pomological, horticultural, or agricultural society. The name should only be given after diligent comparison of the fruit with others, and proving so far as possible, that it is distinct. The name first given with a published description of the fruit, holds.

Plants for Names.—From Water-Vliet, Mich. [address lost]. No. 1, is *Lamium maculatum*, or Spotted Dead-nettle, an old and but little cultivated plant, but quite as pretty as some now cultivated for their variegated foliage. No. 2, appears to be the Blue Gilia, *Gilia capitata*, and No. 3, is not in a condition to be made out. Leaves should be sent as well as flowers.... J. M. Lain, Indiana, sends *Cassia Marilandica*, or American Senna. It is one of our most showy plants and is frequently cultivated in gardens. Mr. L. says that under the name of "wild pea" it is used in dyeing a drab color—and asks if it has the tanning principle of sumac. We have not at hand an analysis of the plant, but we doubt if it has sufficient tannin to make it available as a substitute for sumach in tanning leather. It is used medicinally like the imported Senna.... Mrs. Jane Hill, Stark Co., Ill. The plant is probably *Aster multiflorus*; not usually rare.... Harriet, Montrose, Pa. The plant sent is the Long-tubed Centranthus (*Centranthus macrosiphon*.) It was sent from this office this Spring in our seed distribution.... Mrs. H. B. Comstock, Cortland Co., N. Y. The "chickweed like plant" is *Anayallis arvensis*, or Pimpernel, and is not rare near the coast. The spotted leaved specimen is *Mertensia Virginica*, noticed in last month's basket. The other specimen is a species of *Euphorbia*, but the seeds are not ripe enough to enable us to determine which.... Mrs. F. G. Stanley, Adams Co., Ill., sends *Spigelia Marilandica*, commonly called Pink Root, though it is not at all related to the common pink. The root is a popular worm medicine. It is worth cultivating for the beauty of its flowers.... R. C. Smith, New-Haven Co., Conn. The plant is *Phallus impudicus*, the Stinking Morel. It is not to be confounded with the eatable Morel, as it is said to be highly poisonous. The plant is a fungus, is most re-

pulsive in appearance, and has a smell worse than a con- gress of dead rats. It springs up where there is decay- ing vegetable matter. Probably a free application of salt would destroy the underground fibres from which the aboveground offensive portion springs. A digging out and removal of the soil for a few feet around the place where it appeared would be pretty sure to exterminate the disagreeable visitor.... A. Heus, Medina Co., Ohio. The plant suspected of poisoning sheep is some kind of an Eupatorium, but as you have sent us no leaves, we can not make out the species. It is not likely to be the cause of the trouble.... A. F. Alden, Peoria Co., Ill., sends us *Cuphea viscosissima*, the Clammy Cuphea. With Gray's Manual, the minute observation which has evidently been given to the plant, would certainly have led to the proper name.... Mrs. Wall, Alleghany Co., Penn. We can not determine the plant with any certainty from the leaf sent. It would be guess work. Send flower or fruit.... H. E. Eastgate, Ulster Co., N. Y. The vine is *Chiogenes hispidula*, the Creeping Snowberry. It is not closely related to the shrub commonly known as Snowberry, but is more nearly allied to the Wintergreen. L. Norton, Onondaga Co., N. Y. The vine is *Clematis Virginiana*, the Virgin's Bower. It belongs to the Ranunculaceae family, but you probably did not make out because the flowers are often dioecious. It is worth cultivating as a climber, being very pretty in flower and fruit.

Is the Strawberry a Fruit?—A. F. Alden, Peoria Co., Ill. There are many things popularly called fruits which are not such in the strictly botanical sense of the term. The true fruit of the strawberry is the little grains which are distributed over or imbedded in the pulpy portion. Each of these grains is a little one-seeded fruit, and results from the ripened ovary of one of the many pistils found in the blossom. All these pistils are crowded on the flatish portion in the center of the flower, called the receptacle. This, as the ovaries ripen, enlarges, becomes pulpy and fine flavored, and forms what we call the fruit. It will be seen that the strawberry is a fruit or not, accordingly as we use the word in a popular, general way, or in a restricted botanical sense.

Planting Strawberries.—D. F. Marekres, Conn. Fifteen to 18 inches apart, and one plant in the place is near enough. If the runners are pinched off, the plants will form large crowns, and the leaves of adjacent plants will touch one another. Plants forced in the house in the Winter will not fruit again in the Summer.

What Grapes to Plant—200 Vines to Produce Grapes for the N. Y. Market.

—At almost all times, and especially since our recent Grape Exhibition, inquiries are addressed to the Editors of the *American Agriculturist*, asking: "What grapes shall I plant." For example, a gentleman says, "I want to put out 200 vines to raise grapes to sell at the most profit in New-York." We advised: 20 *Creveling*, 25 *Hartford Profitic*, 30 *Concord*, 30 *Delaware*, 20 *Union Village*, 10 *Diana*, and 15 *Allen's Hybrid*; and for the following reasons: The *Creveling* is a fair grape, and being one of the earliest, will sell well on this account alone. The *Hartford* is next earliest, very prolific, of fair quality, and will therefore sell well. The *Concord* will yield more pounds than any other, for the same trouble and number of vines, and is also of good quality, so that most people will buy it also. The *Delaware* grows slowly, and does not yield largely at first, but its superior quality will command a good price from a considerable class of persons. The *Union Village* is very large, of fair quality, will sell well for its size alone. The *Diana* is of peculiar flavor, light color, and will suit a particular class of buyers who will pay more for it than for the black grapes. The *Allen's Hybrid* is the most promising hardy *white* grape we have, is delicious eating; the fruit will sell at a high price.—The above list we submitted to a large meeting of Fruit Growers, and it met with almost unanimous approval. Two or three objected to the *Diana*; with us it does very well. The above list be it noted is for market purposes in New-York, though it is not a bad list for home use, and may answer for other cities north of Washington.

"Rats," "Mice," and "Waterfalls."

—Most of our lady readers know that the cushions over which ladies' hair is dressed a *la mode*, are called "rats," from some fancied resemblance. The names "mice," and "cats," are given to the smaller and larger cushions; while the hair is dressed in fantastic forms called "bows," "waterfalls," "butterflies," etc. A dashing Philadelphia belle, leaving an order for a hair-dresser to attend at her residence, added "Bring two rats, four mice, a cat, and a waterfall."—"Poor young thing," said a smooth haired Quaker matron, who heard the order, "she's lost her mind."

Steamed Fodder—Testimony Wanted.—Will not some of the readers of the *Agriculturist*, who practice steaming fodder for cattle, give their experience. What kind of a boiler is used? Does the waste steam from an engine impart a flavor offensive to stock? What estimate of the net savings can be made?

Butter Dairy.—“E. S. M. H.,” of Otsego Co., N. Y., from six cows, made and marketed 1100 lbs. of butter, besides using all that he wanted in his family. This from a dairy herd consisting of 4 old cows, and 2 two-year old heifers. Next year he calculates on making an average of 200 lbs., at least, to each cow.

Milking Machines.—“T. J. B.,” of Oregon. No machine has yet been devised which stands the test of use. Few, if any, of the many articles patented for this purpose, are now offered for sale in this country.

Swans in the Central Park.—S. G. Harvey, Woodford Co., Ky. The swans are a success here, and would be with you. Some of the first importations died, partly from not understanding their habits, and partly owing to improper food given them by visitors. There are now some 25 or 30 of them, sailing majestically upon the lake in the Central Park; they are so tame they will eat out of one's hand.

Leached Ashes.—A Young Farmer in Windsor, Ohio, asks: “How much can one afford to pay for leached ashes and haul them $\frac{1}{2}$ mile for a clayey soil.”—Better pay 25 cents per bushel for unleached than 5 cents for leached ashes as a general thing, but after all the leached ashes may be worth to you even the former price. They are often an excellent application to grass land, and a desirable ingredient in composts from which they do not liberate the ammonia. You will have to experiment for yourself, as the effects of leached ashes are very different on different soils. On many parts of Long Island, farmers prefer to pay from 14 to 25 cents per bushel rather than do without them. Hundreds of canal boat loads are brought from the interior and western New-York, and sold here.

Will it Pay to Buy and Haul Manure.—“C. G. M.,” Highland Co., Ohio, can get manure by paying 25c. per load, and hauling it to his farm $\frac{1}{2}$ mile—and asks will it pay? Figure it thus: Manure 25 cts.; man and team (going empty 10 minutes, loading 20 minutes, returning loaded, 30 minutes,) 1 hour's work 25 cts.—total cost 50 cents; and then ask yourself if a load of such manure as you can buy will be worth 50 cents on your farm. It probably will be worth at least three times that, if you make a proper use of it.

To Char Saw-dust.—“A. L. B.,” of Perry Co., Pa. Saw-dust may be charred in any vessel from which the air can be excluded, and which can be exposed to a strong heat, a gas retort for instance, or an old stove-pipe covered with a coat of clay and sand, having one end stopped tight, and the other only partially closed, to allow the free escape of the gases evolved during the heating.

Refuse (hair and bits of hide) of Tanneries.—Frank, of Louisville, Ky., asks what to do with this refuse, and if he may add lime to it?—Compost it with good soil if you have not peaty muck, grass sods, weeds, straw, etc. It will convert a great bulk of vegetable substances, otherwise not worth much, into good strong manure. Don't let lime or unleached ashes come near it. Apply it to any crop benefited by good stable manure, and after a little practice you can judge of the strength so as to graduate the application according to the needs of the crop and the land.

Brakes in Pastures.—“B.,” Providence, R. I., writes that he has succeeded in destroying brakes in land where they rendered several acres useless, by mowing them while they were in full and vigorous growth—once near the end of June, and again in August. After the second year they have mostly disappeared.

Lime—A Chemical Question.—“Why does lime or ashes act as a disinfectant, and yet release the ammonia from manures?” asks “J. R. P.” The action of lime on organic matter is much like ley upon the grease and matters mixed with it in soap making, Ammonia being formed only as nitrogenous substances reach the final stage of decomposition, when the lime or ashes is added to any substance in which ammonia exists ready formed, the ammonia escapes, and further decomposition is in a measure checked.

Roots or Corn.—A farmer of Lawrence Co., Pa., asks: “Does the culture of roots pay equal to

that of corn?” and “which is most profitable, rutabagas or beets?” There is no doubt but ordinarily more nutriment may be obtained from an acre in rutabagas or mangel wurtzels, than from an acre of corn. This does not settle the question “which pays best.” Corn is a much more concentrated form of food, adapted to different uses; both are excellent, and no stock farmer should neglect either crop. For milch cows, beets (either the French sugar, or the mangel wurzel,) are best; for other stock, rutabagas are equally good, and probably yield a greater amount of nutriment per acre. A variety of roots is always useful; sometimes the fly hurts the turnips while the beets escape; or a blight may attack the beets, and turnips escape injury. Avoid relying on one crop.

Clover Seed Hullers.—Many inquiries have been received at the *Agriculturist* office for information concerning the price of clover seed hullers, where they may be obtained, etc. We usually refer such parties to reliable agricultural warehouses, but it would be money in the pockets of the manufacturers of good machines, and a great saving of time to us, if they would properly advertise articles wanted by the public.

Highly Agricultural.—Among the prizes offered at an Agricultural and Horticultural Society held in one of the Eastern States this year, were two silver cups for the best rifle shooting!—An extra entrance fee of 25 cents was charged for admission to this part of the performances.

Costly Rabbits.—A suit has recently been decided in England awarding \$500 damages to a tenant for injuries to his crops by the landlord's rabbits. They gnawed through the dividing hedge and destroyed the wheat and vetch crop to that amount. The decision is regarded as an important one to those rentieng lands where the game laws prevent entrapping or shooting game, even on leased premises, except by special license.

Toads in Market.—Live toads form a regular article of commerce in the London Market. They are generally imported from France, and sell for from 50 cents to \$1 50 per dozen, according to size and activity. They are purchased by market gardeners in the vicinity of the city, to protect their choice vegetables from slugs and insects, which they do very effectually.

Weeping Willows not Hardy at the North.—“S. T.,” Waldo Co., Me. The weeping willow, when well grown, is a very beautiful drooping tree, but can not be relied upon in your northern climate. It often winter-kills in latitude 42°, on the Atlantic coast.

Elm Trees and other Vegetation.—A subscriber in Boston, Mass., says that he has been advised to cut down his elm trees, as they will destroy all his flowering shrubs, etc.—The Elm makes a dense shade and its abundant surface roots extend to some distance.—Shade is not generally favorable to flowering shrubs, and but one set of roots can well occupy the same soil. Beyond the extent of these influences, the elms can not exercise any prejudicial effect, that we know of.

Fruit from Iowa.—Wesley Redhead, Esq., Pres. of the Des Moines Horticultural Society, brings us some specimens to show that fruit can be grown in Iowa. We certainly never saw finer Rhode-Island Greenings, Lyman Pound Sweet was of very large size, and Bolmar's Washington Plum of excellent quality. Mr. R. informs us that Mr. Smith, one of his neighbors, and the oldest tree cultivator in the vicinity, has about 4000 bushels of apples which will bring him from \$1 50 to \$2 per bushel. The Diana Grape has done well this season, but the Concord is the most successful variety.

Pears for New-York Market.—J. S. Fisher, Niagara Co., N. Y. The Bartlett pear always sells readily in this market, at high prices, if well grown, and received here in good condition. They brought \$12 to \$25 per bbl. the past season. The White Doyenné, (Virgalien) is a good pear to raise in localities where it does well. It will probably grow fair with you, and is a high priced, well-known pear. There are many other excellent pears, but they have less reputation in this market—the Seckel excepted. The Louise Bonne is not a favorite in this market. Better set mostly standards.

Large Flemish Beauty Pears.—E. W. Hewitt, of Astoria, L. I., placed on our exhibition tables two very fine Flemish Beauty pears, the product of a dwarf tree which bore this season for the first time. They measured one foot in circumference, and weighed 17 and 17½ ounces respectively. The trees were highly manured from the pig pen.

Cranberries in Canada.—A reader of the *Agriculturist* in Tavistock, C. W., asks if cranberries will do well there. They doubtless will—as they thrive in Michigan, and the difference of climate is not great.

Raspberries Killed in Iowa.—Ada Martin, Clark Co., Iowa. You have too tender sorts. The Hudson River Antwerp, and Belle de Fontenay, are probably the best to stand your severe winters. All raspberry canes are better for being covered in Winter. Bend down and cover with a little earth.

When to Set Grape Vines.—J. Camp, Westchester Co., N. Y. Early Fall, soon after the leaves have fallen, is a good time for setting hardy grape vines. The ground is usually sufficiently moist, and the roots will often push out fibres before Winter, and in Spring be ready for an early start. Besides, there is more leisure in Autumn, and the transplanting can be more carefully done.

Fruit Pictures.—Among the many interesting articles on Exhibition at the *Agriculturist* office, special mention should be made of a series of twelve oil paintings representing the fruits ripening during the successive months of the year. They were copied from specimens shown from time to time upon our Exhibition Tables, and were well executed. They were painted by Miss Anne Newberry, of Brooklyn, N. Y., a young lady who gives promise of great excellence in this pleasing department of the fine arts.

White Lilies.—Ada Martin, Clarke Co., Iowa. These are hardy in much colder latitudes than that of N. Y. We have no doubt that they would live without protection; but some litter thrown over the surface ought to make them safe. If you prefer to take them up, do so after the leaves are killed and before the ground freezes, and put them in earth in the cellar.

Plans for Farm Houses.—“W. C. V.,” Jefferson Co., Ind., sends to the *Agriculturist* a plan for a one story cottage—good in many of its details, but faulty in others. There are five rooms, and five outside doors, all opening directly into the rooms. There are two porches or small verandahs. One broad piazza or verandah would be preferable and would in Summer be almost like another room. There are only two closets—there should be many. There is no provision for wood-house, wash room, etc. There are three chimneys, two of which are in outside walls. Chimneys should be in inside walls so as to retain the heat in the house. Two outside doors are usually enough for any small house, and they should if possible open into entries or halls in which the stair-cases may be placed, and much room saved. In general, study to have as little outside wall as is compatible with convenience.

Round Flued Chimneys.—“W. C. V.,” Jefferson Co., Ind., constructs his chimneys with round flues. Setting a joint of 9 inch stovepipe as a mold, he builds, filling in around it with mortar, brick, or stone and then drawing up the pipe as the wall progresses.

Salting Beef.—George A. Lowell, Washington Co., Me., inquires for directions for salting beef in the Fall so that it may not spoil by the following June, and yet not have it too salt and hard to be palatable. Will those having successful experience, please communicate their methods for the general benefit.

An Ingenious Swindle.—The Yankees are generally supposed to be the cutest swindlers, but the following shows that some other nations are not far behind. At a show of implements in England there was a trial of steam engines, and one rough little portable machine surprised every one by apparently doing the most work with the least fuel. The fireman was shoveling in only old cinders and ashes, and yet the fire-box was full of flame. At last the secret was discovered. One of the fire tubes had been previously filled with grease, and plugged up with wood. As soon as the plug was consumed, a flood of combustible matter was added to the fire, which kept the engine running long after its due portion of coal had been consumed.

Silk from Utah.—Mr. O. Ursenbaeh De la Harpe, sends us a fine specimen of raw silk, raised by him at Great Salt Lake City. He thinks that the raising of silk will in time become an important branch of industry in Utah. Next year he proposes to feed a portion of his worms on knot-grass (*Polygonum aviculare*) which he says has been successfully used in Italy. We shall be glad to hear the result.

Fall Sown Fife Wheat.—A. E. B. Hall, Minnesota, requests some reader of the *American Agriculturist* to communicate an account of the results of sowing Fife wheat in the Fall.

Keeping Celery in Open Ground.—M. H. Wetherill gives the following as his plan: A trench is dug about two feet deep, from one to two feet wide, and as long as required. Two boards, one an inch or two wider than the other, are placed lengthwise of the trench, and on the ground, in a position to support the roofing; these are kept in place by pieces tacked on the ends. The roofing is made of boards sawed to a proper length to cover the frame crosswise and project an inch or two over each side. The celery is set up in the trench, commencing to pack at one end and crowding it close together. The boards are then put over, covered first with straw, and then with sufficient earth to prevent freezing. In removing for use, begin at one end, taking off a roof board at a time, and fill up the trench with the straw as the celery is removed.

Japan Melon Seed.—We have several inquiries for this seed, but have no stock from which to supply the demand. It is for sale by Thorburn, by Lane, and, we suppose, by other dealers in seeds.

New Zealand Spinach.—Fine specimens from the garden of Wm. Shaw of Staten Island, were exhibited at the office of the *Agriculturist*. It is quite distinct from the common Spinach, and is regarded as a delicious vegetable. It grows very luxuriantly, its trailing branches spreading over the ground for a distance of 3 feet or more in every direction, and furnishes a supply of fine succulent leaves during the hottest weather.

Large Cucumber.—T. J. Carleton, Hampden Co., Mass., has placed upon our exhibition tables a cucumber—variety not known—13½ inches long, 15 inches in circumference, and which weighs 5 lbs. 3 ounces!

Propagating the Yucca.—G. Wolf Holstein, Lawrence Co., Pa. This is usually propagated by separating the offsets or suckers which are thrown up abundantly. It may also be grown from seed.

The Hermosa Rose.—"M. M. T.," Pendleton, Indiana. All the Bourbon roses flower better for some protection, even the hardier ones. We can not tell how this variety would do in your particular locality. If in doubt, tie it up in straw and bank earth around it, or put it in a pot or tub, and winter it in the cellar.

Evergreens for Shelter.—"H. E. P.," New-Jersey. Red Cedar, Arbor Vitæ, or Norway Spruce, will each of them make a good shelter to your garden. They will take several years to grow, and a close board fence will give you the needed shelter at once.

A Word from a Laborer.—J. W. John, Woodford Co., Ill., objects to the plan proposed by a writer in our columns, for securing faithfulness in laborers by requiring all seeking employment to produce a certificate of good character from their previous places, before engaging them. He says there are as many dishonest masters as servants, and such an arrangement would give the former an undue advantage. There is undoubtedly some truth in this view, but it would be difficult for a man known to be untrustworthy, to deprive a laborer of his good name by refusing him a certificate; while the possession of such a document is usually beneficial to a person seeking an engagement.

Walnut vs. Oak.—A subscriber in Niagara Co., N. Y., writes: "Black-walnut stumps last longer in the ground than oak. I can not say about posts. I have replaced one of walnut which has stood 17 years."

English Ivy in Illinois.—"Bay," of Madison Co., says that the Ivy will flourish in that State in a northern or, preferably, in a western exposure.

Camellias.—Chas. Edsall, Orange Co., N. Y., asks how to propagate and treat Japonicas. The name of this plant is *Camellia Japonica*, and it is better to call it *Camellia*, as *Japonica* is used as a specific name for many other things, and has no definiteness. It is hardly practicable to propagate them without a green-house. The double sorts are grafted on the quicker-growing single kinds. The stocks are propagated from cuttings, which root very slowly. The plants require a light soil, with a good share of vegetable matter. Peaty earth mixed with sand or earth from sods which have been decomposed, will answer. The great difficulty in the cul-

ture of the *Camellia* in rooms, is the dryness of the atmosphere and the uncertain temperature. They should be in a room where the temperature never falls below 45°, or gets higher than 70°. Occasional washing of the leaves will contribute much to the health of the plant. We have had them flower finely when kept in a room where there was no fire, removing them at night to a warmer room when there appeared to be danger of frost.

G. Wolf Holstein, Lawrence Co., Pa. *Camellias* can be raised from the seed, but it is a very slow process, and is not to be recommended unless you have plenty of room and a taste for uncertain experiments. You may raise hundreds, and when after some years of waiting they come into flower, there may not be one worth growing.

Vinegar from Apple Pomace.—It is worth remembering that after thorough pressing, the pomace still contains much sugar, which we may extract and make into good and salable vinegar. Wet up the pomace with as much water as it will hold, adding more from time to time until the mass becomes pulpy and well swelled out. Press it and let the extracted liquid ferment. When the alcoholic fermentation has taken place to a considerable extent, the cider may be poured so as to trickle slowly through some pomace mixed with straw and placed in a hoghead with holes in the bottom. This will promote the acetic (vinegar) fermentation, and besides it will add to the strength of the vinegar each time it is poured through the pomace.

Bark Louse—Another Remedy.—Wm. H. Washburn, Maine, writes that he has successfully treated his trees in the following manner: He makes a wash of 4 gallons of water, 3 pints of soft soap, 1 lb. of sulphur, 1 pint of salt, and 3 or 4 lbs. of lime, and enough clay to make the mixture as thick as cream. When vegetation begins to start in the Spring, the trees are thoroughly scraped, and the mixture applied by means of a brush (stirring occasionally), to the trunk and limbs. He says that two years of this treatment have completely freed him from the annoyance.

Silkworms' Eggs.—Will the lady who sent us some eggs last Spring, have the kindness to send us her address, if she will have more to dispose of?

Keeping Cider Sweet.—T. F. Boyd, Orange Co., N. Y., and others. Sulphite (not sulphate) of lime is used to arrest the fermentation of cider or to prevent it altogether. We have no experience in its use. It is sold by druggists with directions.

Michigan Agr'l. College Lands.—We learn from the Hon. Justus Gage, of the State Board of Agriculture of Michigan, that the State has accepted the land grant, and that a Commissioner has been appointed to locate the 240,000 acres donated to that State for Agricultural College purposes.

Salt Meats for Army Use.—The Government has purchased in the city of New York for the use of the army, within the year ending October 31st, 7,349 barrels of mess beef, 42,258 barrels extra mess, in all 49,637 barrels of salt beef. Pork, 86,449 barrels mess, and 87,028 barrels prime mess, in all 173,477 barrels of salt pork—besides, 5,836,258 pounds of side bacon, 1,805,068 pounds of shoulders, and 1,697,277 pounds of hams, making a total of 9,338,603 pounds of cut meats; and of pork in all forms no less than 44,034,003 pounds. These figures are from official sources.

Salting and Packing Pork.—[The following is from one whom we looked up to as a good farmer, at the then West, some thirty-five years ago. His penmanship shows that more than forty, perhaps fifty years of active labor on the farm have not dimmed his eye, nor stiffened his muscles, nor rendered his nerves unsteady.—Ed.]—"A subscriber wishes to know through the *Agriculturist* the best method of salting pork." I will tell you my mode, after an experience of 40 years. "Follow the hogs to cool after killing, take out the bows; [ribs and spine] cut off the hams and shoulders; then cut the side pork into strips of convenient width; put a quantity of salt in the bottom of the cask; then put in a course of meat, laying the pieces on the edges; then a covering of salt; then another course of meat, and so on until the cask is full. The whole is carefully kept covered with brine as strong as boiling water and salt will make, skimming the boiling brine so long as anything rises. The brine is put on cold, and I am careful to know that there is always undissolved salt in the barrel. It is not found necessary to scald the brine in Spring. I sometimes use saltpetre, and sometimes not. Hams and shoulders are salted in separate casks. I know of no reliable method of cleansing tainted casks, and would not take a wagon load as a gift, for storing meat."

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed on our tables since our last report:

Fruits.—Apples: Fine collection from Andre Leroy, Angers, France....Duchess, a fine new seedling; C. H. Rogers, Stonyville, N. Y....York Pippin and King; Sutphin Chadwick, West Washington Market, New-York....Gloria Russet; Richard Weeks, Lakeland, L. I....Roxbury Russet; Mr. Livingston, Fort Lee, N. J....Pompey; E. Williams, Mont Clair, N. J....Gloria Mundi; Mr. Devoc, Morrisania, N. Y....Lynn Pumpkin Sweet and R. I. Greening; Wesley Redhead, Fort des Moines, Iowa....Collection of Crab Apples; E. Frost & Son, Rochester, N. Y....Trumbull's Sweeting and Higby's Sweet; H. K. Hapgood, Warren, O....Alexander, very fine; Daniel Ball, Perry Center, N. Y....Pound Sweet; E. Williams, Mont Clair, N. J....Fine collection presented by Solon Robinson, from James Smith, Des Moines, Iowa....Crab Apples; Ambrose Baldwin, Gerard, Mich., by Solon Robinson....Collection of Apples: S. A. Tabor, Vassalboro, Me....Save-well; Jesse Ryder, Sing Sing, N. Y....Newtown Pippin of 1862; A. P. Cummings, N. Y....Sheep Apple and Apple for name; Mr. Van Brunt, Fort Hamilton, N. Y....Maiden's Blush; J. D. Van Namee, South-st., N. Y....Twenty-oz. Pippin, grown by P. M. Browning, Clatham Four Corners; O. F. Browning....Orange. Baldwin, Hawthornden, Granny Winkle, Cheesboro Russet, and specimen for name; E. Williams, Mont Clair, N. J....Pears: Fine Collection of varieties; Andre Leroy, Angers, France....Duchesse d'Angouleme, 19 oz.; C. A. Fuller, 36 Warren-st., New-York....Flemish Beauty, very large; E. W. Hewitt, New-York City....Beurre Clairgeau, Duchesse, Baked fruit, and one for name; E. Williams, Mont Clair, N. J....Striped Virgalieu; Mr. Van Brunt, Fort Hamilton, N. Y....Seckel, 5 oz.; W. Kendall, Cold Spring, N. Y....Seckel, 5½ oz.; Jacques Van Brunt, Fort Hamilton, N. Y....Louise Bonne de Jersey; C. Smith, Morrisania, N. Y....Seedlings; Jas. M. Hannah, Salem, N. J., by Solon Robinson, New-York....Oswego, Beurre Diel, Bezi de Montigny, Urbaniste, Seckel, Alexander, Flemish Beauty, Louis Bonne de Jersey, Ganselles Bergamot; G. Zimmerman, Pine Hill Nurseries, near Buffalo, N. Y....Beurre Bosc and specimen for name; A. A. Leverich, Bowronville, L. I....Fine Duchesse from tree 18 months old; S. R. Trembley, Bergen Point, N. J....Duchesse; Wesley Redhead, Fort des Moines, Iowa....Branch of George IV., very full; Dr. Sanford, Ravenswood, N. Y....Peaches: Seedling; Mr. Howard, Brooklyn, N. Y....Specimen for name; S. R. Howland, Brooklyn, N. Y....Crawford's Late; C. A. Fuller, 36 Warren-st., N. Y....Branch in bearing; S. R. Trembley, Bergen Point, N. J....Seedling from Melocoton, fine; R. B. Dore, 263 West 15th-st., N. Y....Crawford's Late, Melocoton, R. & J. L. Burroughs, Woodville, N. J....Smock; Sutphin Chadwick, West Washington Market, New-York....Grapes: Diana, Delaware, Isabella, Concord, Clinton, Rolander (foreign grown out of doors); G. Zimmerman, Pine Hill Nurseries, near Buffalo, N. Y....Taylor's Bullitt, Diana, Anna, Concord; E. Williams, Mont Clair, N. J....Hartford Prolific, Isabella, and Catawba; J. A. B. Paradise, Jersey City, N. J....Seedlings; Jas. M. Hannah, Salem, N. J., by Solon Robinson, New York City....Fine cluster; Mr. Dater, Harlem, N. Y....Other Fruits: Apple Quinces; A. A. Leverich, Bowronville, L. I....Belle de Fontenay Raspberries; Moses Baker, Lyon's Farm, N. J....Australian Strawberry Plants in bearing—commenced fruiting June 15th; J. C. Haines, East New-York, L. I....Large Quince, 13 oz.; C. A. Fuller, 36 Warren-st., New-York....Double Musk Melon; John Chambers, Scarsdale, N. Y.

Flowers.—Lantasin variety, fine Dahlias; W. and J. Cranstoun, Hoboken, N. J....Night-blooming Cereus; George Stillwagon, Flushing, N. Y....Dahlias; E. L. Walton, Bergen Point, N. J., J. D. Hegeman, N. Y. City, Mr. Tremaine, Hudson City, N. J., and C. S. Pell, N. Y. Orphan Asylum....Balsams and Pancretium; W. & J. Cranstoun, Hoboken, N. J....Tom Thumb Coxcomb; L. Bodenberger, Williams Bridge, N. Y....Named Seedling Verbenas, very fine; Wm. Davison, Florist, Brooklyn, N. Y....Fine show of Cut Flowers; Mr. Kavanagh, Florist, Brooklyn, N. Y....Sunflower 44 inches in circumference; Mr. Miller, N. J....Dahlias and Tuberoses; Charles Hairs, New-York City....Passiflora Decaistne; A. P. Cummings, New-York City....Splendid Collection of Cut Flowers; Isaac Buchanan, Florist, West 17th-st., New-York....Dahlias; C. T. Crolee, Gardener to James Gordon Bennett, Fort Washington, N. Y....Fine Bouquet; Miss M. A. Cortelyou, Staten Island.

Vegetables.—Peach Blow and Bulkley's Seedling Potatoes; E. S. Allen, 102 Chambers-st., New-York....Curious Potato, "Japanese Tommy," G. M. Usher, Port Richmond, N. Y....New-Zealand Spinach, (*Tetragonia expansa*), Prince Albert Potatoes, very knobby, and fine Lima Beans; Wm. Shaw, Staten Island....Club Gourd, (63 inches long); James Angus, West Farms, N. Y....Chinese Egg Plant; Jaques D. Hegeman, New-York City....Purple Egg Plant, 4½ lbs.; Thos. Davenport, Passaic, N. J....White Flint Corn, J. J. Van Nostrand, Palisades, N. J....Mexican Peppers; Mr. Swain, Bronxville, N. Y....Scarlet-Runner Beans; W. W. Davis, Jersey City, N. J....California Tomato; J. B. Hunter, Tremont, N. Y....Wakefield Sweet Peppers, Egg Plant, Vegetable Marrow, Hybrid Squash, (Cuba and Valpa raiso), 147 lbs.; James McCabe, North Orange, N. J....Seed Chinese Potato; G. M. Usher, Port Richmond, N. Y....Prince Albert Potato; Walter Keeler, North Salem, N. Y....Peach-Blow Potatoes; James Lyon, Nyack, N. Y....Purple Egg Plant and Vegetable Eggs, J. L. Miller, Richmond, N. Y....California Tomato, 1 lb. 11 oz.; L. A. Berte, Tremont, N. Y....Club Gourd, W. W. Woodward, Brooklyn, N. Y....Crook-necked Squashes and Orange Beet; Jesse W. Perkins, Gardener to St. Joseph's Hospital, New-York City....Large Radish, 3 lbs.; John Bullock, Bay Ridge, N. Y.

Miscellaneous Articles.—A series of 12 beautiful oil paintings representing fruits in season each month. Miss Anne Newberry, Brooklyn, N. Y....Specimen of Saginaw Salt; Mr. Smith, East Saginaw, Mich....Specimen of Cotton; J. S. Meeker, Piscataway, N. J....Fruit of Osage Orange; Mr. Van Brunt, Fort Hamilton, N. Y....Same weighing 26 oz.; J. B. Tindall, Yonkers, N. Y.

Gold up—Effects upon Farmers.

At the time of this writing (Oct. 14th.) the Wall street bulletins mark gold at 154, and upward, and exchange on London 169½. That is, it takes \$154 of the general Legal Currency of the country to buy one hundred gold coins that were formerly reckoned as dollars, and a little more to buy a draft on London payable in gold dollars or sovereigns. [The peculiar style of reckoning the nominal par of exchange at about 110, or 10 per cent. above the real par, (or \$4.44 to the Pound Sterling,) accounts for the apparent discrepancy between the quotation of gold, and that of exchange. Ten per cent added to 154, makes very nearly 169½. The difference between gold here and in London is generally only ½ to 1 per cent., which pays the cost of shipping it from one place to the other.] Merchandise imported from abroad is paid for in gold, or in Exchange bills drawn against gold, or against flour, grain, meats, lard, tallow, cheese, etc., exported from here.

The effects of a rise in the market value of gold, upon the prices of farm products, are readily seen. Owing to abundant crops abroad, breadstuffs are not now in great demand there. England imports an equivalent to 25,000,000 to 40,000,000 bushels of wheat, even in the best years, buying it where it can be most cheaply obtained—on the European Continent, or in America. This year we have to compete with considerable supplies from the Baltic, the Danube, etc., whence it can be obtained at prices nominally cheaper than here. But the greater relative value of gold, and consequently of Exchange, makes it more profitable to buy breadstuffs and provisions from us. To illustrate: Suppose wheat to be worth \$1.20 per bushel in London. A merchant in New York wishing to pay for a bill of goods in London, amounting to \$6000, can do so with 5,000 bushels of wheat delivered there, or with a bill of exchange, which at 154, (the price of gold), will cost him here, \$9,240 in currency. He could then just as well pay this sum for the 5,000 bushels of wheat (about \$1.85 per bushel,) and send that—or say \$1.65 per bushel, allowing 20 cents extra per bushel for sending it. All that he can save by buying below \$1.65, will be clear profit. If, on the contrary, gold were down to par, he could pay only \$1.00 per bushel for the wheat. The same is the case with all other exportable products—corn, wool, provisions, etc. (The transactions are generally carried on by several parties, thus: The exporter ships his articles and draws bills of exchange against them, payable in 60 days or thereabouts. The foreign exchange dealers buy these bills, less interest and profit, and sell them to the importers who send them over to pay for their goods. There is a mutual system, by which a bill drawn against shipments to Liverpool, for example, can be used in payment for manufacturers' wares in any part of Europe, and even for teas and silks bought in China.)

But the chief fact we desire to illustrate, is, that any advance in the relative value of gold increases the sale of exportable farm products, and sends up the prices. The higher price of these increases the prices of other products. The cost of transporting products from the interior to the seaboard is nearly uniform, so that any advance experienced here, is felt throughout the country. We are not arguing that gold at 154 indicates a healthy financial condition of the country as a whole; we are merely stating that it is specially advantageous to those who raise any kind of farm products to sell. "But"

says the farmer, "the same causes which carry up the prices of my products also increase in the same ratio the cost of what I have to purchase." This is in part true; but it is to be noted that only a small part of the proceeds of his wheat, corn, wool, butter, etc., are used in paying for imported goods of any kind—cloths, silks, etc. Nine out of ten farmers are in debt for land, for stock, for implements, and for store bills. The legal currency they receive for their products, will cancel these debts, dollar for dollar. And right here is the "moral" or practical lesson we are endeavoring to impress upon every farmer who reads the *American Agriculturist*, viz: that now is the time to economize and get out of debt. Money is plenty, and the temptation is to run into extravagance in dress, in furniture, and in living generally. Better use every possible dollar in cancelling old debts. Let the purchase of luxuries or mere conveniences in dress, furniture, etc., be deferred until these things come down to the gold standard—at least if there is a dollar due to any body that will take it now. *When Gold is "up," SELL all you can, and BUY the least possible.*

Going to the Post Office to Buy a Farm.

Judging from the letters and queries received, there are now more buyers than sellers of farms. It is difficult to answer judiciously, the frequent inquiry, "where shall I locate?" for much depends upon personal circumstances—habits, family, previous experience, etc. A young man, of vigorous constitution, with but a small, healthy family, and his children yet in infancy, may well strike for the cheap lands of the West. There he can grow up with the country. Schools and good society will come in by the time his children are ready for them. With good morals, and good working habits, the chances of success are very favorable. The mid-western States are peopled by well-to-do families whose heads are the enterprising young men and women of the above class, that swarmed from the Eastern lives, fifteen to thirty years ago. They are now the respectable citizens, honored and looked up to—the real "bone and sinew" of the land. Other considerations must decide the question for those more advanced in life, and having larger families. These will be discussed from time to time in the columns of the *American Agriculturist*. Allow us to introduce here an extract in point, from the letter of an old reader, whose long observation of men and things gives weight to his opinions:

"...My friend S., is about to buy a farm. He has fixed upon three localities which appear alike, as respects soil, nearness of market, etc. I tell him that if other things are equal, he must go to the Post Office and let the books there decide the question. The place to settle is where he finds the most letters sent and received, and the most papers taken, especially those treating of the business of the place, for there he will find the most wide-awake enterprising people, those on the lookout for information from every possible source. There he will have the benefit of the example and experience of neighbors who are getting and putting into practice new ideas. There his boys will grow up among intelligent thinking men.... Your books, Mr. Editor, will show that I have been acting upon this idea. I have been constantly drumming it into people. Eight years ago I sent you only one name, then six, then twenty-four, then sixty-five, then ninety-eight, which comprises nearly every family of my acquaintance. I have asked no premium for these names, for I have been more than paid by seeing the awakened spirit of inquiry, the improvements going on, the better culture and management introduced. This has resulted not so much, perhaps, from following any specific instructions of your paper,

as from the indirect hints and suggestions, and the spirit of improvement awakened. I have no doubt that from this cause alone, our farms are worth ten dollars an acre more than they would be, had we had no agricultural paper,—that is, a hundred thousand dollars, on the ten thousand acres owned by your hundred readers here.—I shall keep on doing as I have, and advise every farmer to try to improve himself, his farm and his neighborhood, by acting as self-appointed agent for some reliable agricultural paper—I care not what one, if a good one."

Discussions at the Fruit Growers' Meeting.

The New York Fruit Growers' Society have met regularly every Thursday at 1 P.M., during the month since our last report. We have only space for a brief report of the meeting of Oct. 15, which was large and spirited. After the ordinary routine business of examining and naming, so far as possible, the various fruits on the table, grapes were taken up. The Isabella came in for a large share of malediction. Mr. Field remarked that it never was a suitable out-door grape, and would not ripen unless it received some kind of protection. In some sheltered situations like those of Dr. Underhill on the Hudson, it did tolerably well for a few years. He instanced the attempts of various individuals, who from reports of Dr. U's success, planted from 7 to 15 acres of vineyard with this variety. In no case was it a success.

Solon Robinson was particularly severe on the Isabella. He considered that the introduction of this sort had been a great curse to grape growing, as it nearly always failed to give satisfaction. The reputed success of Dr. Underhill with the Isabella was an injury to the grape growing cause, as it operated to the great discouragement of those who planted this fruit, many of whom in their disappointment turned against the culture of all grapes. Even the grapes sent to market by the Doctor are sour enough to make a pig squeal. They were heralded the country over as superior grapes. This kept up the demand for vines, from the sale of which the Doctor made more money than from the sale of fruit.

Mr. Judd replied, if the Isabella be dead and buried, "say naught but good of the dead;" the Isabella has served a good purpose; without it, during his youth, and early manhood indeed, he would have had no grapes at all. The question now was, "what shall we plant instead?" He recommended a variety ripening in succession. See List in Basket Items, page 325.

Mr. Fuller alluded to the new seedlings already out, and others soon to be offered, and said he should be somewhat cautious of seedlings from the Isabella and Catawba, as already the faults of the parents have developed themselves in the offspring. All the seedlings of the Isabella, and he considered the Adirondac as one of them, were subject to the mildew, which destroys the vitality of the leaf, and then it falls before the fruit is ripened, while the rot of the Catawba develops itself in the Diana, Anna, and other seedlings of the Catawba.

Mr. Carpenter cautioned all against planting Delawares close to a fence, as he had seen the foliage nearly burned up in such situations. He was pleased with the Anna, as out of 15 kinds, this and the Rebecca were the only sorts entirely free from rot.

Mr. Field thinks we should always be cautious about going into the extensive culture of new sorts, as Adirondac, Iona, Israella, etc., which had been tested in but few localities, mainly by those interested in selling plants.

Mr. Pollock, of Morrisania, showed two samples of Native Vines, which were the simple juice of perfectly ripe grapes. He used most of Concord, a considerable quantity of Catawbas, and a few Isabellas, for he could get but few perfectly ripe berries of the last. The grapes are allowed to remain till over ripe, even till touched by frost; the berries are picked from the stems, mashed in a tub, covered, fermentation allowed till the skins and pulps rise in a mass to the top of the liquid. This is then drawn off, and set to ferment in barrels by itself, while the rest is subjected to pressure, and forms a less valuable sort of wine. The fermentation goes on at the lowest practicable temperature, the air being perfectly excluded. The wine showed, was of 1862 and 1848. The latter was by far the best, and of excellent character, entirely free from anything like foxiness, or the harsh acidity common to the wines of this latitude, from the above named grapes. Mr. P. has about 2,000 vines of various kinds, on a stony side hill trenched 2 feet deep, standing 2½ feet apart each way, trained to stakes, one cane only being allowed to grow. He particularly insisted upon the view that true wine cannot be made, it must grow; that is, it must be the fermented juice of ripe grapes without addition of any kind—in which he is quite right. The Isabella alone will not, in his experience, yield a wine fit to drink. The Concord yields a very good wine, but he prefers a mixture of several kinds,



A MODERN AGRICULTURAL FAIR.

Sketched and Engraved for the American Agriculturist.

Our humorous artist has fairly "taken off" not a few so-called Agricultural Fairs held during this and previous years. Any apparent exaggeration is only due to his reach of vision into the future, where the exact scene will soon be found, if things in this line go on as they have been progressing for a few years past. Time was when an Agricultural Exhibition meant a sampling of the farmer's best productions for the year, with an attendance of men and women who came to learn as well as to enjoy. Some such gatherings we have visited where instruction abounded. High bred cattle and sheep were eloquent in encouragement of enterprise and perseverance in improving farm stock; plethoric swine with melodious gruntings told of careful breeding and well filled troughs; shining samples of grain testified to the benefits of subsoiling and underdraining; and luscious fruits and gorgeous flowers discoursed poetry that all could appreciate. The influence of the scene opened every heart, social feeling had full flow, and all rejoiced in the farmers' festival. It was an evil hour that suggested the introduction of the race-track to increase the attractions of the Agricultural Exhibition. Of the additional numbers brought in, but few were of a class to render the gathering more attractive. The patronage of "horse" men and fast women but poorly repaid for the loss of the respect of the better classes, and there was a speedy falling off, both of attractiveness in the Exhibition, and of the numbers in attendance, and in many societies the annual gatherings have become disgraceful failures. In some cases the managers perceived the drift of the current in time to stay it, and we believe that without exception, where the race-track has been excluded, and proper efforts have been made to promote the legitimate ends of the exhibition, there has been continually increasing prosperity. We may instance the Exhibitions of the New-York State Agricultural Society as compared with those of her sister State, New-Jersey; the former with-

out the races, was a matter of pride to the agricultural community and of gratification to the managers; the latter in spite of the race-track (rather because of it) a failure, which we trust will never be repeated. But further comment is unnecessary: if the facts noted are insufficient to convince the managers of failing associations, of the necessity for a change of policy, we commend the above engraving to their careful study, particularly those in Connecticut who this year actually introduced an ox-race as one of the attractive features.

The New-York State Fair.

We condense the following from the copious notes of one of our editorial associates at this Fair, which opened just as the last number of the *Agriculturist* went to press:—"The exhibition as a whole has been a success, the receipts above expenses, and larger than the previous year.

IMPLEMENTS.—In some departments, the entries were below the average, though lack in quantity was made up in quality. In farm implements and general machinery, there was a creditable display. Plows, harrows, mowers, and reapers, hay spreaders, and elevators, separators, patent bee-hives, pumps, well-curb, and various machinery for raising water, churns and cheese-vats, abounded in numerous varieties, each better than the other! The steam plow was not on hand. The horse hay-spreader, resembling somewhat a mammoth grass-hopper, attracted much attention. It has six forks worked on crooked shafts, like the arms of a man, which paddle over and over, and catching up the hay, flit it behind in a finely divided condition. This must prove a great saving of time and labor, and is a fit companion of the horse rake. A manufactory for turning out these implements, is soon to be established in central New-York.

DAIRY AND HOUSEHOLD.—In butter, and particularly cheese, the show was good. In hard-

ware, including stoves and furnaces, the articles were chiefly from Utica and neighborhood. In the domestic hall, sewing machines, silver ware, needle work, specimens of penmanship, photography, pianos, saddlery, stuffed birds, coal oil, shell work, wax work, paints, ornamental iron work, Duryea's maizena and starch, domestic wines, fans, boots and shoes were mixed up in delightful order. Here too, was a novel scene; three elderly ladies were seated on a side platform, spinning flax on ancient spinning wheels, after the manner of our grandmothers. These spinners belonged to some of the most respectable families in Saratoga County.

ANIMALS.—The show of stock, though not large, was of superior merit. Ayrshires, Durhams, Devons, Short-Horns, Herefords, and Alderneys, were well represented. The Herefords of Hon. Erastus Corning, of Albany, struck us as remarkably fine. In sheep, we observed Spanish Merinos, full blooded Silesians and their crosses, South Downs, Shropshires and Leicesters. A few Cashmere goats were exhibited. In swine and poultry, Jefferson County alone outdid the rest of the State. The horse department was never better filled, in matched and single, in trained saddle horses, stallions, and mules. One of Secretary Seward's Arabians attracted much curiosity. A noted horse-tamer, "Professor" Rockwell, drew a crowd to the track several times during the fair, by his feats of driving a team of high-spirited horses without bridle, reins, or breeching, controlling his horses solely by voice and whip.

In **FRUITS AND FLOWERS**, the show was creditable, though not large. The pears, plums, nectarines, and grapes, from Ellwanger & Barry, Rochester, were a marked feature. Mr. Smith, of Syracuse, was only a little behind the former. Dr. Underhill of Croton Point, had a fine show of grapes, as did the Pleasant Valley Co. of Hammondspoint, Mr. Sylvester of Lyons, Mr. Brehm of Waterloo, and others. Not to be forgotten, was the show of Adirondac grapes,

by Mr. Bailey, of Plattsburgh, not fully ripe, but considerably in advance of the Dianas, Concord, and Isabellas grown in the same garden. The quality, as judged by these specimens two thirds ripe, was very good. Several of Rogers' Hybrids were exhibited, but only one of them seemed thoroughly ripe. The floral display was below the average of State fairs. Yet the show of dahlias was excellent, and there were choice small collections of roses, verbenas, petunias, pansies, stocks, double zinnias, asters and gladioli. The indefatigable Mrs. Van Namee, of Pittstown, was on hand in full force, and contributed much to the fulness and richness of the exhibition.

DISCUSSIONS.—Each evening was devoted to the discussion of agricultural topics, at the City Hall. For the first evening, the subject was: "The most economical mode of supplying the surface soil with the mineral food of plants." For the second: "The best rotation of crops suited to the climatic conditions of the middle tier of counties in this State, on farms having at least eighty acres of good arable land." For the third evening, it was: "The best method of husbandry. The manures obtained from the method proposed, (rotation of crops, etc.,) and the best time of applying them to the several crops, the economy of the management in that respect, on the farms being the same." These subjects were discussed with spirit, and elicited many useful facts. On the whole, therefore, we put down the State Fair of 1863, as a good one.

The International Wheat Show.

The International Wheat Show held at Rochester as announced, did not bring out as large a representation from growers as the importance of the interest and liberality of the premiums, led its originators to expect. We learn from the Genesee Farmer, that there were but six entries for the prize of \$150 for the best 20 bushels of White Winter Wheat. The premium was equally divided between Isaac H. Anderson, of West Flamboro, C. W., and E. S. Hayward, Monroe Co., N. Y. The first exhibited a fine sample of Blue-Stem Wheat weighing 65 pounds per bushel; it was cut July 8th, and yielded 30 bushels per acre. The other parcel was a beautiful sample of Soule's Wheat. For the one hundred dollar prize for the best 20 bushels of Red Winter Wheat, but one lot was offered, by E. A. Hebard, of Canandaigua, N. Y. It was known as the Amber or White Mediterranean, was harvested July 15th, and weighed 62 lbs. per bushel. For the best two bushels of White Winter Wheat there were seven competitors, five of whom offered two-bushel samples of the same wheat as that entered for the twenty-bushel prizes. For the best two bushels of Red Winter Wheat there were three entries; and but one entry for Spring Wheat. Among the lots of White Winter Wheat offered, there was one of twenty bushels grown by Jacob Hinds, Orleans Co., N. Y. In April 1852 he received a sample of Red wheat from the Patent Office, which he thought a Spring variety, and sowed immediately in his garden. It came up and remained green until Fall, but did not head out. The next Spring it came rapidly forward, and early in July produced this white wheat.

It is to be hoped that further efforts will be made to awaken an interest among wheat growers, in the improvement of this first of staples, despite the poor success which seems to have attended the first trial. Perhaps more would enter the lists, were premiums offered previous

to putting in the crop; we should then be likely to learn something of what could be done by high cultivation.

The Fair of The American Institute.

Now that the Fair is a thing of the past, we feel disposed to indulge in a few reflections which may be considered by the managers before they attempt another Exhibition. In former days we used to visit the Annual Fair for the purpose of seeing whatever was new in the way of agricultural machines and implements, and were very sure to be gratified and instructed. This year we went to the Fair with the hope of finding something which would be of interest to our agricultural readers, but with the exception of a single model (with no one to explain it) we saw nothing novel. To be sure there were numerous agricultural implements, but they were things taken directly from the stock of dealers, and were evidently exhibited as an advertisement of their wares. Even these things would have had some interest to many, had they not been so huddled together that it was impossible to get a fair view of them. Those things which could only be judged of when in motion, were so crowded against others as to be motionless, and some articles were not even unpacked. The management excuse this crowding by saying that they had no room. After they had taken such an unsuitable building as the Academy of Music for their Fair, of course everything must be crowded and in confusion. The fruit show was in some respects fine. There were large collections from celebrated nurseries, and as an advertisement of these establishments it was good. We looked in vain for small collections of choice fruit from the hundreds of amateur cultivators around New-York. A stranger visiting the fair would suppose that we had no fruit growers in this vicinity, and that our friends from abroad had undertaken to show us what good fruit was. While we were glad to see these fine displays from cultivators living at a distance, we wondered where our own fruit growers were. The show of vegetables was remarkable—for its poverty. With the exception of a few squashes, potatoes, and onions, there was nothing that a corner grocer in his senses, would buy to retail to his customers. A lot of badly grown turnips, carrots, parsneps, and other roots made up the melancholy show of the Institute. The managers say that they had no room to enable them to invite a large collection of vegetables. If this was the case they should have made no show at all. We are glad for the sake of the exhibitors that they do not depend upon market gardening for a living. We regard this branch of horticulture as one of the greatest importance, and it is one in which every head of a family has an interest. In the vicinity of New-York, kitchen gardening is carried to great perfection, and we hold that a show of its products should be at least up to the average of what could be bought out of a New Jersey or Long Island farm wagon.

As it seems to fall mainly to the American Institute to foster the horticultural interests of this City, we hope measures will be taken another year, to bring out a fair representation of the horticultural products of this community.

HIGH PRICED SHEEP.—At the recent Exhibition of the Vermont State Agricultural Society, Mr. E. S. Stowell, of Cornwall, refused \$1400 for a ram; a farmer in Addison Co., disposed

of three rams at \$1000 each, and another individual in the same district is reported to have refused an offer of \$50,000 for his stock, 200 Merinos. We should say of this latter story as is often remarked concerning news from the South, "it lacks confirmation."

Packing Butter—Suggestions to Country Merchants.

Very large quantities of butter are received weekly in New-York, from country merchants who have taken it in barter for goods. Perhaps it would not be too much to say that the majority of butter sold at this port, for home consumption and for shipping, comes through these channels. From want of skill or of care in preparing it for market, the prices usually realized are far less than might be obtained. It is very unsatisfactory to producers to read in the published price-lists, "butter 23 to 27 cents per lb.," and then have only 15 to 20 cents offered in goods at the store; and they can not credit the statement of the merchant that he can only get that figure for what he sends to the city. Yet such is often the case, and for reasons which might be obviated, some of which are indicated in the following suggestions:—

It is unjust as well as bad policy to pay a uniform price for all butter brought in, as is customary with many dealers. No doubt it is not pleasant to tell a customer that his or her butter is worth less than some neighbor's, but if the same price be paid for all, it is in effect offering a premium on carelessness, and only a second rate article need be expected. It is essential that butter should be of uniform quality and color. To this end it should be sorted as received, and that of similar character packed together. Most of it will need working over to take out the buttermilk, which in "store butter" is usually from two to three per cent in weight. It should be put in the tubs or firkins at once, as soon as worked; and if there be not enough to fill the package, the top layer should be covered with a strong brine. When the package is full, the top should be made even and smooth, a clean piece of muslin, dipped in brine, be laid over it, and salt sprinkled on top of the cloth. The head of the firkin should not touch the butter. The actual weight of the firkin when empty should be plainly marked on the head—two pounds additional tare is allowed in this market for what the keg will soak. Nothing is gained ultimately by marking a false tare; the deception is sure to be discovered in time, and the dishonest party loses credit thereafter. The kind of vessel in which to forward butter to market, depends considerably upon distance from the city, and the time of year. Early in the season, for fresh butter intended for immediate use, or from sections near market, the half-firkin tub (the same as a firkin sawed in two), is generally preferred. Under other circumstances, kegs holding about 100 lbs. are best, and indeed these are almost always salable. For shipping abroad, or for keeping any length of time, none others will answer. The best size and shape are, 22 inches high, 16 inches diameter of bilge, and 12 inches diameter of head, outside measurement; well made of white oak, with smooth, round hickory hoops; the flat-hooped firkins of ash are not liked. No hole should be bored, nor plug put in the head or bottom. The firkins or tubs should be thoroughly soaked in brine, and the sides and bottom rubbed with fine dairy salt. Those who are receiving any considerable quan-

tity of butter, should have a cool well ventilated cellar in which to store it while awaiting a market. No fish, onions, or other strong flavored articles must be kept near it, as butter very soon absorbs any rank effluvia, and its quality is injured.

It is generally found most profitable to send butter forward regularly through the season, while it is fresh and sweet. This, however, will depend upon the rates of the price current. Western butter is the principal supply for shipment during the warm months, and it usually brings better prices than, than if held back until cold weather, when better grades are in market and Western is not so much sought after. In the Winter, store butter ordinarily sells at higher figures in the original rolls, with a clean piece of muslin wrapped around each, and nicely packed in barrels.

How to Pack Eggs for Market.

The following directions for preparing eggs for market were furnished to the *Agriculturist* by Messrs. Surfleet, Meadors & Co., Commission dealers in this city, to whom we are also indebted for some of the hints on forwarding butter, in another column. The profit of shipping eggs to market depends more upon proper packing than to any other circumstance, and it is important to know the best method:

Eggs skillfully packed are received from Ohio, Indiana, Illinois, Wisconsin and Minnesota, in good order, with but few if any broken, and sell more readily and at better prices than those from nearer, which are not so well handled. In the first place, it is a matter of great importance to procure *good sound barrels*, which will stand the usual hazards of transportation; those who make a business of shipping eggs have barrels made to order, strong and well hooped, rather larger than ordinary size, to hold about 75 to 80 dozen; 65 to 70 dozen is as many as can be well packed into an ordinary barrel.

Rye straw, cut into about half inch lengths, or wheat chaff, are more solid, are not so slippery, and are better than oats or any other article in which to pack. Oats as packing are objectionable for many reasons, and *except in extreme hot weather*, should not be used, if rye straw can be had. And even in extreme hot weather the straw would be sufficiently cool, and preferable for eggs shipped by express. Both shippers and buyers generally lose money on the oats; they are also much heavier than straw or chaff, and add considerable to the freight bill, which shippers would do well to consider; in fact those who ship largely and understand the business best, do not pack in oats. A mixture of wheat and chaff and cut rye straw is very much liked by dealers, and much used. Whatever is used should be perfectly clean and dry, to prevent spoiling the eggs by sweating.

Commence by putting two or three inches of packing in bottom of barrel; place the eggs on their sides with butt ends toward the staves and not nearer to sides of barrel than half an inch. Do not crowd them too close together, but separate by at least one eighth of an inch from each other in every direction. Sprinkle the cut straw or packing over the eggs, and rub it well into all the spaces; even off each layer with a circular piece of board or some proper leveller, made for that purpose, separating one layer from another, by about one inch of cut straw. Proceed in this manner with each layer until the barrel is full, when you heap cut straw on

the top, and while you press down the head with one hand rock the barrel backward and forward on end, which will settle the contents as much as they will be likely to. This rocking is particularly important, as the eggs settle into a position from which they will not shift during the whole journey. Fill up with packing, and press the head firmly into its place, and secure it. Be careful not to use too much power, as eggs are in that way often badly broken before leaving the shipper's hands. A lever generally acts with more force than a person thinks, and is not so good as a screw, which is more gradual in its pressure, and the effect more apparent; it also holds the head firmly in its place until fastened. A carpenter or person of any mechanical skill would know how to arrange uprights of proper height, with crossbeam and screw passing through, for this purpose.

Keep correct count and mark the actual contents plainly on the head. A good way is to first count out as many dozen as the barrel should hold, say 75 dozen into a basket or half barrel. A reputation for accurate count is greatly to the advantage of the shipper, besides saving much time and annoyance in correcting errors, and a shipper's marks soon become either favorably or unfavorably known to buyers.

It is usually advisable to make shipments by Express, especially in hot weather, as the extra cost of transportation is quite equalized by the eggs reaching market quicker, fresher, and in better condition, commanding better prices. There is no charge here for cartage on shipments by express, which of itself on small lots nearly saves the additional express charge. Always be sure that your eggs are fresh and sound when packed, as they are carefully examined here, and it is unprofitable to pay freight on rotten eggs.

Mummy Wheat.

In the *American Agriculturist* for September (page 261) we stated that no reliance could be placed on the story that wheat found in Egyptian mummy cases had been grown and the produce disseminated. In a recent number of the *Presse Scientifique des Deux Mondes* (France), is published a description of a series of experiments made by Figari-Bey, on wheat found in the ancient sepulchres of Egypt, and by him reported to the Institute of Alexandria. Two varieties of wheat were tried. The form of the grains had not been changed, but their color both within and without, had become reddish, as if they had been exposed to smoke. On being ground, they yielded a good deal of flour, but were harder than common wheat, and not very friable; the color of the flour was somewhat lighter than that of the outer envelope. Its taste was bitter and bituminous; and when thrown into fire, it emitted a slight but pungent smell. On being sown in moist ground, the grains became soft and swelled a little during the first four days; on the seventh day decomposition was apparent, and on the ninth day it was complete; no trace of germination could be discovered at any time. Both wheat and barley from several different sepulchres were tried with similar results, and the experimenter is of opinion that wheat hitherto reported as obtained from mummy wheat, had proceeded from grain accidentally contained in the mould in which the former was sown, or at any rate not from seed "more than two thousand years old."

During several years past we have from time to time received specimens of wheat, said to

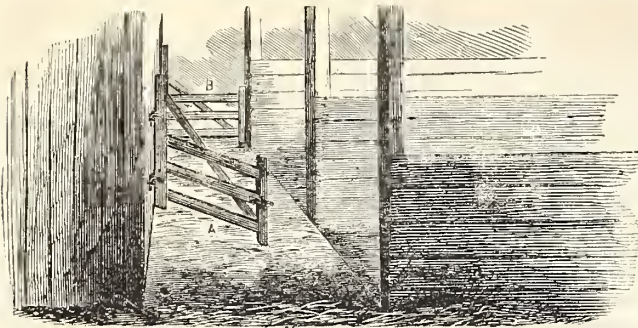
have been derived from mummies, and for which extraordinary qualities were claimed. Advertisements of such wheat have been sent to us, but of course declined, as we have no faith in any stories of the kind—manufactured as wanted.

Hints on Wheat Culture.

We gather the following from an address by Joseph Harris, Esq., of Rochester, N. Y., before the Monroe Agr. Society. He claims that wheat should continue to be the staple crop of the "Genesee Country," despite the midge, or the competition of the Great West. The remedy for the first, is found in high culture that shall make the crop sufficiently abundant to give a good yield per acre, after deducting the amount destroyed by insects; but more particularly bringing it to such early maturity that the midge has no opportunity to work among it. The Mediterranean wheat remains uninjured because of its earliness; if a white wheat ripening at the same time could be found, it would be worth millions of dollars to the country. Much has been said about the exhaustion of the soil, but as long as we can grow good crops of clover, the soil is capable of yielding good crops of wheat. So far as merely enriching the soil is concerned, it makes little difference whether we plow under the clover, or feed it to animals and apply the manure. If we plow in the clover instead of eating it off with sheep, we furnish the soil with a large amount of carbonaceous matter. But this carbonaceous matter is not needed for wheat. In fact, the wheat would usually be better without it, as it has a tendency to retard the ripening of the crop. It is probable that the immense quantity of clover which has been plowed under in Western New-York, has been one reason why the wheat crop has been injured so much by the midge.* Had the clover been eaten off the land by sheep, or made into hay and the manure returned to the land, the wheat would probably have ripened earlier and escaped the midge. It is desirable to see more wheat raised in that section during the next twenty years than at any former period, but it should be done by sowing *less land* instead of more. Plowing in clover has an undoubted tendency to produce an excessive growth of straw, and the use of poor manure will produce the same result. On rich land salt will check this tendency. In some experiments made recently on the farm of the Royal Agricultural Society in England, an unmanured plot of wheat produced 29 bushels per acre, and a plot dressed with 3 cwt. of common salt yielded 38½ bushels, or an increase of 9¼ bushels per acre. John Johnston of Seneca Co. thinks there is nothing better than salt for stiffening the straw. He sows a barrel per acre, just before sowing the wheat. Lime is also a splendid manure for producing plump heads of wheat and a stiff straw.

In regard to competition at the West, there need be little fear. Our soil is better adapted to wheat than most of the land in that region, and the freight is equivalent to a protective duty. In the production of beef, pork, mutton and wool the West has the advantage of us, and we shall be obliged to submit to a much keener competition in the production of these articles.

* It is doubtful whether farmers in Western N. Y. will agree with Mr. Harris. Our own experience in growing wheat in that region was decidedly in favor of turning under a good growth of clover, especially on moderately compact land. It both lightened the soil and furnished the nitrogenous elements, so useful to wheat. Let us hear from practical men.—ED.



Method of Fastening Cattle in Stalls.

The above illustration represents a plan for confining cattle in stalls, practised by B. Hathaway, Cass Co., Mich., who writes concerning it to the *Agriculturist*: "Some years since, in constructing quarters for my cattle, after considering the different plans in vogue for stalling, or fastening, I adopted that of tying; but I have never been wholly satisfied with the arrangement, any more than have my stock. Last Winter I gave my stables an overhauling, and have constructed stalls after a new plan, differing from anything I have ever seen, and, as I think, possessing some marked advantages over stanchion or rope, in simplicity, security, and comfort.

A stable best suited to this plan should be at least fifteen feet wide. The manger would occupy three feet, leaving twelve for the stalls; and another foot would not be thrown away. The stalls are formed of a permanent partition seven feet long, and a small gate hung at the side of the barn, on a line with the partition, which when shut, will complete the stall. These gates, made light, can be opened and shut in a moment. They should be hung so that when unfastened, they will swing back out of the way. There is left a clear passage for stock, or the removal of the manure, of some five feet.

With safe fastenings for the gates, that the cattle can not open, there is the utmost security from their injuring each other, and with three and a half to four feet of width of stall, they will feel abundantly the sense of liberty and comfort.

American Sheep in Europe.

At the Wool Growers' Convention held at Rutland, during the progress of the Vermont State Fair, Col. Daniel Needham, the delegate from Vermont to the International Exhibition of Hamburg, gave an interesting account of the successful competition of Mr. George Campbell's 12 Merinos with the best flocks of Europe, mention of which was made in the September *Agriculturist*. (We glean from a report in the *New-England Farmer*.) He said it required a considerable stock of presumption and confidence to sally out from a Green Mountain home, with sheep from the pastures of Vermont, to compete against those of the imperial flocks in France and the German States; and their forebodings were not rendered less unpleasant, when, on the outward passage, they were informed by intelligent German *connoisseurs*, that for the Americans to enter into such a competition, would be simply for them to roll in the mud, as a premium for their 12 little sheep would be entirely out of the question. However, having made the venture, it was not in Yankee nature to "back down." The Committee of awards consisted of 18 gentlemen, most of them noblemen, and all thoroughly competent judges. Despite the attempt of the German Press to forestall public sentiment against

the American sheep, the subcommittee of this body agreed upon bestowing two first premiums and one second premium upon them, and this award was subsequently ratified by the unanimous action of the general Committee. Mr. N. related that the time appointed for the examination of the sheep by the Committee, was 6 A. M., and that on going to the rendezvous at two minutes past that hour, he found that every man belonging to that body had already reported himself and entered upon his respective duties—an example of punctuality worthy of universal imitation. The 12 American sheep competed against 1,761 foreign sheep, 60 of which were contributed by the Emperor of the French, and were shown in a separate and costly enclosure. At the close of the exhibition, Count Sher Thoss purchased Mr. Campbell's little flock of 12 merinoes, for \$5000.

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Salt Needed by Sheep.

An English writer, Dr. Phipson, in a Prize Essay on common salt, relates that not many years ago a German Agriculturist, Uberacker, made the following experiments to determine the influence of salt upon his sheep, which were kept on low damp pasture land: Ten animals were selected, and their usual allowance of salt withheld. In the first year five of this number died of rot and worms, while among the remainder of the flock, numbering over four hundred, only four sheep were lost. The second year a new lot of ten sheep deprived of salt, lost seven, and a short time after the close of the year, the other three of the unsalted number died; the remainder of the flock lost only five. The third year was very rainy; sixteen sheep were deprived of salt, and the whole of them died of rot and vermicular pneumonia.

Improved Hay Knife.

Mr. Wm. S. Wilson, Mifflin Co., Pa., sends to the *American Agriculturist* a description of the hay knife illustrated in the accompanying engraving, which he thinks superior to those in general use. The cutting part is in fish-tail form, made of cast steel, 3-16ths inch thick, 2 inches broad at the top, tapering toward the points, and ground to an edge on the inner sides. The prongs are about 7 inches long, and spread about 6 inches at the points. The handle is a rod of 3/4 inch round iron, of convenient length, say 30 inches, neatly welded to the knife. It is bent outward at the top, to keep the hands from the edges of the hay, when cutting down a stack or mow, and furnished with a cross-piece, for convenience in handling it; or the iron rod itself may be turned to make a loop at the upper end. The horizontal bar, a short distance (about 18 inches) above the blade, is a foot-piece, by which the knife is driven into the hay with more force than could be done by the hand alone. This implement is not patented.

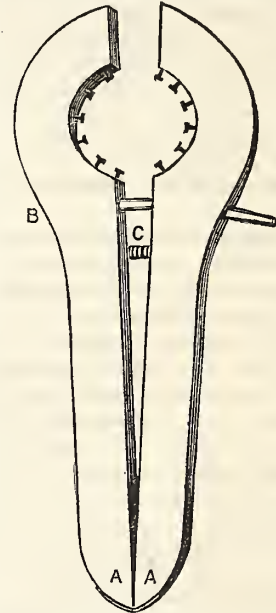


HAY KNIFE.

Mr. Wm. S. Wilson, Mifflin Co., Pa., sends to the *American Agriculturist* a description of the hay knife illustrated in the accompanying engraving, which he thinks superior to those in general use. The cutting part is in fish-tail form, made of cast steel, 3-16ths inch thick, 2 inches broad at the top, tapering toward the points, and ground to an edge on the inner sides. The prongs are about 7 inches long, and spread about 6 inches at the points. The handle is a rod of 3/4 inch round iron, of convenient length, say 30 inches, neatly welded to the knife. It is bent outward at the top, to keep the hands from the edges of the hay, when cutting down a stack or mow, and furnished with a cross-piece, for convenience in handling it; or the iron rod itself may be turned to make a loop at the upper end. The horizontal bar, a short distance (about 18 inches) above the blade, is a foot-piece, by which the knife is driven into the hay with more force than could be done by the hand alone. This implement is not patented.

Hand Corn Sheller.

Various implements for shelling corn are for sale at the agricultural warehouses, any of which are great improvements over thrashing out the grain with a flail or with horses. Where large quantities are to be got out for market, one of these to be run by horse power is almost indispensable. For those who do not require so expensive an apparatus, the implement here illustrated may be desirable. A description of it was furnished to the *Agriculturist* by Mathias Muth, Onondaga Co., N. Y. Its use will doubtless be much easier than shelling by hand over a shovel edge or the cross-bar of the half bushel measure. It is made of a strip of board, about two inches wide and nine inches long, sawed lengthwise through the middle, and the two pieces shaped to the form shown in the engraving. In each of the curved openings are driven nails, such as shoemakers use for heels. The ends, A, A, are fastened together with a hinge of leather. At B, a wooden pin is inserted, passing through the two pieces. This pin is fastened at one end, and is fitted rather loosely into the hole on the opposite side-piece, so that the jaws of the implement can be opened to suit the size of the ears. A better arrangement for this purpose is, to have a metallic spring connecting the two pieces as shown at C, in which case the pin, B, is unnecessary. To use it, take the sheller in the left hand, and with the right, pass first one half of the ear through the opening, then the other half, at the same time giving it a twist; thus with two quick motions it will be speedily shelled. This is an unpatented arrangement, and can be readily made by almost any one having a few common tools.



CORN SHELLER.

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For the *American Agriculturist*.

Fancy Poultry.—Some Experience.

MR. EDITOR:—Being one of those farmers who believe in progress, I went into fancy poultry, a few years ago. The huge Shanghai took my fancy particularly, for who couldn't see the profit of having hens nearly as large as sheep, and eggs in proportion? My old fashioned fowls I put into the pot, or sold to my neighbors at a sacrifice. Now, said I, we shall get on. If I don't realize the truth of the old ballad, about that speckled hen that

"Used to lay two eggs a day,
And Sundays she laid three,"

I shall at least get one egg a day from each biddy, large enough to make two of the old sort. Then the origin of these birds struck my fancy. Did they not come from the great empire of China? Did not they or their progenitors flap their wings and crow on top of the famous Chinese wall, or, less aspiring, sun themselves beside it? They were "traveled" hens surely.

And then, what an erect, military carriage! what a lordly step! For the table, what could be in better keeping than a Shanghai cock and a cup of Souchong tea? Both from the same country, they would harmonize well in the stomach, and make pleasant digestion also.

Well Sir, the high-bred birds were bought—at rather a high figure, my neighbors hinted—but I thought them cheap at any price. I confess it troubled me somewhat to see how voraciously they ate up my corn, but would it not surely come back again fourfold in mammoth eggs, and in the broods of imperial chickens?

But Sir, after a pretty fair trial of this fancy stock, I acknowledge myself a little tired of it. They are lazy, they won't scratch for a living, as my former hens did, but prefer being fed from the granary. Nor do they lay so very freely either, after all my care in feeding and nursing, and making enticing nests with glass eggs in the middle. "So much for trying to have 'blood stock'," says my wife, who wants eggs for her puddings and cake. Nor have they proved good setters, while some of them have shown themselves bad mothers. I knew that the rascally sow would sometimes devour her squeaklings, but that the hen, the very image of maternal tenderness, should destroy her brood, was a new and sad thing to learn! One old biddy killed six chicks as soon as born, and raised only three, out of a nest of twelve eggs.

Do you, Sir, like the looks of these fowls? It grieved me at first, to wring the necks of my beautiful Polands, in order to make room for these awkward fellows; but I hoped I should learn to admire them; and if not, their utility would certainly atone for their ungainliness. But their beauty does not yet appear, nor their utility. Their huge carcasses roll and tumble about without anything like "the poetry of motion," and their feathers seem stuck on wrong end foremost. I have often wished their tails and wings were better furnished with feathers, for looks' sake; but I now remember that the man of whom I bought them said they were eminently domestic, had no filibustering propensities, would not try to fly over a fence, and could not; they preferred to stay at home in dignified retirement and be fed, and Nature had given them a plumage suited to their desires.

"Their sober wishes never learned to stray."

And then, as to their crowing, did you ever hear the like! They go it strong, but it is of the Chinese gong style of music—a most dolorous, unearthly howling, long drawn out. The editor of a paper out here, whom my cocks have disturbed with their bass solos, says: "Their crow is not the honest Saxon crow, expressive of day-break, love, war and animal spirits, but a horrid, guttural ejaculation, between a Chinese sentence, as described by missionaries, and a badly blown dinner horn." The editor is regarded here as a good judge of music.

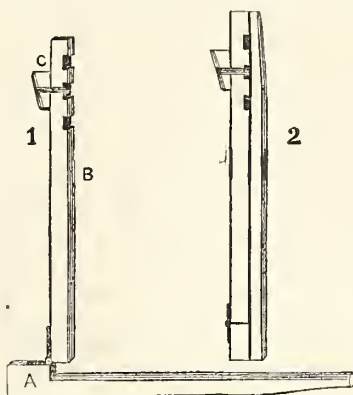
Well Sir, to cut this matter short, let me say that I am convinced that while these fowls grow to about double the size of common poultry, they have likewise double the weight of bones; that while the cost of a hundred pounds of them is more than of a hundred pounds of the old kind, they are less salable, and less inviting on the table. These "celestials" often eat their heads off before fully grown and fattened. I am satisfied that the more I raise of them, the poorer I shall be. I have seen the elephant. My poultry is for sale. CHANTICLEER.

Those who have lost faith in the celestials, and still want to raise "thorough-bred" poultry,

might try the Black Spanish, Black Poland, Irish Game, Dorking, or Dominique fowls.—ED.

Another Wagon Jack.

A subscriber to the *Agriculturist* at Pylesville, Md., sends a sketch and description of the implement illustrated below, which he thinks superior to the one described on page 77. To make it, take a piece of hickory or white oak scantling, 2½ inches square and 28 inches long, and rip it lengthwise through the center a distance of 25 inches: saw off the shorter leg B, at this length, and join it again to A, by a strong hinge. In the



upper end and on the inside of the short leg, B, cut 4 notches, 1½ inches apart, 2 inches wide and ¾ inch deep. Procure a band made of ¾ inch iron, 2 inches wide and 4 or 5 inches long to fit the notches in B. A wooden wedge or key, C, is to be inserted in the band to hold it in the notch. When used, this key is to be placed under the axle, the jack being in the position shown at Fig. 1; then by raising the long leg to an upright position, as in Fig. 2, the axle and wheel will be lifted from the ground, and the apparatus will stand without fastening. We judge it will be necessary to block the forward wheels to keep the wagon in place.

A. Caterpillar Burner.

Such is the title given to the apparatus here illustrated, devised by a subscriber to the *American Agriculturist* at Mount Vernon, N. Y. It consists of an inverted cone, C, made of tin or sheet iron, containing a wire grate, A. At B, small openings are made in the cone to allow a draft of air. The whole is received by a socket of suitable shape on the end of a handle of any desired length. Shavings or other light materials are burned in the cone, which is held directly under the nests, and those that drop singed or half roasted, are either completely cooked in the fire beneath, or are caught in the vessel, whence they may be emptied and crushed. Without some such provision for catching them when burning their houses, many will fall to the ground and ultimately escape. There are objections, however, to attacking caterpillars in this way; in the danger of injuring the smaller limbs with fire. We prefer a spiral brush with



which the web, caterpillars and all, may be wound up and put out of the way. An occasional examination of trees when the leaves are off, will detect the clusters of eggs from

which next year's crop is to be hatched, and their destruction will prevent their further mischief. A small premium for each cluster, offered to boys for this work, would soon clear them out.

The New Silk Worm.

Many readers of the *Agriculturist* will remember the account given in a former volume (1861, March No.) accompanied with an illustration, of a new silk worm said to have been imported into France from China, which fed upon the Ailanthus. We have made repeated efforts to obtain eggs of the insect for experiment, but thus far without success, and until recently have heard little further concerning the result of the trials made with it in Europe. In the report of the Acclimatization Society in England, we find an account of experiments made by Lady Dorothy Nevill, near Petersfield, England. One who visited the premises says, "a portion of the garden was planted with young Ailanthus trees, which were covered with a light canvas-made building, a necessary precaution against birds, which pick off the young worms. The creatures were feeding on these trees, and were really beautiful to look at—not pale-looking things like the common silk-worm, but magnificent fellows, from 2½ to 3 inches long, of an intense emerald green color, with the tubercles tipped with a gorgeous marine blue. Their feet have great adhesive power, and their bodies are covered with a fine down which turns the rain drops like the tiny hairs on the leaf of a cabbage, so that they are not injured by wind or rain. Of 500 worms placed upon the trees the previous Summer, 480 yielded cocoons. A market was found for all she could grow, a gentleman in Paris taking them for French manufacture."

The Society above named are enthusiastic in the belief that the raising of the worms can be profitably conducted in England, so that, ultimately, ladies may grow their own silk dresses in their gardens. Speculators in this country will doubtless soon be on hand with great stories, and eggs at marvelous prices, but the memory of the silk-raising and mulberry fever that found so many victims here, is yet too recent, we trust, to allow a similar mania for the new silk worm. We shall continue to watch the matter and report from time to time.

Two Queen Bees in a Hive.

R. B. Olcott, Union Co., Pa., contributes to the *American Agriculturist* an account of the following singular occurrence which he noticed in his apiary. He says: "Some time in July last, having a queen bee at my disposal, and not wishing to destroy her myself, I put her to the entrance of a late second swarm in which she readily entered. Wishing (Sept. 1st) to use this colony to raise Italian queens, I removed the queen, and in returning the combs, to my astonishment I found another queen. This puzzled me considerably, as I never noticed or heard of such a thing before. I returned the queen I had removed, and then took out the combs, leaving the two queens and part of the bees in the hive. I watched them several hours to see whether the queens would quarrel if they should meet. The bees kept a constant running about the hive, and the queens came in contact several times, but apparently did not notice each other, with the exception that at one time one took hold of the other's wing and held her for a second or so, but soon passed on. I then trans-

ferred the queens with part of the bees to an observing hive containing one comb, in order to notice their actions. When not molested, the queens moved about the comb apparently unconcerned. I kept them so for 48 hours, then returned one to the hive, and gave them an empty comb to ascertain if these queens were both fertile. This comb was soon supplied with eggs. I then removed this queen and introduced the other, but egg laying continued as before. I then returned the other queen to the hive. I have examined the colony frequently since, and always found the queens among the bees, but never on the same comb. Whether one of these queens was that which I had introduced in July, I can not say, but it appears likely. This verifies the old saying that there are exceptions to all rules. Has a similar case been noticed before? I shall endeavor if possible to winter this swarm, to ascertain if these queens will remain together a whole season.

Bees Working in Two Hives.

The following remarkable incident is related by a correspondent of the London Agricultural Gazette: "On the 20th of June this year, I hived a very large swarm of bees in a straw hive. Before they had been in it many days, they discovered an unoccupied hive about two feet distant from their own, half filled with clean, empty combs. They sagaciously took possession of it, and used it as a storehouse for honey, while combs were being constructed in their new domicile. At night they did not abandon their store-house, but left a guard of about 500 bees, who remained there contentedly, without any apparent concern at the absence of the queen. This hive was made of wood, with glass windows, so that I could examine the interior, day and night. I could see the honey in the combs, and the bees clustered between them, and coming out by hundreds to the glass, when I held a light to it at night. During the day, the bees at the mouth of the storehouse hive buzzed and ventilated, just as if the queen had been there. At dusk, some of them flew to their own home. After using the extra hive for about three weeks, the bees removed the honey from it to their permanent abode, it being no longer required for the harvest which was for the time too abundant for their accommodation at home."

Things Surprising to a Foreigner.

Mr. Harris, of the Geuesee Farmer, says that when he first came from England to this country many things surprised him: "I was surprised at the excellence of American beef and the inferiority of American mutton, and I was not surprised that the beef sold for half as much again as the mutton, while in London, mutton was worth a cent a pound more than beef. I was surprised that farmers paid so little attention to their gardens. I was surprised to find so many farmers with large, handsome houses and elegantly furnished parlors that they seldom used. In England at that time, we had a window tax, and the houses there have few windows. One of the first things that struck me was the number of windows in American houses, and the great effort that was made to shut them up and exclude the glorious American sunshine and the invigorating American atmosphere. I was surprised that everywhere I went, the people thought that particular spot the most fertile, the healthiest, and the best place

on the whole Continent. I was surprised, nevertheless, that everybody was willing to sell. I was surprised at the excellence of the wheat and the inferiority of the barley. I was surprised to see the farmers so rough looking, and yet so intelligent. I was surprised to see the country ladies so much better looking than the men, and withal so interesting and fascinating. I was surprised that farmers sowed but one kind of grass-seed, and that they paid so little attention to their permanent meadows. I was surprised to see them plow so wide, and still more surprised that under the influence of our cold winters, and dry, hot summers, these wide furrows tumbled all to pieces and formed, after all, a very fair seed-bed. I was surprised that farmers raised so few peas and beans, and thought so lightly of clover-hay. I was surprised that farmers could make a living from crops of wheat of from ten to twelve bushels per acre. I was surprised to hear rotten straw called manure. I was surprised at many other things—at the great net-work of railroads—at the magnificent rivers and lakes—at the marvelous rapidity with which the country was settled, and at the enterprise and practical intelligence which has accomplished such astonishing results in so short a time. But I do not think that any one thing surprised me more than this: *the luxuriance of the clover crop in Western New-York!* I had just come from the very fountain-head of agricultural science, and from the greatest experimenting farm in the world; but never had I seen such crops of clover as I saw on many farms in this section."

The Moon Again.

A subscriber in Tuscarawas Co., O., writes: "It would please a good many of your readers, if in your next issue you would give your views as to picking apples, sowing wheat, building fence, etc., etc., during certain stages of the moon." We had supposed our views on the "moon question" were already well understood. The moon is present *above* the horizon during just about half of *every* 24 hours, though her dark side is towards us part of each month, so that we do not see her. The moon passing over us affects the tides regularly every day, and if she affects vegetation at all, the influence is as regular as the tide, and it is doubtless too small to be taken into account. A little knowledge of astronomy will dispel this moon farming. We say, plant, dig, built fences, pick apples, etc., when the soil, the season, and other things are right; the moon will do her part whether her bright or her invisible face be turned towards us.

Honey From Italian Bees.

R. B. Olott, Union Co., Pa., in answer to questions in the Sept. *Agriculturist*, page 269, concerning the *quality* of the honey gathered by Italian Bees, writes to the following purport. He has kept them two seasons, and considers them 50 per cent more prolific than the common sort. The honey this season he thinks superior, which he says is due to the fact that in his neighborhood there was a great surplus of cherries, from which, as they decayed, the common bees gathered considerable stores, while the Italians were busy with red clover. They also worked among it while the others were among the buckwheat blossoms. He says the Italians will gather almost as much from the second crop of red clover, as is usually secured from buckwheat,

We should like to hear further evidence, particularly with regard to their ability to draw honey from red clover—a point not yet admitted.

Obstructions in Drains—Serious Difficulty.

A correspondent of the N. E. Farmer, states that he has found a difficulty, thus far insuperable, in his drains becoming obstructed with a deposit from the water. The tiles were laid in a swamp, the water of which was strongly impregnated with oxide of iron. In a year or two this completely filled the tiles with a slimy incrustation which stopped the flow of water, and rendered the drain worthless. A partial remedy was found for the main drain, as follows: A cast iron box with a movable cover was substituted for a tile, at intervals of about 100 feet along the whole length of the drain. He then took 12 "Brazier's rods" (¼ inch iron, 10 feet long), linked them together by eyes on the ends of each, first drawing the end of the rod a little smaller, so as to bend the point around the rod, to prevent it coming apart in the drain. Two lamp chimney brushes were bound together, to make a brush of proper size, and fastened with a copper wire on one end; on the other end was a swab of ball shape. Then the brush end was put into the outlet, and pushed along by means of the rod up to the first cast iron box, from that to the second, and so on the whole length of the drain, and then run back in the same manner. The water washed out obstructions as they were loosened; the ball allowed the brush to slide over any projections in the tile. This left the drain clean, and was so far satisfactory; but the laterals, he says, could not be so reached. This, however, would seem practicable by beginning at their commencement, and working along toward their entrance into the main drain.

Hints on Feeding and Fattening.

Animals destined for the shambles are disposed of to the butcher to the best advantage, if well fattened. The reason is that the flesh of a fat animal is better than that of a lean one, more delicate in flavor, tenderer, sweeter, juicier,—this aside from the value of the fat itself. A very fat animal is not in a natural condition, and on this account it is desirable that the feeding should be brought as rapidly and steadily as possible to a consummation. It is most undesirable to have any check to the steady laying on of flesh and fat; positive falling off in flesh is with sheep usually fatal to their ever fattening well. Fattening animals are peculiarly liable to certain obscure disorders, owing to the unnatural circumstances in which they are placed. Good farmers therefore exert themselves to keep stock stalled for fattening, healthy, by giving them the comfort of clean stalls, the tonic of fresh air, the increased appetite accompanying a variety or change of diet, a healthy skin secured by occasional currying, now and then a little salt as an appetizer, and to secure freedom from anxiety by quiet surroundings, regular feeding, and the kindest treatment.

In feeding swine, which are the most easily fattened of our domestic animals, great economy may be exercised by feeding very regularly, by cooking the food, by occasionally feeding raw roots in small messes as a general corrective, by feeding finely broken up charcoal now and then, or giving the hogs access to it, and securing cleanliness where they are fed in pens. It is well to remove from such hogs the inducement

to exercise in rooting, by wiring their noses.

A hard worked ox will never grow fat. The more work he does, the less will he lay on fat, the amount of food being equal; and conversely, the less he works, the more easily will he fatten. Used in a "horse-power," he may grind much corn; standing in his stall he may grind only that which he himself consumes. Labor is expended in both cases, and why may we not argue that the fattening of the animal is retarded in proportion to the amount of labor he does, and that the labor of the beast in grinding his own corn is thus a loss to the farmer. Cooked feed digests more easily than raw; that is, the stomach labors less. Do we not profit therefore in cooking the food, even of neat stock? In feeding this class of animals the moderate fermentation of hay and stalks in connection with bran or corn meal and a little salt, whereby the stalks become softened and the flavor of the meal and salt is disseminated throughout the mass, has been found a great saving. This is cooking without fuel. Steaming of fodder is extensively practised also, as is well known, with economical results where it is conducted on a sufficiently large scale and with requisite care. Sheep are best fed on raw material. Let them grind their own grists. For some reason they seem to have better health for it. The exception does not militate against the rule, but shows the necessity of watching the effect upon all animals of artificial diet and unnatural surroundings.

Cranberry Culture.

Several subscribers at the West ask us for some hints upon the cultivation of Cranberries. We have published in former volumes of the *Agriculturist* extended details upon this subject, and have now only space for the essential points.* As the cranberry grows naturally in low places, its most successful culture is practised in similar localities. Almost any bog meadow can be converted into a cranberry patch with fair prospect of success, but the most suitable place is one which is so situated that it can be flowed at will, and yet be capable of being drained so that no stagnant water will remain. The soil should be surface drained; all bushes, stumps, and tussocks removed, and the whole leveled as far as possible. The surface should be burned over to kill the grasses, and then cover the meadow with three or four inches of sand. If sand can not be obtained, it is recommended to leave the ground to the action of frosts for one Winter, after it is cleared and levelled. With regard to the vines, they may be purchased from those who already have good varieties in cultivation, or they may be selected from natural bogs where the vines bear abundantly. The cranberry, like all our wild fruits, presents considerable variety in shape and in the prolific character of the plants, and it will be useless to plant vines from an unproductive natural sort. It often happens that the finest looking plants are shy bearers; hence, where there is any doubt about getting wild vines which are good bearers, it is safer to buy of those who have reliable plants for sale. The planting may be done in October and November, or in Spring, any time until the last of May; where the land can not be flowed, spring planting is preferred. The quickest way to cover the ground is to remove sods of living plants 4 or 6

* Those at all interested in Cranberry culture, will do well to procure one of the books on the subject, named in our book list in the advertising columns. These are not perfect works, but they are the best published as yet.

inches across, and set them out from 2 to 3 feet apart each way. As the sods are apt to contain grasses and other plants, it is much better to break them up and carefully separate the plants, which are put in hills of half a dozen each, at the distance of two feet apart. The planting is rapidly done with the hoe, the principal object being to have the roots well covered. If the planting is done in Autumn, the meadow should be flowed so as to cover the plants with a foot or more of water, which is to be kept on them until danger of spring frosts has passed; it is then gradually drawn off, taking care to leave an inch or two of water as long as there is any fear of frost. The ground should be kept clear of weeds, by the use of the hoe, until the vines spread and get in the way of cultivation; as soon as they mat and cover the ground, they will kill out all other vegetation. The principal enemies to the cranberry grower are, a worm which attacks the young fruit, and which is destroyed by flowing, and the rot, which is prevented by draining. The cranberry has been raised with more or less success on ordinary garden soils, though we are not sufficiently impressed with its practicability to recommend such culture on a large scale. A small plot may be tried as an experiment, and if successful it may be readily extended. The ground is first well pulverized and then covered with an inch or two of muck which has been exposed during the Winter, or with fine sand. The vines are put out in rows 18 inches apart, setting two or three plants together every 6 or 8 inches in the row. They should be set deep, so as to cover 3 or 4 inches of the lower part of the stems, and their growth be favored by keeping out weeds. The kinds known as Bell and Cherry are the best for upland culture, though plants may be obtained on the dry edges of a natural bog which will doubtless do well. Mr. Downing says that a piece twenty feet square will yield sufficient fruit for a family. The Cranberry cultivated in pots, is highly ornamental as a house plant, as is very well shown by a fine specimen now on our Exhibition Tables, from W. H. Starr, of New London, Ct.

A "Community Gardener."—Good Hints.

[The following communication has been sent us by an intelligent and educated gardener, who has had large experience both in this country and Europe. With the growing taste for horticulture in this country, it is quite time that gardening should be recognized as one of the necessary professions, or at least one of the useful arts, and we shall be glad if these suggestions shall help elevate those properly educated for this worthy pursuit to the social rank, which belongs to them. In Europe the scientific horticulturist is an honored member of the community. Sir William Hooker, and Sir Joseph Paxton, were both gardeners, and if we mistake not André Leroy has been knighted by the Emperor of France, in acknowledgement of his contributions to horticulture.—Ed. *Am. Agriculturist.*]

"It is frequently complained by those who have what they call a garden and no proper gardener to take care of it, that they can not secure the services of one, notwithstanding the (as they think) liberal inducements they hold out to a competent man. What is the cause of this difficulty, and how can it be remedied? First of all, it is necessary that one attempting to secure a well qualified gardener, should have employment for such a one. Next, he must be able to appreciate and to properly compensate him. In

both these respects the majority of employers are lacking. A great many want to 'hire a gardener,' who have no place worth the care of a thorough gardener; either the whole concern is too small, or the 'eminent amateur' cares only for something to eat. In either case it will be difficult to find an experienced and intelligent man, who has so little ambition that he will waste his time and energies in such unsatisfactory labor as taking care of these places, or be satisfied with the generally paltry 'wages' that are paid. The demand of the employers generally is: 'I want a man of *experience and intelligence*, and one willing to put his shoulder to the wheel.' Where do they expect such men to come from? America does not produce them, nor will there be any considerable number of American gardeners until there is an entire change made in the social position of the gardener, and a discrimination made between the qualified gardener and him who is merely one in name. The profession of gardener is certainly not an inviting one to young men, when they see how most employers treat those who are engaged by them; very few employers have a friendly word for them, all consider them on a level with the coachman, their place is in the kitchen, and their pay less than any mechanic; and all this, while they are expected to have attainments which can only be found in men of a certain degree of refinement and education.

"Most gentlemen who employ a gardener are men of business, but they do not seem to consider that it requires more knowledge and mental and physical labor on the part of their gardener to properly manage their country places, than is necessary to enable any of their clerks to perform his duties. Yet socially, the clerk is usually considered to be far above the gardener. It is the social estimation in which gardeners are held, and the personal treatment they receive, that keeps young men from entering this branch of industry. It requires taste, talent, time, and money, to enable a young man to qualify himself to lay out grounds well and then properly manage them after they are laid out.

"As the demand for gardeners increases more rapidly than the supply does, or can under the existing state of affairs, I would propose the following suggestions as a partial remedy for the evil. I would advise several gentlemen living in a neighborhood to unite and engage a fully competent man as '*Community Gardener*,' and give him full charge of all their grounds, etc. They would in this way secure a uniform system of management—a matter of great importance to their fruit trees, which suffer most by a frequent change of hands, or rather of heads. A man like this being secured for general superintendence, other and less capable men could be engaged to work under his directions.

"The advantages of this plan will be evident to those who have places too small to warrant them in keeping a competent gardener. In a community where there are large or small places, this having a common superintendent would not only save many vexations and disappointments, but would be much more economical than for each one to attempt to keep a gardener for himself. It would also be a great saving in the item of tools, as one set would answer for several small places; and these should belong to the community gardener, whose interest it would be to have only the best kind, and keep them in proper order for good and speedy execution. I trust that this will commend itself to those who live in parks on a plan like that of the Llewellyn Park, at North Orange, N. J."



THE EMIGRANT'S FAREWELL. — FROM A PAINTING IN THE INTERNATIONAL EXHIBITION, BY CARL HUEBNER.
Engraved for the American Agriculturist.

The scene sketched above, will cause mingled feelings of pleasure and pain in thousands of hearts. However the emigrant may have prospered here in his new home, the love of Fatherland can never be extinguished. His lot there may have been among the lowliest, but thoughts of even the rudest cabin where the hours of childhood and youth were passed, will ever awaken tender emotions. Not a few of our readers may recall to mind a scene similar to the above, in their own experience. It represents the preparations of several families for departure to the New World. "In the village in the distance many peasants are dancing and carousing noisily, to drown their parting regrets or vague apprehensions. In touching contrast to these revellers, are the family in the foreground, who have come to take a farewell look at the village graveyard, that sacred spot of earth which will be remembered in the far-off home when all else in the old country is forgotten—where amid the 'rude forefathers of the hamlet,' sleep their own immediate ancestors, and perhaps in some lately-opened grave, one of its most-loved members. There is real, intense grief in the honest faces of the sturdy man and

wife, as if at some recent bereavement. The kneeling sister with her humble package, including the family bible, is less affected, but yet wears an expression of pious sympathy and sorrow. The younger members of the family look on with a heedlessness characteristic of their years and inexperience. The old granddame hobbles along to the sad spot with her stick and her bundle, as fast as her rheumatic limbs will carry her. Poor old lady! she has not much to look forward to; unless, indeed, she finds the El Dorado in her family's happiness; her sun will soon set if she ever reaches that land of the West where the sun himself goes to his nightly rest. The black wooden crosses, often covered with wreaths of 'amaranths,' which mark the spot of the humblest grave on the Continent, are suggestive features which we miss in our own places of interment for the poor." Flowers might well be added here.

While it is lamentable that governmental oppression, the existence of hereditary castes, and other defects in the social organization of Europe, make it desirable for so many of her sons and daughters to seek a new home in the West, the evil has its compensations. The emigrant, if

he worthily fills the place opened for him here, not only secures the blessings of competence for himself and family, but is aiding in developing a power that will ameliorate and finally destroy every form of despotism. America is even now a cloud upon the horizon of foreign oppressors, and hence their rejoicing in her temporary apparent humiliation. It is cheering to know that in every European country, the people, in whom is the life blood of Nations, appreciate the facts of the issue, and are giving their prayers and efforts to encourage our National government in the mighty struggle. Nor have they lost confidence in the final triumph of the right, as is shown in the remarkable increase of emigration hitherward during the past year. And we may repeat with confidence what we have heretofore stated, that there was never a better time for the poor of the Old World to emigrate to America. They will be sure of a warm reception and abundant employment at paying wages. And though it may be hard to leave loved objects behind, they may ultimately make a home here to which their children will cling with even greater tenacity, and from which no necessity shall ever force them.

For the American Agriculturist.

What Dwarf Pears to Plant.

A note from a Hartford correspondent inquires for better varieties of dwarfs to plant than the Glout Morceau, or Vicar of Winkfield. Whoever plants dwarfs, necessarily makes a venture, unless he have some neighbor who has done pioneer service for him. No one can tell beforehand just what varieties will give the best results in his soil and climate. If we had no experience or observation in our own neighborhood to draw upon, we would take the list of dwarfs recommended in Downing's Fruit Book for the best six or twelve varieties. Most fruit growers would agree in the main upon these varieties, for the list has been adopted, as the result of their experience. This experience is drawn from all the best fruit regions in the Northern States. Any one following this list, would probably get eight pears in a dozen, that would give the best results, in his own garden.

If we had an enterprising neighbor who had been planting dwarf pears, say for ten years, in soil similar to our own, we would rather take his experience for our guide, than the list recommended by Downing, if it should happen to vary in some particulars. As to better varieties than those named by our correspondent, it is not claimed by any that the Vicar of Winkfield is first rate. Col. Wilder has said, that if he could have but one pear it should be this, and we should not quarrel with him in this matter of taste. We do not claim for it that it has no superior in flavor, but, that when well grown, it is good enough for any body. In other respects it has so many good qualities, that no garden ought to be without it. The tree is a good grower on both stocks, the foliage is very beautiful, and hangs on to the last, it bears abundantly every year, the fruit is large, and may be had in good eating condition, with little difficulty, for at least ten weeks in the year. It is well known, and commands a high, though not the highest price in the market. It is adapted to a wide range of soil and climate. What we mean when we say that there are better pears than this, is, that there are those of better flavor, unless this is kept to Mid-winter.

The Glout Morceau, though of the best where it does well, has many faults. It is a late bearer at best, and with most cultivators a very capricious bearer. We have had no crop worth saving since 1858, until the present year. They are very fine this Fall, so far as our observation has extended. Yet the fruit is so good that we are not prepared to exchange it for another, even with this unfavorable experience. It is said to do much better as the tree gets age.

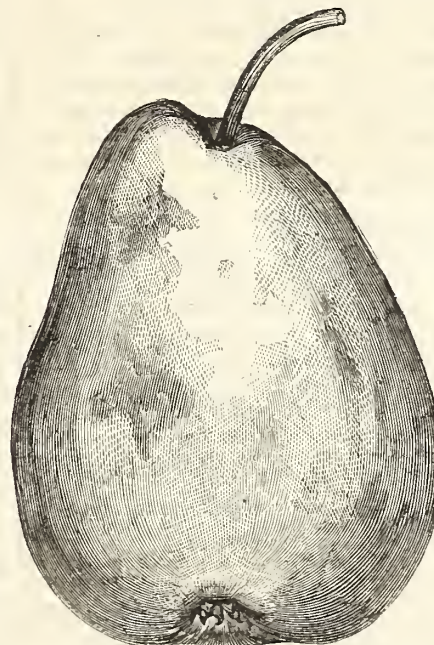
As better varieties for the quince stock than these, we would name the Flemish Beauty, Beurre Diel, Lawrence, Urbaniste, Beurre d'Anjou, Doyenne Boussock, Easter Beurre, and Winter Nelis. Wherever the Duchesse d'Angouleme does well, we would add it to the list. We are informed that the Duchesse does not succeed well in the vicinity of Hartford, Conn.

The true doctrine in regard to dwarf pears is this: let the amateur experiment, and all others, confine themselves to the very few, less than a dozen, varieties that are known to do well in the neighborhood, and that command a good price in the market. It is more than half with the fruit grower, to sell his crop, after he has raised it. A much better new fruit than the Bartlett, would not sell for half its price, simply because it was unknown to the public. The making of a reputation for a fruit is a very

slow process. It has taken sixty years to give the Bartlett its present general popularity. We have abiding faith in the success of dwarf pears. For small gardens, for fruit growers who cater for city markets, and want early results, they are a great institution. We saw last year a large onion garden of several acres, enriched by long cultivation, gradually changing to a dwarf pear orchard. A thousand trees had been planted for several years and the results were all that could be desired. A fortune is in store for the enterprising proprietor, for he knows what varieties to plant, and how to take care of them after planting. Select good market varieties that are known to succeed well upon the quince, plant in good soil, manure liberally with compost, half muck or peat at least, cultivate cleanly, and prune judiciously, and you can hardly fail. So thinks CONNECTICUT.

Rose Bugs Destroying Grapes.

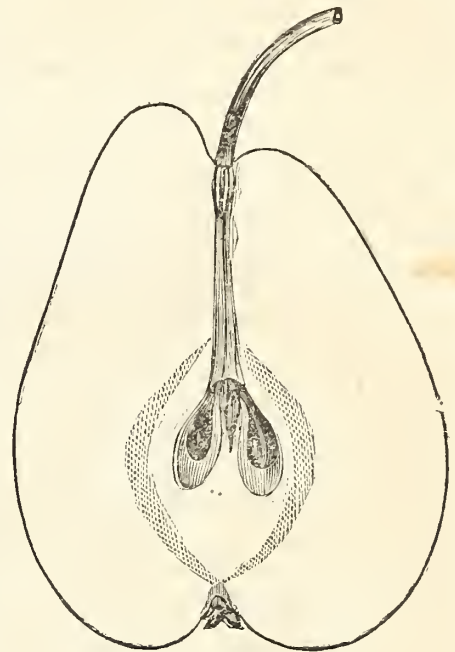
In some localities the rose bugs are so numerous at the time certain grapes are in flower, that they destroy the entire crop by eating the blossoms. At a recent meeting of the New-York Fruit-Growers, T. W. Field alluded to this subject, remarking that the rose bugs came upon his vines in such myriads that it was impossible to destroy, or even drive them away. He said that while the Isabella and Catawba were nearly all destroyed by these pests, the Hartford Prolific and Delaware bloomed too early for them, and the Concord was but slightly affected. If this proves to be the case elsewhere, it will be well for planters to select sorts which flower before the rose bugs make their appearance.



A New Pear—The Vanderpoel.

Some weeks ago we received from Mrs. Mary V. Gilbert, Columbia Co., a package of pears by mail. Coming by this conveyance the fruit was very much crushed, yet as even in this condition it appeared to possess great excellence, we wrote for other samples, which came to us in a perfect state, though rather late to see the fruit in its best condition. We learn from Mrs. G. that she has been in the habit of planting the seed of superior fruit, and that this pear is

from some seed she planted in 1825. It is a good bearer, and produces annually. The two illustrations will give an accurate idea of the size and shape of the pear. The color is of a



SECTION OF VANDERPOEL PEAR.

uniform lemon yellow. The flesh is melting, juicy, sweet, and without any grittiness at the core. The pear has one very desirable quality, it has not the least tendency to rot at the core; several specimens which were more or less decayed at the surface, were entirely sound at the centre. We think it a very promising fruit, and one very well worth the attention of amateurs. The name Vanderpoel was given by the lady who raised it from the seed.

Grapes—The Great Grape Show.

The exhibition of Grapes, announced to be held at the Office of the *American Agriculturist*, opened on the 1st of October. There were nearly fifty exhibitors, and as many of them showed from five to twenty varieties each, it will be seen that the display was a large one. The amount of fruit was nearly doubled after the judges had made their examination, and during the next day—a considerable number of exhibitors having been belated by other shows, and by unfortunate detention of parcels sent by express and railway. A box from Mr. Huseman of Herman, Mo., was nearly spoiled on the way. The names of the exhibitors, as well as the report of the committee of judges, will be found below. This first attempt of holding an exhibition solely of grapes was attended with most gratifying success. We do not say this on account only of the quantity of fruit contributed, but in view of its *quality* and *variety*. We doubt if there has before been such an opportunity for the public to see and compare so great a number of *native* grapes. That this privilege was appreciated was shown by the interested crowds who thronged the room during the closing days of the exhibition. It was particularly pleasing to observe that a large proportion of the visitors were not merely sight-seers, but persons who came to form their judgment on the different varieties, to get the opinions of the numerous cultivators there present, and to make notes for their future guidance. Most of the leading cultivators of grapes, both amateurs

and commercial growers, came in from hundreds of miles around, some from the most distant West. Indeed we never saw together so many persons of good judgment and experience upon any one subject, as were gathered here on Friday. It well repaid us for the trouble and expense of the enterprise, to see the number of this class together around the tables, earnestly engaged in discussing the fruit and in a most friendly spirit. We have no doubt that the culture of the grape will receive from this exhibition an impulse, similar to that imparted to the culture of the strawberry by the shows of that fruit which have been held at the same place. One of the prominent features of the exhibition was a collection of 20 varieties from the Rev. J. Knox of Pittsburgh, Pa. It did not arrive until after the judges had made their award, but it was conceded on all hands that it was by far the finest collection in the room. The grapes did not need Mr. Knox's apology that they had been long picked and had made a long journey, for they had the freshness of recently cut fruit. Whether it was due to Mr. K.'s mode of culture, or to a peculiarity of his locality, we cannot say, but all his fruit had a bloom upon it which added much to its attractiveness.

Among the novelties of the exhibition we mention the Iona, a seedling now fairly before the public for the first time. It attracted much attention from grape growers. Dr. C. W. Grant, the originator, was awarded the first prize for seedlings. The Adirondac was presented by Mr. Bailey of Plattsburgh, N. Y., and was noticeable for the size of its berries and their fine flavor. It received the first prize for quality, by the decision of the majority of the committee. We understand that Mr. Downing dissented entirely from the verdict. If this grape proves as fine in other localities as it is in that where it originated, it will be a decided acquisition. Allen's Hybrid is another of the grapes not generally known. It was shown in fine condition by Mr. Hoag of Newburgh, N. Y. The fruit is white, and has the appearance and flavor of a foreign grape. It was generally regarded as a variety of much promise. We regret that there was not a better display of Rogers' Hybrids. Only two of these were shown, Nos. 4 and 15—by Geo. Seymour & Co., of So. Norwalk, Ct. Mr. S. says that the vines grow finely and the fruit ripens with the Concord. From tasting the single specimens, we are pleased with these grapes and consider them as fruits of fair promise. The Creveling, though past its season, was shown by Mr. Merceron of Catawissa, Pa. The fruit is a fine looking, large berry, and very sweet and pleasant. It is considered by several cultivators as the best very early grape, it being a week or so in advance of the Hartford Prolific. The To Kalon is a very showy and fine variety, large in bunch and berry. We find cultivators differing with regard to its bearing qualities, and the general impression is, that it is a shy bearer. A couple of clusters of Loomis' Honey grape were shown by Peter Raabe of Philadelphia. This is a comparatively new variety. The bunches are fine, the berries large and black, and of a most remarkable sweetness. The vine is said to be hardy. It received a discretionary premium, and is worth looking after by amateurs.

Among the better known sorts we mention the Delaware first, as it was present in larger quantity than any other sort. It is faulty, that the fruit is small, but is an illustration of the adage that "the best things are always put in the smallest parcels." This defect may be in a great measure remedied by the liberal thin-

ning out of the berries. That when the vine acquires age it becomes an abundant bearer, was finely shown by a large fruiting branch contributed by Mr. R. Hale of Otego, N. Y.

The Concord was represented by many fine specimens, most of them covered with the fine bloom which belongs to this kind when well grown. This and the Delaware both have their advocates, who claim for each the first place among the grapes for the million. There are good arguments produced on each side. For ourselves we wish that "the million" had a plenty of both of them. Hartford Prolific was shown by Fuller, Knox, and others, although it was too late for this variety. The vine is a great bearer and is remarkable for the vigor of its growth and healthy character. The fault of dropping its fruit, which some complain of, is remedied by proper pruning and not allowing the vine to overbear. This and the Creveling are the best early grapes yet well disseminated.

Diana. We were much pleased with this fruit as exhibited by Mr. Brehm of Waterloo, N. Y., and by Mr. Knox. The berry is of good size, branches very compact, of a fine lilac color, and quality nearly first rate. The vine is a great bearer and needs close pruning, and is better for covering during Winter.

Clinton. A rather small grape but a strong grower and abundant bearer. It is called a fine wine grape, and when thoroughly ripened, of fair quality for the table. Union Village is a most showy fruit, although it cannot take a high rank for quality. From the size of the berry and bunch it is a very valuable market grape. Heribemont is a very small grape, but the vine is very prolific; fruit very spirited in flavor, and though its size unfits it for a market fruit, it is worthy the attention of amateurs. The vine needs protection. Elsinburgh is a grape much resembling the Heribemont in appearance and has a high vinous flavor much relished by some. There were but very few specimens of the well known varieties of Isabella and Catawba exhibited. These, from their uncertainty, are being replaced in most localities by more reliable and better sorts.—The following is a list of the entries in the order in which they were received.

- No. 1.—Concord under glass: by Wm. Clark, Northampton, Mass.
- No. 2.—Seedling: "Jersey Counsellor." Wm. Plume, Newark, N. J., through C. M. Saxton, Esq.
- No. 3.—Isabella: E. Fitch, Coxsack, N. Y.
- No. 4.—Rebecca: John Corbett, Morrisania, N. Y.
- No. 5.—Delaware, 2; Allen's Hybrid, 2; Rebecca, 2; Taylor's Bullitt, 1; Diana, 1; Concord, 1; Isabella, 1; Brinkley (foreign out-door), grown on a city lot, 60x25: Geo. W. Martin, Brooklyn, E. D.
- No. 6.—Adirondac: Jno. W. Bailey, Plattsburgh, N. Y.
- No. 7.—Iona, Allen's Hybrid, Delaware and Alexander: John Hoag, by Chas. Downing, Esq., Newburgh, N. Y.
- No. 8.—Delaware, Diana, Concord, Union Village, Elsinburgh, and Anna, from Vineyard of C. M. Beach, West Hartford, Conn.
- No. 9.—Clinton: Jno. McFarlane, New Durham, N. J.
- No. 10.—Diana, Delaware, Heribemont, Concord: Fred. Baumceister, East Newark, N. J.
- No. 11.—Clinton: E. Williams, Mount Clair, N. J.
- No. 12.—Delaware: Reuben Hale, Otego, N. Y.
- No. 13.—Rebecca, Ruland: Chas. S. Schmidt, Pallsades.
- No. 14.—Catawba: W. B. Westcott, raised in city yard.
- No. 15.—Seedling: Col. D. S. Dewey, Hartford, Conn.
- No. 16.—Alvey, Concord, Wilmington White, Clinton, Taylor's Bullitt, Isabella, Delaware, Marion, Diana, North American, Rebecca, Louisa: M. Olm, gardener to Orange Judd, Flushing, L. I.
- No. 17.—Delaware, 6 bunches: B. H. Mace, Newburgh.
- No. 18.—Creveling, Isabella, Concord, Diana, Delaware, To Kalon: F. F. Merceron, Catawissa, Pa.
- No. 19.—Palestine, Syrian, Black Hambug, Museat of Alexandria, Zinfidel, Black Barbarossa, Reine de Nice: N. Armstrong, Bergen, N. J.
- No. 20.—2 var. Seedling. J. D. Williamson, N. Y. City.
- No. 21.—Allen's Hybrid, Canby's August, Delaware (40 bunches from 1 vine 4 years old): R. W. Holton, Schenectady, N. Y.
- No. 22.—Hartford Prolific, Diana, Clinton. W. Taft, Fordham, N. Y.

- No. 23.—Native Seedling: J. H. Foster Jr., West Newton, Pa.
- No. 24.—Delaware, 3 years old vine. E. O. Eaton, Troy.
- No. 25.—Clinton: G. H. Hite, Morrisania, N. Y.
- No. 26.—Concord, Diana, Clinton. A. G. Baldwin, Hanover, N. J.
- No. 27.—Seedling, Native: Dr. C. W. Grant, Peekskill, N. Y.
- No. 28.—Seedling, from Hungarian, out-door: Mr. Pollock, Morrisania, N. Y.
- No. 29.—Grapes under Glass: S. R. Trembley, Bergen Point, N. J.
- No. 30.—10 Delaware, 10 Diana: F. C. Brehm, Waterloo, N. Y.
- No. 31.—Delaware, Iona, Union Village: C. M. Saxton, New York.
- No. 32.—Delaware, Rebecca, Alvey, Union Village: W. Brocksbank, Hudson, N. Y.
- No. 33.—Diana, Heribemont, Delaware, Taylor's Bullitt, Hartford Prolific, Red Traminer, Elsinburgh, Oporto, Alvey, Anna, Miner or Venango, Clinton, Isabella, Wylie, Canby, Concord: A. S. Fuller, Brooklyn, L. I.
- No. 34.—Heribemont, Diana: C. F. Erhardt, Ravenswood.
- No. 35.—Concord: H. S. Young, Poughkeepsie, N. Y.
- No. 36.—Loomis' Honey, Maxatawny: Peter Raabe, Philadelphia, Pa.
- No. 37.—Manhattan. Isaac Buchanan, N. Y.
- No. 38.—Concord, Diana, Delaware, Heribemont, Union Village, Creveling, Canby's August, Elsinburgh, Logan, Mary Ann, Oporto, Louisa, Alvey, Hartford Prolific, Rebecca, Anna, Taylor, Catawba, Isabella, To Kalon: Rev. J. Knox, Pittsburgh, Pa.
- No. 39.—Celestial, Valentine or Wine: Dr. A. K. Underhill, Chorton, N. Y.
- No. 40.—Concord: Judge Whiting, Tubby Hook, N. Y.
- No. 41.—Ontario, Delaware: J. Dingwall, Albany, N. Y.
- No. 42.—Seedling from Isabella: Mrs. S. W. Randall, Middle Island, N. Y.
- No. 43.—Catawba: T. B. Kissam, Jersey City, N. J.
- No. 44.—Muscogee, Diana, Delaware: R. Richards, Trenton, N. J.
- No. 45.—Rogers' Hybrid, No. 4, and 15: Geo. Seymour & Co., South Norwalk, Conn.

Summary.—It will be seen by the above that there were on exhibition 51 different varieties. As the samples averaged about five clusters, the total number of clusters reached about 750—a fine collection surely, when we remember that the majority were of the leading kinds now prominently before the public. It has been said that few specimens of the fruit of the Delaware have been seen. At this single exhibition there were not less than 125 clusters of this variety alone. Of the Concord there were about 60 clusters, and of the Diana some 70 clusters; Isabella 25, New Seedlings, 30 clusters.

JUDGES' REPORT.—PRIZES.

- The Judges on Grapes submit the following report:
- Best Native Seedling, which has never before taken a prize, \$10, to Dr. C. W. Grant, of Iona, N. Y., for "Iona."
- Best collection of Native Grapes, \$10, to A. S. Fuller, of Brooklyn.
- Second best do., do., \$5, to M. Olm, Flushing, gardener to Orange Judd, 41 Park-Row, N. Y.
- Best six varieties of Native Grapes, \$4, to F. F. Merceron, Catawissa, Pa.
- Second best do., do., \$2, to George W. Martin, Brooklyn, E. D., N. Y.
- Best four varieties, Native Grapes, \$3, to W. Brocksbank, Hudson, N. Y.
- Second best do., do., \$2, to Fred. Baumceister, East Newark, N. J.
- Best five bunches Native Grapes of any kind, quality to rule, \$2, to J. W. Bailey, Plattsburgh, N. Y., for "Adirondac." (Mr. Downing dissenting.)
- Best five bunches Delaware, \$2, to E. O. Eaton, Troy, N. Y.
- Best five bunches Diana, \$2, to F. C. Brehm, Waterloo, N. Y.
- Best five bunches Catawba, \$2, to W. B. Westcott, New-York, (grown in City yard.)
- Best five bunches Concord, \$2, to H. S. Young, Poughkeepsie, N. Y.
- Best five bunches Hartford Prolific, \$2, to W. Taft, Fordham, N. Y.
- Best five bunches Heribemont, \$2, to C. F. Erhardt, Ravenswood, L. I.
- Best five bunches Allen's Hybrid, \$2, to John Hoag, Newburgh, N. Y.
- Discretionary Prize of \$1, to Geo. W. Martin, Brooklyn, N. Y., for Brinkley, grown out of doors.
- Discretionary Prize of \$1, to Peter Raabe, Philadelphia, Pa., for Loomis' Honey, in point of flavor.
- Discretionary Prize of \$3, to N. Armstrong, Bergen, N. J., for collection of hot-house grapes.
- None of the prizes were awarded for foreign grapes, there being no competition under the schedule. For the only lot (containing one bunch of each kind.) the Committee have recommended a discretionary prize.
- With regard to Native Grapes, the Committee are much gratified, particularly with the quality of the fruit, considering the present unfavorable season, and are disposed to commend not only the design of the New-York Fruit Growers' Society, in arranging for this display, so

interesting and instructive, but also the public spirit and enterprise of Mr. Orange Judd, Editor of the *American Agriculturist*, who placed his rooms at the disposal of the Society, and contributed the prize money and entire expense of the Exhibition.

CHAS. DOWNING, WM. CHORLTON,
D. S. DEVEY, ISAAC BUCHANAN,
JOHN DAILLEDOUZE. *Committee of Judges.*

Crab Apples.

Every housekeeper knows the value of this fruit for sweetmeats and jellies, though few are aware of the number of varieties now in cultivation, presenting a great difference in size and color, and all beautiful. Aside from the use of its fruit, the tree is well worth cultivating for ornament. In Spring it is covered with charming flowers, while the fruit following, remains for several months, and presents a very showy appearance. Crab apples may be grown as standards or as dwarfs, and in either case when loaded with their brilliant fruit, are most attractive objects. There is now upon the Exhibition tables of the *Agriculturist* Office a collection of crab apples from Frost & Co., of the Genesee Valley Nurseries, Rochester, N. Y., which comprises most of the old and new sorts. The largest and finest colored is the Transcendent Crab, and it is difficult to conceive of anything more beautiful than this in the way of fruit.—Most of the crabs are from the *Baccata* variety of the *Pyrus malus* or Siberian Crab, and vary from the size of a currant up to an inch or more in diameter. The "Lady Crab" does not belong to the same variety, and is not a proper crab. It is a very pretty little fruit, about one quarter the size of the common Lady Apple, and like that is an excellent dessert fruit. It makes up in numbers what it lacks in size, for the limbs are actually crowded with them.

Growth and Treatment of Gooseberries.

Geo. H. Hite, Esq., of Morrisania, a successful cultivator of the Gooseberry, sends his method to the *American Agriculturist*. As his communication is rather long, we extract the principal points of interest. Mr. Hite does not follow the usual method of training to a single stem. He plants a bush of one year's growth and allows but a single branch to grow the first year. The second year several shoots will spring up from the root, and as many of these, say 5 or 6, are allowed to grow, as will make a frame work of the bush, and all others are suppressed. He allows these limbs to grow upward, and when side branches appear on them, allows them to grow to the length of 6 or 8 inches and then nips them off to 4 inches. The terminal bud left at the pinching will start and grow a few inches, when it must be pinched back to a single leaf. The next spring he cuts back the side branches to the first pinching. All laterals (branches which spring from the main stems) must be treated in the same manner. The main stems or frame work are allowed to prolong themselves undisturbed, while the side branches are kept short, in the manner above indicated, in order to keep the bush free and open to admit light and air. Mr. Hite prevents mildew, the great obstacle to the cultivation of the foreign sorts. He puts a quart of dry unbleached wood ashes into a vessel that will hold about 5 gallons, and pours upon it 3 gallons of boiling water, stirs it for a few minutes, and then fills up the vessel with cold water, the object being to have the solution as hot as the hand can bear without scald-

ing. The application is made by the hot liquid being thrown forcibly into the bush, by means of a good sized garden syringe. The work should be done thoroughly, taking care to drench every berry and every leaf, both on the under and upper side. Early morning, when the dew is on, is the best time for the purpose. The application should be first made as soon as the fruit is formed—and be continued from time to time as signs of mildew appear—until it is mature. By growing his bushes in the manner above described, and persistently syringing them with this solution, Mr. H. succeeds in obtaining the English gooseberries in great perfection. His manner of training leaves the bush open so that the liquid can reach every spot. He adds that the same liquid with the addition of a tablespoonful of sulphur, has been used by him with great success in preventing mildew upon grape vines.

What to Do with the Lantanas.

"E. P. H.," of Poughkeepsie, N. Y., furnishes for the *American Agriculturist*, his experience with this favorite plant as follows: Four years ago a white lantana in my garden seemed to be so flourishing in October, that I determined to try it as a house plant during the Winter. The furnace heat of the house allowed it to do little more than spindle out a poor existence until Spring, all my trouble having been in vain, so far as blossoms were concerned. In May I turned it out into the garden, and then came my reward; for from June until the end of Autumn it was covered with a profusion of its beautiful flowers, and the more they were cut, the greater was their number. Of course it had proved itself too valuable to be lightly discarded, and therefore, it being too large for the house, I sent it to a professional gardener to be kept through the Winter. The same plant is now in my garden, this being its fourth Summer, and it is 5 feet across horizontally in every direction, and 5 feet high. Its trunk is 4½ inches in circumference at the base, and 3 inches, at 1½ feet above the ground, and it is still constantly covered with its beautiful blossoms, which are well shown off against the deep green leaves. I have now two other Lantanas, one the common yellow and the other the deep orange colored, known to some as "the Grand Sultan," which are now in their third Summer, and also thrive equally well with the treatment given to the white. Cared for in this way, the Lantana, instead of being one of the bedding plants, to be ranked with Verbenas and Petunias, becomes a shrub or bush, not like the Weigelias, Deutzias, and Spiræas, covered for a few weeks with beautiful flowers, and then resuming its sober coat of green, but it is always in its holiday dress. Neither is the Lantana thus treated a delicate plant which must be pampered with rich soils and fed with liquid manures, but it thrives in any ordinary garden soil. Now this may be all known to the Editors of the *Agriculturist*, but it was not to me, and I know it is not to many others who will look upon the Lantana as a tolerable little plant, and allow it to die every Fall.

[The Lantana is one of our favorite bedding plants; but when grown in the manner described by our correspondent, it forms a shrub of great beauty, and will repay the trouble of taking up and keeping through the Winter. To those of our readers who do not know the Lantana, we can best describe it as a shrubby kind of verbenas. It bears numerous trusses of small flowers which are shaped somewhat like

those of the verbenas. There are quite a number of colors—white, cream color, yellow, purple and orange. The orange is remarkable for the change which takes place in the color of the flowers: they are of a very light orange when they first open, and gradually change to an orange red. The plants grow very readily from cuttings, and are supplied in the Spring in large quantities by the florists.—Eds.]

Bulbs in Pots.

There are no more beautiful decorations for the parlor or sitting room than Hyacinths, Crocuses, Tulips and other bulbs grown in pots. They are cultivated with great ease, and with a little care, a succession of blooms may be had throughout the Winter. The soil should be light and rich; a sandy loam enriched with well decomposed cow manure; if the loam be not light, a portion of clean sand should be added. Hyacinths are general favorites for their beauty of color and delightful fragrance. In selecting these, choose medium sized heavy bulbs of the single varieties, as these flower much more freely than the double ones. It is also desirable to get an assortment of colors in order to produce strong contrasts. If planted singly, a 5-inch pot will answer, but a much better effect is produced where three bulbs of different colors are planted together in a 7-inch pot. In potting, care should be taken to secure good drainage; place a piece of broken crock over the hole, and on this some coarse fragments of charcoal before putting in the soil. The bulbs should then be planted so as to leave just the crown uncovered. Give the pots a moderate watering, and then set them away in a warm, dark place, watering occasionally, until the earth becomes well filled with roots. The condition of the roots can be examined at any time by inverting the pot in the right hand, which is spread out over the earth; then give the rim of the pot, held in the left hand, a slight tap against the edge of a table or other hard substance. The ball of earth will be loosened and the pot may be carefully lifted off. When plenty of roots are found, the pots may be brought to a light, warm room, and with liberal watering they will soon give spikes of bloom. When the flowering is over and the leaves become yellow, the supply of water should be diminished and the bulbs dried off. When the bulbs are completely ripened, they can be removed from the earth and kept for planting the following Autumn. If not carefully ripened, it is better to plant the bulbs out of doors and take fresh ones for pot culture. By potting bulbs at intervals of a week or two, from now until Christmas, a succession of bloom can be kept up in the house through the Winter.

The little Tulip, called Duc Van Thol, which is a dwarf kind of various colors, is best adapted to pot culture. These may be planted from 3 to 12 in a pot, and treated like Hyacinths. Crocuses are much grown in pots, though the short duration of their flowers renders them less desirable than either Hyacinths or Tulips. A number of them may be planted in a pot and treated as directed above. These bulbs, especially the Hyacinths, are sometimes grown in water in glasses made for the purpose, but they are more trouble, and the bloom is seldom as fine as when in pots. They may also be grown in pure sand or in wet moss, taking care in all cases to keep the bulbs in the dark until they have formed strong roots. Narcissus, Jonquil, Iris, Snowdrop, and Scilla are readily grown in pots and are pleasing home decorations.

What Shall I Do with my Grape Vines?

This question, though not always expressed in these words, forms the burden of numerous letters which have recently been addressed to the *Agriculturist*. We cannot answer these many inquiries separately, but must make a comprehensive reply, leaving it to the intelligence of our readers to apply general principles to their particular cases. — We prefer pruning in the early part of November, or postponing it to a later season, as the cut surface has time to harden and partially heal before severe weather sets in. Those who have followed our

directions given with regard to the young vine planted last Spring, will have this Fall a single stem. This is simply to be cut back to within a foot of the ground. Next Spring, when the buds start, all but two of them are to be rubbed off, and these two allowed to grow during the next Summer, taking care to keep the stems tied to a trellis or a stake, as in fig. 1. The side branches which start are permitted to grow until they have made two or three leaves, and are then pinched back to a single leaf.

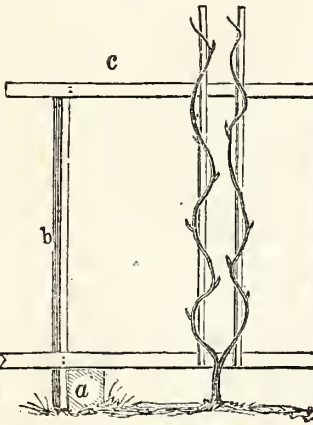


Fig. 1.—SECOND YEAR.

It is also well to check the growth of the stem in September, by pinching off the growing point. A vine in this condition, having two strong stems or canes in the second year of its growth, is ready to make two arms to be laid down to the trellis. If the vine is a poor grower and the new canes are too weak to form arms, they are again to be cut to a single bud each, and two new and stronger canes obtained the following year. Whenever two uprights of strong wood are obtained, they are to be cut back to three feet or four feet in length, according to the plan of training proposed. It is from these arms that the upright fruit-bearing wood is to grow. If the vine is intended to cover a trellis 6 or 8 feet high, the arms should be 3 feet long, and if the trellis is to be only 4 or 5 feet high, the arms may be 4 feet each. The next Spring the arms are to be fastened to the lower bar of the trellis, which may be built with wooden slats, on the plan of Mr. Knox, described in the April *Agriculturist*, or of wire, as directed by Mr. Fuller in the August number. The buds along the arm will all start, and all those which are not needed to form upright canes should be rubbed off, leaving buds—as far as possible upon the upper side—at 8 or 9 inches apart. In this third year of the new vine, the upright canes will be formed, which are to be tied to the trellis, and in a strong vine will bear three or four bunches each. Whichever of the two most generally employed methods of pruning is

adopted, the treatment of the vine up to this point is the same, but the future management is quite different. The mode of training and pruning adopted by Mr. Fuller and many other cultivators, is to grow the vine upon a trellis 4 feet high, and lay down the arms 4 feet in

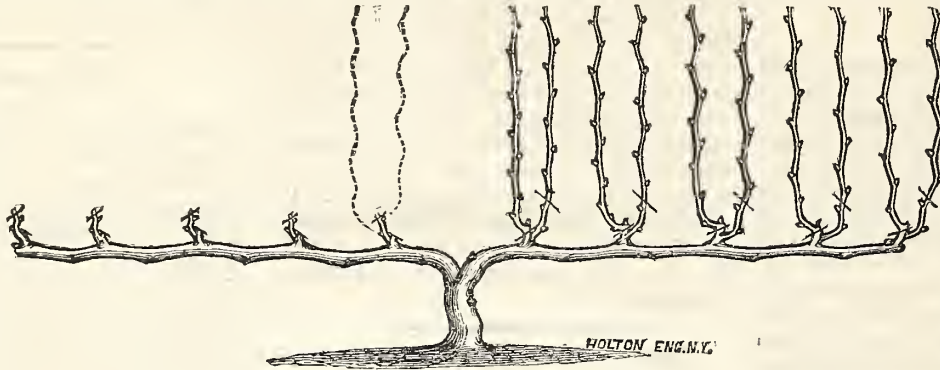


Fig. 2.—FULLER'S METHOD OF FALL PRUNING.

length each. The treatment of a vine the first Fall after the arms are laid down, and which has single canes from each bud, is to cut back all these uprights to within two buds of the arms; this will leave the vine as represented on the left-hand side of Fig. 2. The next year a cane will proceed from each of these two buds, as shown on the right-hand side of the figure; these are to be kept tied up to the trellis, and allowed that season to grow to the top, where they are pinched off. The Fall of the fourth year, one of the canes is to be cut back to two buds, and the other cut away altogether, as in figure 3; the cross lines show the place of each cutting. By following this treatment each Fall, there will always be produced two upright canes from each spur upon the arm—one of which at every Fall pruning is to be cut back to two buds, and the other one removed altogether. During the Summer, the laterals, which do not bear fruit, are pinched off to a single leaf, and the uprights should be pinched at the third or fourth leaf beyond the last bunch of fruit.

A quite different system of pruning is followed by Mr. Knox and others. The trellis is 8 feet high, and the arms are 3 feet in length; each producing 4 upright canes, which are to have the laterals or side shoots pinched off to a single leaf during the summer, and in September the end of the upright shoot should be pinched off to induce the wood to ripen. The vine in the

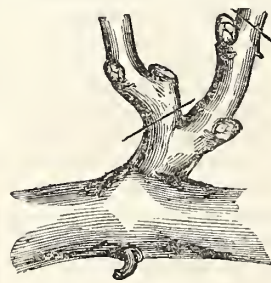


Fig. 3.—WHERE TO CUT.

Autumn, after the arms are laid down, will present the appearance shown in fig. 4. The pruning consists in cutting back each alternate cane to two buds only, and shortening in the others according to their strength; thus, a vigorous upright will be left to occupy the whole height of the trellis, while a weak cane is cut back to four feet, more or less. The vines will present an alternation of long canes and of short spurs, each bearing two eyes. The next Spring the long canes will throw out fruit bearing spurs, which after the fruit is set, are to be pinched off at the 3d or 4th leaf beyond the last bunch, and all other laterals stopped off. Upon the short spurs, both buds will start, and the most promising is allowed to grow while the other is removed. New canes will be form-

ed from these buds which will fruit the following year. At the next Fall pruning, the old canes are cut back to two good buds, just as the others were the year before, and the new canes shortened or not, as circumstances may require. In this way of pruning, each alternate shoot is

cut back every other year to buds, only one of which is allowed to grow. The advocates of this system of pruning claim that it is better adapted to our native vines, than the one first described, as ours are such rampant growers that they will not submit to the close confinement required by that. —Whatever method of pruning is followed, the vines should be removed

from the trellis and laid down at the approach of cold weather, and in northern localities, where the Winter is very severe, covered with a layer of light soil. All varieties of grapes are benefitted by laying down, even if they are not covered. With perfectly hardy varieties, merely removing from the trellis and laying upon the ground, is all that is needed, but more tender sorts, like the Diana, require protection. They may be protected by a covering of soil, if it is not too wet, by cedar boughs, or by a few rough boards carefully laid over them.

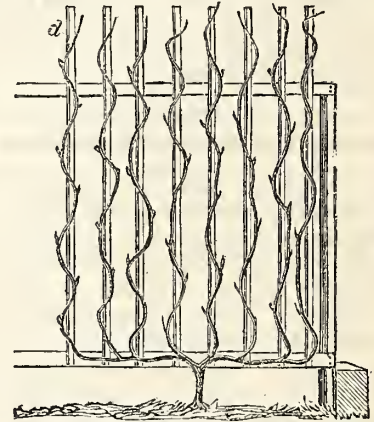


Fig. 4.—MR. KNOX'S METHOD OF TRAINING.

Advice is asked of us very frequently about pruning old and neglected vines, by those who wish to get them into a shape for proper training. As such vines differ much as to age, and have been subjected to different degrees of care, or neglect, it is very difficult to give directions without seeing each particular vine. The best way to treat an old vine is, to layer good vigorous branches and start arms from them, as directed above for young vines.

Plants Suited to House Culture.

Persons who visit a florist and buy those plants which flourish well in the green-house, are very apt to find that they droop soon after they are taken home, and if they do not die altogether, they drag out a lingering existence. The conditions of our dwellings are so different, in respect to temperature, moisture, and light, from those of the green-house, that there are but few plants that will stand the change without injury. It is much better to start cuttings out of doors during summer, for winter blooming. Plants obtained in this way will be much

hardier, and will do much better in the house, than those which have been grown in the greenhouse. We name a few readily obtained, which do well in rooms with a fair share of care.

Roses.—These are put at the head of the list as they are such general favorites. Of the China Roses, Agrippina, Sanguinea, are very good sorts; and the India for common monthly. Of Tea Roses; Safrano, Odorata, and some others.

Geraniums.—Rose Geranium, always admired for the fragrance of its foliage, and Tom Thumb or some other of the scarlets for flowers. The Ivy-leaved is pretty for both foliage and flowers, but it should be grown upon a trellis, or in a hanging basket, where it appears very beautiful.

Verbenas.—These make admirable window plants. They can be kept in a compact stocky form by frequently pinching off the shoots.

Petunias.—These do well, but require some care to keep them from growing too straggling.

Heliotrope.—Always desirable for its fragrance. Cuttings started during Summer will make good blooming plants for the Winter following.

Abutilon.—We consider this one of the most desirable plants for the house. It is described and figured in the September *Agriculturist*.

Cuphea.—The little *Cuphea ignea* (sometimes called *platycentra*) is a fine plant for the parlor, being always covered with its brilliant flowers.

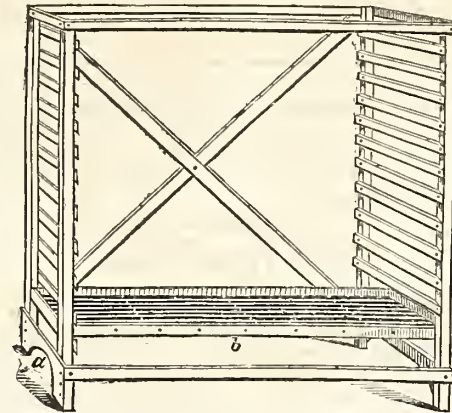
For climbers the English and Irish Ivy, and the plant called Mexican or German Ivy will give a refreshing green. These may be run up over the window on strings or wires. The Canary Bird Flower *Tropaeolum peregrinum*, and other *Tropaeolums*, will do well in a poor soil.

To the above list may be added: Azaleas; Hoya or Wax plant; Calla; Chinese Primroses; and Camellias. The Camellia will, however, seldom bloom in a heated room; the temperature should never be over 65°.

Hints on Drying Apples.

Apples not wanted for family use may be turned to very good account in feeding stock, but they will give much better return by carefully drying them. Although the season for gathering this fruit is mostly past, many barrels will not keep until used at home; if sent to a distant market, freight expenses would consume most of their value, and no better disposition can be made of them than to prepare them for sale in the dried state. The demand for such fruit is at present almost unlimited, and those who prepare it, may not only have the satisfaction of receiving good prices, but also of knowing that a large part of the stock will go to improve the fare of our soldiers, to whom they will be a real luxury. The work may be greatly facilitated with proper apparatus. The "turn-table" apple parer, of which several modifications are to be found at most hardware stores, is a great time and labor saver. Where the amount is small, the coring and slicing may be done with the common knife; but where large quantities are to be prepared, a circular cutter of tin to remove the core and a slicer having several blades which will finish the work at a single stroke, are desirable. At this season most of the drying must be done within doors; and if properly managed, this method is preferable at all times. A drying room may be cheaply fitted up with a stove having the pipe near the floor and extending lengthwise of the room. The frames or racks containing the fruit may be placed in tiers directly over the pipes, and the

drying done very expeditiously. The plan of a convenient drying frame is represented in the

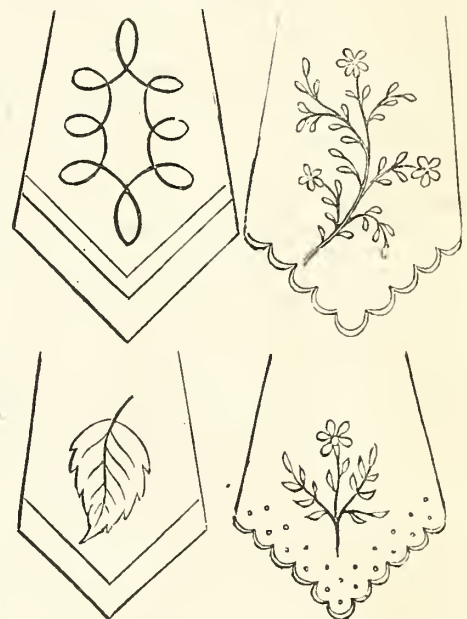


accompanying illustration, designed by one of the editors of the *Journal of Health*. The upright posts of the frame *a*, are two inches square with strips about one inch square nailed across, far enough apart to admit a rack between them, and braced with inch strips at the back, as shown in the engraving. The rack *b*, is four feet long, and about eighteen inches wide, made of common wall lath nailed on a strip at each end, about one fourth of an inch apart, or nearer if required to dry small fruits. Or they could be constructed of "galvanized" wire cloth, which would be preferable, though of course more expensive. A lath or strip of board one inch wide is nailed round the edge, to prevent the fruit falling off. These racks are slipped in upon the side supports as shown in the figure. The legs of the frame may be made sufficiently high to admit of its being placed directly over the stove pipe, from which a current of heated air will pass up among the sliced fruit, and dry it very rapidly. There should be good ventilation of the room to carry off the air as it becomes saturated with moisture. The more rapidly fruit can be dried, without exposure to high heat, the better will be its flavor and color. Drying within doors also has the advantage that flies and other insects can be excluded by mosquito netting at the windows, or openings for ventilation. One or two cents per pound over the ordinary price, which will be readily realized for nicely dried fruit, will in most cases well repay the extra cost of all the needed appliances.

Treatment of the Croup.

A "Physician's Wife," at Carrol Co., Ill., writes to the *American Agriculturist*: "Croup gives warning in advance, and woe to the mother who fails to heed that warning. Last Sunday morning the good of the sermon was lost to me by the dry hacking croup cough of a little boy in one of the front seats. As the sermon progressed the coughing grew deeper and harder, and I thought the services would never get through. A mother in front of me clutched nervously at her shawl every time the little fellow coughed, as if she would fain pull it off and wrap it around the child. There he sat with a low necked jacket on the throat, and part of the chest exposed and bare; the sight of a corpse would hardly have chilled me more. I was a stranger to the lady who sat beside him, but learned it was his mother. 'Do you know your child has got the croup?' said a woman as she came up the aisle. 'Yes, he was croupy last night,' she replied quietly. 'Why don't you tie some thing round his neck then?' said the friend, 'and if you want to save his life, give him an emetic when you get home; rub liniment on his throat and chest, and get him in a perspiration, keep him warm for a day or two and give him light diet.' The mother passed out and I

hope she followed the directions. 'Who is it?' I inquired of the friend. 'O, it's Mrs. Blank,' was the reply, 'it's not two weeks since she buried a child.' There is no disease more simple to cure than croup at its outset, inflammatory croup excepted, and no disease more baffling to physicians when allowed to proceed too far. Now is the croup harvest; one day is warm, another is cold, and in many families the winter clothes are not ready until near Christmas. This ought not to be. Mothers ought always to have some simple remedy on hand for child diseases, for with many families a doctor is so distant, and his being at home so uncertain, that sickness may have made fatal progress before he arrives. The butchering season is at hand now, and it is proverbially croupy. Fresh sausages and pork steak are too tempting for the children's appetites; and the stomach out of order, I have noticed, will bring on croup, nearly as soon as taking cold. A mother who seldom employs a doctor, said to me, 'I have never known an emetic to fail in curing croup if given in time.' It is always used in our family, and always with the same success." [See simple enough remedies in the October *Agriculturist*.—Ed.]



Designs for Ornamenting Cravats.

Miss S. R. Bowman, Philadelphia Co., Pa., contributes to the *Agriculturist* the accompanying designs for ornamenting the ends of gentlemen's silk cravats. They should be worked in fancy colored silks, crimson, blue or buff, to suit the taste and complexion. The edges of the ends may be worked with either points and dots, or finished with a hem, and stitched or chain stitched in one or two rows, with silk to match the principal design. The cravat itself is best made of plain black, either ribbon or dress silk. To our individual taste the plain neckerchief or tie, without any such addition, is more becoming to any gentleman, old or young, but fashion decides otherwise, and most young men will be in the fashion if possible. A neck tie neatly ornamented in this manner would be a very suitable present from a young lady to a gentleman, on the approaching holidays. Articles made by the hands of a friend are more highly valued than those purchased.

How to Fold a Lady's Dress.

Miss S. R. Bowman, Philadelphia Co., Pa., contributes the following directions for the *American Agriculturist*: Take the exact quarters of the dress, from the bottom of the skirt, to the sleeves, double them together with the bosom out; then on a bed, lay the skirt perfectly smooth, and begin at the bottom to fold it up, just the width of the trunk or drawer. The waist and sleeves will fold nicely to

gether, and must be laid outside the folds of the skirt. Then double over the ends, to fit the length of the trunk or valise, and it may be carried very smoothly without taking much room. For a carpet-bag, it is better to roll it, which may be done very tightly without rumpling.

Parlors and Parlor Ornaments.

We Americans are a wonderfully utilitarian people, yet few seem to realize that there is utility in refined enjoyment. We have often alluded to the stiff, dark, shut up parlors or "best rooms", too good to use, and which, while scrupulously neat and furnished with chairs, tables, sofas, and handsome lamps or candlesticks, are so utterly lacking in attractiveness that they would be shunned by every member of the family were the blinds not closed and the curtain down, the air close and every thing kept ever in appropriate order for a funeral. A stranger shown into one of these rooms has nothing to do but twirl his fingers and wait. The blinds are turned and throw an uncertain light into the prevalent obscurity, and there is not a thing to look at but some old fashioned annuals or gift books and the family portraits perhaps. Now it requires a great deal of training to destroy in man or woman the love of the beautiful, and, it is as natural for a girl to put flowers in her hair as to put cherries in her mouth; each act is done for her own enjoyment. Her staid mother regards the fruit as food and the flowers as vanity. So, gradually the natural taste and love for having beautiful things about her is educated out of the daughter of this frugal housewife and excellent mother. The guest who is not a stranger is shown into the "sitting room" or kitchen at once, and receives hospitable welcome that more than takes the place of a welcome which might be extended to the stranger, not in words, but by the pleasant surroundings of a bright, fresh, genial room, adorned with flowers, pictures, and other interesting objects, the windows of which look out upon a pleasant flower garden, grassplot, or distant hills and valleys.

If any young lady reader of the *Agriculturist* knows any such stiff, close, shut up parlor within a mile or two of her comfortable, light, sitting room, and follows our counsels, she will get up bright and early some morning, and first open the windows to see from which the pleasantest views are obtained, and then leave the blinds open and the curtains drawn, at least at the most attractive one. Then she will set the chairs at an easy angle as if somebody had been sitting so that he could cast an occasional glance at the prospect. If there is a centre table, place a few of the most attractive books, engravings, or photographs, she has upon it, and then picking some flowers, arrange them in a plate of sand and moss, or in a loose easy bouquet with pretty green leaves, and place this among the books and pictures, (don't try to make a stiff green-house bouquet); or arrange both the plate and the bouquet, put the former on the table and the latter on the mantelpiece. Now she may draw up the rocking chair near to the centre table, selecting that spot from which the room, the table, and the window will all look prettiest, where also the chair itself will have an inviting, hospitable look to one entering the door. This done, let her take a seat at the window or table, imagine herself a stranger, and think how she would feel. See if the room offers not only a welcome, but attractions which will in a measure make good the lack of her own society, while she is washing her hands, taking off her apron, and making ready to receive her guest. Finally set the door open, and fasten it, if the chronic tendency to stay shut makes it swing to. This is what may be done in a parlor, without outlay either in money or labor for other adornments than those which the garden and library of every well-to-do farmer's family affords.

The outlay of a little money and the exercise of a little good taste will furnish any room with many additional attractions, without considering houseplants which add so much to the agreeableness of any apartment. The multiplication of beautiful

photographic pictures, copies of distinguished works of art, which are sold at very moderate rates, places a most elegant and interesting class of parlor ornaments within the means of almost every one. Really beautiful engravings or lithographs even, are much more expensive—and let us beseech our readers to content themselves with flowers alone, rather than make use of the cheap colored lithographs which are so apt to attract those of uncultivated taste.

Rustic Picture Frames.

Rustic work for this and other purposes is in great favor now-a-days in the fashionable world, and many and beautiful are the imitations of bark, rough wood, leaves, vines and moss upon bark and twigs of trees, etc. These are cast in bronze, zinc and iron, for picture frames and similar purposes. Papier-mache is also pressed into a multitude of rustic forms of great beauty, and the wood carvers exercise their skill in producing in oak, black walnut and butternut, devices representing rural things. With a little care in selection and skill in handling tools, we may frame our photographs and engravings and crayons with rustic work as much more beautiful than the costly products of the bronze foundry, as nature is superior to art. Oak wood denuded of the bark presents a beautifully corrugated surface, out of which the knife easily removes the few fibres which adhere, and it is ready for varnishing as soon as it is seasoned. The "season cracks" should they occur may be filled with dark brown putty and will even lighten the general effect. Natural scars, knots, spots where branches have been removed or only short spurs left, all add greatly to the ornamental effect. Pieces of suitable diameter, sawed carefully in two lengthwise, are very easily worked, matched at the corners, etc., and make strong durable frames. Wood having beautiful bark, not too rough, covered partly perhaps by close clinging lichens, is very pretty, wrought into frames in the same way, and when one once begins to make such things it is remarkable how many beautiful objects he will find ready to his hand.

Preparing for Cold Weather.

The change of temperature from the 90° of Summer to the freezing and zero points of Winter, necessitates no little preparation to secure continued health and comfort. The most important part of this work is to have the body itself in right condition. No extra amount of clothing will secure genial warmth, if the heat-producing organs in the system fail to properly perform their functions. As most readers are aware, our garments are not needed so much to keep the cold out, as to keep in the heat which arises from slow combustion of part of the food in the system. A person with vigorous digestion, active circulation, and a clean skin, will feel comfortable with an amount of clothing under which a dyspeptic or consumptive would shiver with cold. The out-door life of the farmer usually secures the right working of his heat producing apparatus, but the female portion of the community need instruction and care on this point. More out-door exercise is wanted to give tone and vigor to the system, and prepare it for any changes of weather. Some regard should be had to the character of the food, with reference to maintaining animal heat. That containing a large portion of carbon is best fitted for cold weather, as fat meat, buckwheat cakes, etc., which wisely form a large part of the staple provisions in Winter. We repeat a hint frequently given in the *American Agriculturist*, on keeping the feet warm. As they are constantly in use, perspiration is more copious there than in some other parts of the body, and hence the socks soon become damp. In that state they rapidly conduct heat away, and cold extremities and the resulting evils of "taking cold," and other derangements, often follow. The preventive is to wipe the feet dry, and change the socks during the day. Bathing the feet in cold water in the

morning and rubbing them well with a coarse towel will aid in making them less sensitive to cold. It is unwise to defer putting on thicker clothing until late in the Fall. The rapid change from warm to cooler weather in Autumn, is often more trying to the health than the severer cold of settled Winter.

In arrangements for heating dwellings, economy of fuel is worth considering, but not to the disregard of the health of the occupants. It is possible to make a room nearly air tight, and thus keep out every breath of wind that might "bring in the cold," but it would soon become unfit for occupancy. There is very generally great disregard to ventilation, especially in Winter. It is desirable to avoid cold drafts from crevices in the doors and windows, but better leave these, than not provide for the escape of the vitiated air, and the ingress of that which is pure. A ventilating flue connected with the chimney, such as was described in the *Agriculturist*, Vol. XX, p. 309, (Oct., 1861,) is well adapted for this purpose. A large sized stove is more economical and less prejudicial to health than a small one. In the latter it is necessary to keep the fire brisk, and the rapid draft carries away through the pipe a much larger proportion of the heat produced, than would escape were the fire only moderate. The stove must also often be kept nearly or quite red-hot to supply sufficient warmth, and this rapidly spoils the air for breathing. In large stoves, both these difficulties are obviated; the fuel is more slowly consumed, and a more moderate temperature is diffused from the greater surface.

Before putting up stoves and building fires for the Winter, examine all flues and be careful that no defects will allow the escape of fire to ignite surrounding wood-work, and also that there be no danger of conflagration from soot which may have collected during the previous year.

Put Water on the Stove.—Important.

This subject has been referred to in some previous volumes of the *American Agriculturist*, but is so important in respect both to health and comfort, that we refer to it again. Let the reader look a little into the science of the matter; the practical lessons to be learned, will be useful. The air acts upon water like a sponge; it sucks up and secretes more or less of the fluid, but with this difference, viz., that the warmer the air, the more water will it secrete. For illustration, take a room 12 by 15 feet and 9 feet high, which contains 1620 cubic feet of air. This amount of air at the freezing point (32° F.) will contain only 3807 grains, or a little over $\frac{1}{2}$ pint of water. Heat the air to 50°, and it will absorb 6869 grains or very nearly a full pint. Heat the air to 70° or barely to a comfortable summer warmth, and it will absorb 12,863 grains or nearly a quart of water. Heat the same air to a 100° or just above blood warmth, and it will absorb 30,975 grains, or nearly $2\frac{1}{2}$ quarts of water! That is, increasing the temperature, increases the capacity of the air to absorb water. In a cold room the air often feels damp: warm the air by a stove and it becomes dry and unpleasant—the moisture has been absorbed and hidden in the air, and the sponge-like capacity of the air draws the moisture from the skin.

On the contrary, cooling the air lessens its capacity to hold water, and it deposits the surplus. A tumbler of cold water cools the air near it, and the surplus moisture is deposited upon the outside of the glass. The window panes exposed to the outside cold, cool the adjoining air on the inside, and the moisture is deposited on the glass. The air thus cooled sinks down, more warm air takes its place, and more moisture is deposited, until the glass is dripping wet, and, perhaps, the water freezes upon the windows. A cold current of air meets a warmer one in the atmosphere, and chills it; the moisture previously concealed is thrown out in the form of vapor or clouds, and when the deposit is large, the watery particles unite and descend in rain drops. (Digging a soil, that is opening the cooler soil to admit the hot atmosphere, causes a condensation of moisture; hence the advice to hoe frequently to alleviate the effects of a severe drought.)

The *practical lesson* now aimed at, is, that when we heat the air of a room by a stove or furnace, we make it a drying sponge, and it sucks up the air from the surface of our bodies and from the lungs, and not only produces unpleasant sensations, but injures the health, to say nothing of its drying out and cracking or warping furniture. To remedy this, there should always be an artificial supply of moisture to the air when heated by a stove or furnace. (The open chimney or grate carries off so much air, causing the introduction of fresh cool air, that the dryness is not so greatly felt.) A wide open vessel of water on a stove, partially supplies moisture. But even this is not enough for the greatest comfort and health. A cloth frequently dampened and hung on a chair or frame near the stove, is preferable. Every one must have noted the balmy effect of a few clothes hung on a frame to dry in a hot room. We heat our whole house by a hot-air furnace in the cellar, as being the most economical as well as the most convenient and comfortable method. But the warm air comes up saturated with moisture derived from a wide vessel placed within the furnace cover, just over the fire, and *always* kept supplied with water. The lack of sufficient water apparatus has caused many, otherwise good, furnaces to be thrown aside as disagreeable and unhealthy. The so-called "burned air" is simply deprived of sensible moisture. A stove-heated room may be made far more pleasant by supplying plenty of moisture.

Let Teachers, and Sextons of churches, act upon the above suggestions, and keep a spacious wide-mouthed evaporating vessel upon the stove. If this does not suffice, and at any time the pupils appear specially restless, try the hanging of a few damp handkerchiefs or garments on chairs near the stove. The effect will often be almost magical.

How to Pickle Cucumbers.

In response to several inquiries from *Agriculturist* subscribers, we publish the following directions given by Mrs. Haskell, in her *Housekeepers' Encyclopedia*: Cut the cucumbers from the vines without bruising the stems; lay them carefully in a basket; take them to the cellar; sort and pack them in barrels, putting different sizes in separate barrels, spread a layer of salt between each layer of cucumbers; there should be sufficient salt to entirely cover the pickles between the layers. Continue to pack the cucumbers daily as they are picked, never using any but fine cucumbers, discarding all that are crooked or of slow growth. Keep boards over the pickles, and weight to press them under the brine, which will be formed without the addition of water, with the juice extracted from the fruit by the salt. Pickles packed in this manner may be preserved for years, if there are no impurities in the salt; but if the salt is mixed with lime, they will soon soften and spoil. In two months after the barrel is filled, take them from the brine, freshen and green. To green cucumbers, prepare alum-water; put the pickles in a vat or boiler, lined with tinned copper; heat the alum-water, and pour it over the pickles. This is the process which is usually employed by pickle-makers, except that they throw steam into the vats to heat the alum-water, and if managed properly the pickles may be greened with less action of copper than when scalded in the usual method in bright brass kettles. Take the pickles from the vat when a little green, and pour over them water boiling hot. If not greened sufficiently, repeat the hot water until they are the desired color, and when cold, put them in good vinegar, let them remain until quite soured; then change to pretty strong vinegar, which will keep the pickles hard and sour; add to a barrel six large peppers, without bruising, and keep the pickles under the vinegar with weights.

To Dye with Sumach.—Miss Lizzie M. Coggeshall, Platt Co., Ill., sends the following directions in answer to the inquiry in the *October Agriculturist*: Cover the berries with water and boil them an hour. Strain off the juice and add a

tablespoonful of copperas to each three gallons of the liquid, stirring it in thoroughly while boiling hot. Wet the yarn in warm water, put it into the hot dye, and occasionally stir it up, while the yarn is taking the color. The color will be purple, and it can be made darker, by boiling the berries in an iron pot.—Another correspondent writes: "For one pail of rain water, take 6 qts. of the berries, soak them in iron 24 hours; then take them out and put in the yarn. Stir it often and keep the dye hot, but not boiling, while soaking. If you wish to color black, set it with copperas; it needs no setting unless to color black."

Meals for a Week.

Some months since a correspondent requested through the *Agriculturist* "Basket," that some one would furnish a list of meals for a week which should combine economy and good fare. Several communications have been received, of which we have space but for the following. "H., of Rahway, N. J., writes: "My living expenses being reduced since the war from \$3000 per annum, to less than the fourth part of that sum, economy is the strict rule: and I send you an account of one week's meals of our family of five (three adults and two children, one an infant). The cost is estimated a little too high, as the month just past averaged 15 cents per week less.

Breakfast.—Each morning buckwheat cakes, cold meat, tea and coffee; excepting that on Monday and Thursday, eggs are served instead of cakes.

Dinner.—Sunday, Monday and Tuesday, roast-beef, potatoes, turnips, and bread pudding—omitting the pudding on Monday. Wednesday, roast-pork, potatoes, turnips and onion sauce. Thursday the same with pancakes. Friday, corned beef, potatoes, turnips and batter pudding. Saturday, the same except bread pudding. Tea at each dinner.

Tea.—Toast, preserves, tea and coffee, and twice, fried kidneys extra.

The cost of the above meals was, say

14 loaves of bread, 5c. each.	70	10½ lbs. of beef, 8c.	84
5 lbs. granulated sugar, 15c.	75	5 lbs. of pork, 10c.	50
2 lbs. brown sugar, 10c.	20	2 beef kidneys, 5c.	10
1 lb. of coffee,	38	Onions,	10
½ lb. of tea, 88c.	22	Syrup, 1 quart.	14
4 lbs. of buckwheat,	16	3 doz. eggs, 20 cts.	60
2½ lbs. of butter, 28 cts.	71	½ lb. flour,	3
14 pints of milk, 6c. per qt.	42	Nutmeg, yeast, salt.	25
Total expense for the week.	\$6.16		

Tea we drink weak; coffee very strong. Potatoes and turnips are my own growing, and preserves made from fruit of our own raising. Beef at 8 cts. is the rump which hung for a week, roasted slowly say 2½ hours, and well basted, is equal if not superior to porterhouse roast."

Another correspondent, "C.," at Andover, Mass., gives the following: "**Breakfast.**—Monday, toasted bread, either Graham or brown, also white bread; sauce and cheese, or broiled salt fish.—Tuesday, milk toast and doughnuts, crust coffee or cocoa shells, and boiled eggs.—Wednesday, warm biscuit and molasses gingerbread, with some slices of cold meat left from yesterday's dinner.—Thursday, hot Indian breakfast cake, cold bread, baked apples, cheese, beefsteak and baked potatoes.—Friday, griddle cakes and roasted apples, chocolate or tea, cold bread and hash.—Saturday, toast dipped in hot salted water and buttered, mashed or roasted potatoes, cold meat or boiled eggs, and doughnuts.—Sunday, fish balls, a hot breakfast cake of Graham flour or fried hashy pudding; pickles and horse-radish.

Dinners.—Monday, beefsteak, potatoes, squash, bread and butter, baked apples or sauce, and apple or squash pie.—Tuesday, roast beef, or fresh pork, boiled squash, turnips, cranberry sauce or pickles, and pie or puddings.—Wednesday, remains of yesterday's meat warmed up in the gravy, squash, turnips, potatoes, pickles or sauce, and pie or pudding. Thursday, soup made of the bone and remnants of beef or fresh pork, and bread pudding.—Friday, either veal cutlets, tripe, sausages or steak, with boiled rice or rye mush.—Saturday, salt fish, boiled carrots and beets, potatoes, drawn butter and pork,

with seraps, pickles, and boiled apple pudding.—Sunday, baked beans and Indian pudding.

"For another week's course, as dinner is the principal meal, say:—Monday, boiled corned beef, potatoes, squash, cabbage, turnips, carrots, beets, and baked rice pudding.—Tuesday, cold corned beef, with yesterday's vegetables warmed over, apple pie. Bread, butter and potatoes are of course requisite at every dinner.—Wednesday, a chowder, or fresh fish in some form, mince, apple or squash pie.—Thursday, boil a leg of mutton, or cut it into steaks and broil; serve with drawn butter or caper sauce; potatoes, squash and turnips, and pudding. Friday, make a soup of the remnants of mutton, having saved the water in which it was boiled; or chop the remnants fine and warm up in some of the broth, adding pepper, salt and butter: toast slices of bread and spread this hash upon it, break eggs into hot water, and when cooked skim them out, and lay upon the hash; this is very nice. Pie for dessert.—Saturday, ham and fried eggs, broiled steak or fried pork, fried apples and potatoes. Pie or pudding.—Sunday, steak, stewed or scalloped oysters, cranberry pie, with custard or squash pie.

Supper.—Monday, fresh cold bread, sauce or roasted apples, or preserved canned fruit with sugar sufficient to make it palatable; ginger snaps. Tuesday, hot toasted bread, simple sauce of some kind; plain cake.—Wednesday, toast, sauce, custard, and plain cake.—Thursday, cold fresh biscuit, sauce, cranberry or apple puffs.—Friday, new raised bread, cold tongue or ham, sauce and cake.—Saturday, milk toast, gingerbread, pickled salt fish. All remnants from every meal should be carefully looked after, that nothing be lost. When it is not desirable to have meat at breakfast, this bill of fare will extend over three weeks instead of two, by serving up for a second dinner what would otherwise appear on the breakfast table. By these rules a family may live well and yet inexpensively.

I give several rules for preparing soup, etc., referred to in the above bill of fare:

Dumplings for a soup.—To 1 qt. of flour, add 2 teaspoonfuls of cream of tartar, 1 of soda, salt, milk, just sufficient to wet the flour; drop this by spoonfuls into the pot of boiling soup, after having put in the potatoes, and boil three quarters of an hour, or even an hour. The soup is made by simply boiling any kind of fresh meat either cooked or uncooked, in water for 4 hours, adding three or four onions, and a carrot or two with pared potatoes; season with salt and peppers.

Apple Dumpling.—Butter a tin pail, and line with a paste made as for cream of tartar biscuit, with the addition of a piece of shortening as large as an egg. Mould it a little, but have the dough soft, fill the pail about two thirds full of apples, quartered. Cover with dough over the top, then put on the pail cover, and place the pail in a kettle of water, and boil three hours. Do not let the water rise so high as to boil over into the pail, and have an inverted plate or saucer in the bottom of the kettle in order that the pudding may not burn.

Crumbs Griddle Cakes.—Soak bread crumbs in milk (which should be decidedly sour) over night. In the morning mash the bread, and add a little saleratus, salt, and flour, and bake like buckwheats."

Double Heeling Stockings.

Miss S. R. Bowman, Philadelphia Co., Pa, writes to the *American Agriculturist* as follows: "Soldiers very soon walk through the heels of their stockings. Now if the good ladies who knit so much, will only make fine *double heels*, in the following manner, "the boys" will probably foot up a victory in "double quick." Take two balls of yarn, and on the right side knit one stitch with one thread, and the next with the other, and so on across the needle. This alternating makes a loop on the inside, which renders the heel very thick and durable, without making it any wider. On the wrong side, take both threads together, and knit as one, in the usual way."

For other Household Hints see *Basket*.



Not Exactly a Plaything.

"O what a nice plaything!" our young friends will exclaim, on looking at the little girl in the picture seated at a tiny sewing machine. But it represents something more than a child and a toy. The "little girl" as you would call her, is Mrs. Charles S. Stratton, (Tom Thumb's wife,) and it is a very good likeness of the petite lady. The little sewing machine is a perfect one in all its parts, and can be used by its mistress to make up her family clothing. It was manufactured by Wheeler & Wilson, and is a most beautiful specimen of art. It is only 20 inches high, and 15 inches deep, cased with richly carved rosewood, inlaid with beautiful ornaments of pearl and gold, and lined with satin wood. The panels are painted with tasteful devices, fairies, cherubs, etc. On one side is a likeness of the bride arrayed as the "Goddess of Liberty," and on the other is the General, as "Young America." There is also a representation of the little bridal party with their attendants. Those who visit New York soon, may see it at the sales-room No. 505 Broadway.

How to Improve in "Composition."

To write a good "Composition" is an accomplishment usually requiring much study and long practice. Study is necessary to furnish the writer with thoughts, and practice to enable him to express them clearly, forcibly, and with elegance. One of the best aids in acquiring a good style is to read the production of some standard author, remember his thoughts, and then try to write them out. The effort should be, not to remember and repeat the language of the copy, but to express the ideas. Then compare what is written with the model, and observe the difference in arrangement, choice of words, and structure of sentences, and notice in what particulars the original excels. The most accomplished authors have practised this method and found it an excellent means of improving their own modes of expression. This suggestion has particular reference to the manner of expressing one's thoughts, which is important, as the reader is more easily interested by that which is stated with clearness and grace. But the first essential is to have something to say. A topic in which the writer himself is much interested, will usually furnish matter interesting to others; therefore the author should endeavor to be full of his subject; his success will be easier if the theme comes within the experience or observation of those for whom he writes.

Pronouncing Either and Neither.

"Vermont Boy," writes: "Will our Editor of the *Agriculturist* please tell us how to pronounce the words *either* and *neither*? We have in this town two learned ministers, one of whom says 'ee-ther,' and 'nee-ther,' and the other says 'i-ther,' and 'ni-ther.' Which is right?" *Answer.*—The general custom in this country is in favor of *ee-ther* and *nee-ther*, and the standard dictionaries give this pronunciation the preference. We noticed that in England, Scotland, and the North of Ireland, they generally say *i-ther* and *ni-ther*, while in Dublin, the common people say *a-ther* and *na-ther*. Where universal good custom does not forbid, it is best to make our language as regular as possible by following analogy, and this favors *ee-ther* and *nee-ther*, as in ceiling, conceive, deceive, receive, seize, and in most other words where the *ei* is not followed by *gh*, or the liquids, *l* and *n*. In these words *ei* has the sound of *a*, as in eight, neigh, sleigh, weigh, or feign, rein, skein, veil, vein. Analogy would even indicate the Hibernian pronunciation of 'a-ther' and 'na-

ther,' in preference to *i-ther* and *ni-ther*. To preserve the analogy, we would prefer the foreign pronunciation of *ight*, like *hate*, this being the only word we now recall, in which *ei* has not the sound of *e* or *a*, in this country.

Writing in "Cypher."

This is a method of sending communications in such a form that they can only be read by those having the key. In a former number of the *American Agriculturist* we partly explained this to our young readers. Here is a dispatch in cypher of historic interest, which was found in the coat collar of a scout intercepted by the Union soldiers, on June 30, 1863, during the memorable siege of Vicksburg, four days before the surrender.

"Nggev Iep Rcoozgvpmp Amwp ocuqceg gd vfg 46 vf kq tceektgb K ygnj tcklhtag amw er vfg yljkeur omocpr Jnub hyur er eijl qbfg vgnj K tccaj amw K ygnj fgxgfc ow hntag elf crvyei lpelvq tgifv elf nehr er 6' e' k qd vfg qrj qd lsnw—Lmueref Lmjlurql, Iep Emo—Lyeiump Oguq Lspe 58vf 3681."

This was deciphered by Michael Mason of Waterhouse's Chicago Battery. The key to the cypher is, that instead of the proper letter, the second one below it in the alphabet is used for the first, third, fifth, seventh, and ninth letter of each word, as *c* for *a*, *d* for *b*, *e* for *c*, and so on. But for the second, fourth, sixth, and eighth letter of each word, the second one above is used, as *h* for *j*, *i* for *k*, *q* for *s*, etc. The same rule is followed with figures. At the end of the alphabet, suppose another alphabet to follow as *v w x y z a b c d*; and so of figures, *8 9 0 1 2 3*. With this key, the above dispatch (which is printed wrongly in all the papers we have seen) reads:

"**LIEUT. GEN. PEMBERTON:** Your message of the 28th is received. I will reinforce you at the earliest moment. Hold fast at all odds till I reach you. I will divide my forces and attack Grant's right and left at 4 A. M. of the 7th of July. **JOSEPH JOHNSTON, Gen. Com.** Jackson, Miss., June 30th, 1863."

Gen. Johnston has doubtless adapted a new cypher ere this. Our young readers can construct others for amusement among themselves, though it will not pay to spend a great deal of time over this when you can be better employed in reading. Our only object is to make you familiar with what is a very important aid to government officers, especially military men. Here is an example on a different plan, which you can read if you get the key:

No. 55.—Ukf krruodm ddmofg ukf bpfufjq fsldxmwvujru jv gys ukf gdsf hdsfg bqe irvfkpoe jgdovgqjh ukf mluwmb hrmt Jw drwti qamb pqf ermbou b zlbz Qofdt ghno bom zrvu ohjjeput bexpu hq bqe bvl ukfp ur udth jw Ukfb xlmo mlth jw bqe ukbql zrv



Concealed Portraits.

Many of our young readers, and not a few of the older ones, were much amused in making out the portraits of the Bonaparte Family, contained in the picture of a bouquet, published in the *Agriculturist* some months since. We present now a somewhat different device, in which are four portraits—the French King Louis XVI, his

wife, and their two children. At first it may be a little difficult to observe them, but when once discovered, it will be almost impossible to look at the picture without seeing them. It is related that this and similar methods of preserving the likenesses of distinguished persons have been extensively practised in France, when the ruling powers have forbidden the publishing of portraits of those they considered their enemies. We have seen representations of posts turned in a lathe in such a way that the shadow falling from them showed the desired profile.

New Puzzles to be Answered.



Fig. 1.

No. 56. Puzzle Picture.—(Fig. 1.) How does the boy in the picture represent a musician?



Fig. 2.

No. 57. Illustrated Rebus. (Fig. 2.)—A well known Scripture quotation, very nearly in the words of the text.

No. 58. Miscellaneous Questions.—What relation is the door mat to the scraper? Which is the largest room in the world? What word of three syllables includes all the letters of the English language?

Answers to Problems and Puzzles.

No. 51. Mathematical Problem.—"A, B, and C, with their wives, P, Q, R, went to market to buy pigs. Each man and each woman bought as many as they gave shillings for each pig. A bought 23 pigs more than Q; B bought 11 more than P; also each man laid out 63 shillings more than his wife. Which two persons were man and wife?" This problem excites so much interest that we give the best solution received—furnished by "W. C.," Jefferson Co., Ind.: Each person bought as many pigs as he or she paid shillings apiece for them, therefore the whole number of shillings that each paid is a square number. And as each man paid 63 shillings more than his wife, therefore 63 is the difference between the squares denoting what each man and his wife paid. But "the

difference between two squares is equal to the product of the sum and difference" of the two numbers from which the squares were formed. Then 63 is the product of two factors, one of which is the sum, and the other the difference of two numbers. (And the nature of the problem implies whole numbers.) Then 63 is to be resolved into two factors, one denoting the sum and the other the difference of two numbers. And first, A, bought 23 pigs more than Q. Then the sum of the numbers that A. and his wife bought is evidently greater than 23, and it must also be a factor of 63. It is also plain that no number greater than 23 can be a factor of 63, except the number 63 itself. Therefore 63 is one factor (the sum of A's and wife's pigs), and I must be the other factor (the difference of A's and wife's pigs). And half the amount of the sum (63) and the difference (1), is 32 the greater of the two numbers, which is A's number of pigs. And half the difference between the sum (63) and the difference (1), is 31, A's wife's number of pigs, being the less number of the two sought. Second: B. bought 11 more than P. Then it is evident that B. and wife bought more than 11, and the sum of the numbers that they bought must be a factor of 63. The only number greater than 11 which is also a factor of 63, is 21 (except 63 which has already been disposed of). Therefore 21 is one factor (the sum of B's and wife's pigs), and 3 must be the other factor, (the difference of B's and wife's pigs). And as before (21+3)÷2=12, the greater number which is B's number of pigs. And (21-3)÷2=9 the less number, which is B's wife's number of pigs. Third, the only remaining factors of 63 are 7 and 9. And (9+7)÷2=8, which is C's number of pigs, and (9-7)÷2=1, which is C's wife's number. Fourth, A. bought 23 more than Q.; but A. bought 32, therefore Q. bought 9, and we have seen that B's wife bought 9; there

fore Q. is B's wife. And as B. bought 11 more than P., therefore P. bought 1, and it has been shown that C's wife bought 1; therefore P. is C's wife. Finally, R., the only woman left, with her 31 pigs, must belong to A.

No. 53. *Mathematical Problem*, (October No., page 311.) *Answer*.—The land cost \$2,500; the fence, \$1,309; the sheep \$3,927.—No. 54. *Illustrated Rebus* (Oct. No., page 311.)—Awl men (shoemakers) th in K awl men mortal (dead man) butt (hems elvers); or "all men think all men mortal but themselves" The following have sent in correct answers; the numbers indicate the problems, etc., answered by each. H. S. Loper, 49; Maine Correspondent, 51; Wm. Holmes, 51; J. M. Cole, 51; Mary Hoge, 51; "Nauticus," 49; "W. C.," 51; E. C. Middlewell, 51; "J. H. B., Jr.," 51; J. Oltman, 51; J. Biddle, 53.

PREMIUMS for 1864.

Or Pay to Voluntary Agents who attend to Collecting and forwarding Clubs of Subscribers to the American Agriculturist.

(Premiums open to all—No Competition.)

Owing to the greatly increased cost of everything connected with publishing, and our determination not to raise the subscription price, and not to diminish the intrinsic value of the paper, but rather to improve it, we had expected to give no premiums hereafter, excepting the Great Strawberry which will be a premium to every subscriber, and ought to be enough to secure as many subscribers as could be desired. But the previous plan has worked well, and many of those who have obtained premiums hitherto, express a strong desire to have an opportunity to get some of the higher premium articles. After looking the ground all over, and making a careful estimate, we have decided to offer one general list, as named below. Any one desiring to do so, can go to work at once, and perhaps this very month get names enough for a good premium. All names sent in now, get the great strawberry plants and the extra number. Note that five cents extra are needed when the "Agriculturist Strawberry" plants are desired, if to go by mail. This will, of course, be paid by the subscribers themselves.

The names (with money for each,) can be sent in as fast as gathered, so that the subscribers can begin to receive their papers. The premium will be paid to any one as soon as his list is completed. *But, let it be distinctly noted, we can reckon for premiums only those names which are marked as for Premiums, when they are sent in.* Hereafter all the separate names thus sent and marked as for premiums, will be at once numbered in a special book, with the name of the sender, so that we can immediately turn to any canvasser's list, and see when it is full.

Premium clubs need not necessarily be all at one Post-Office. Each list ought to contain a fair proportion of new names, for it is to bring the paper before new subscribers, that the premiums are in part intended.

Table of Premiums for 1864.

Names of Premium Articles.	Price of Premiums.	Names at \$1 each.	Names at 50 Cts each.
GOOD BOOKS—See terms below			
A—American Cyclopaedia (Appleton's New)	\$56 00	130	250
B—Best Family Clothes Wringer	\$7 00	19	45
C—Nonpareil Washing Machine	\$16 00	40	90
D—Sewing Machine, (Wheeler & Wilson)	\$45 00	95	185
E—Sewing Machine, (Wilcox & Gibbs)	\$40 00	82	157
F—Woodruff's Mercurial Barometer	\$8 00	20	65
G—Woodruff's Mercurial Barometer	\$12 00	30	94
H—The Aquarius	\$10 00	25	67
I—Five Octave Melodeon (best)	\$80 00	170	340
J—Four Octave Melodeon (best)	\$55 00	120	234
K—Seven Back Volume Agriculturist	\$6 00	38	84
L—Six do do do do	\$4 44	25	58
M—Five do do do do	\$3 33	22	49
N—Four do do do do	\$2 22	19	42
O—Three do do do do	\$1 66	16	38
P—Two do do do do	\$1 11	13	24
Q—One do do do do	\$0 74	10	15
R—Jacob's Portfolio Paper File	\$1 50	17	17
S—Osborn & Hodgkinson's Paints	\$1 50	17	17
T—Premium Cylinder Plow	\$10 00	33	78
U—Eagle Plow No. 20	\$6 00	25	69
V—Hay and Straw Cutter (best)	\$8 00	28	65
W—Steel-tooth Cultivator (best)	\$4 50	25	58
X—Family Lard and Wine Press	\$4 50	24	54

No charge is made for packing or boxing any of the articles in this Premium List. The books and the Premiums K, to S, inclusive, are DELIVERED to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each. *Every article is new and of the very best make.*

N. B.—Every article offered, is a good one—nothing second-hand or of poor make, or quality, or kind. We intend in all cases to deal fairly with every one, and esteem as special friends those who labor to promote the interests and circulation of this journal.

This list may perhaps be altered or amended from time to time, if circumstances or change of prices, etc., require,

but all names sent in during any month, will be reckoned at the premium rates announced for that month.

Canvassers need not choose any particular premium until they get all the names they can. To avoid confusion, please send in the exact amount with each list of names. In special cases, the whole sum for a premium list may be forwarded, and the premium be received at once—the names to be sent in afterward.

Descriptive Notes on the Premiums.

* **Books.**—Any person sending 20 or more subscribers, may select from our book list (page 351) to the amount of 10 cents for each name sent in at the club price of 80 cents, or to the amount of 30 cents for each name at \$1. (No books sent for less than 20 names). The premium books will be delivered anywhere in the United States, or to the border of the British Provinces, free of all cost, by mail or express. Many Farmers' Clubs have, by means of this premium, obtained a good library.

A—Appleton's New American Cyclopaedia.—This magnificent work is now completed, and ready for immediate delivery. It consists of 16 heavy volumes, averaging 800 large two column pages, or in the whole work, 12,804 pages! (The books fill up over a yard of shelf-room.) *It is in reality a complete library of itself, embracing full information upon every topic of human knowledge, alphabetically arranged for convenient reference. The subjects discussed number over twenty-five thousand!* It is hardly possible to name anything upon which pretty full information may not be readily found in the Cyclopaedia. Many who can not purchase the work may be able to obtain it through our Premium offer. It is worth a year's effort in raising subscribers, though not a few may make up a club of 130 names in a brief time.

B—Best Clothes-Wringers.—This is a most excellent Household Implement, which should be in every family. It can be set upon any form of tub, and by turning with the right hand and picking up the garments with the left, they are pressed rapidly and easily between two elastic rollers, and drop out into a basket quite as free from water as they can be wrung by the hardest twisting by hand. Every lady knows that hand wringing is really harder upon the arms and shoulders than even the washing; while the twisting stretches the fibers with lever power, and hastens the wearing out. All this is avoided by the Wringer, which is in truth a *strength-saver*, and a *clothes-saver*. We have had one of the first imperfectly made instruments in weekly use for nearly four years, and it is as good as ever, while it has paid for itself many times over. A child can with this readily wring out a tub full of clothes. Our Premium Wringer are of the family size, and of the best manufacture, and are provided with cogs, and with springs, so that they will wring equally well any article from a blanket to a baby's stocking. The Wringer weighs only 15 lbs., occupies but a small space, and can be carried by hand, or sent by express, or as freight to any point, and is ready for instant use on removing the light packing box.

C—Nonpareil Washing Machine.—The best recommendation we can give of this, is, that while we have tried fifteen or twenty kinds, this is the only one that our "help" continue to use without being required to do so. It acts somewhat like the old "filling mill"; the clothes are put into the hot water, and beat by two pounders which constantly turn them over. The beaters are moved alternately by a crank, provided with balance wheel which adjusts the force required so as to make the turning easy. Take it all in all, the Nonpareil is the best Washing Machine we have found. If we could find a better one, we should put it in our list, for anything that helps to reduce the hard work of washing day, is a godsend. The machine can go as freight, or by express to any part of the country, and we believe will give better satisfaction than any other yet brought out.

D—E—Sewing Machines.—We need not enlarge upon the benefits of Sewing Machines. They are doing more than all else to save the lives and health of females. It is no exaggeration to say that a woman can in a day do *ten times* as much ordinary sewing with a machine, as she can do by hand. We know many ladies who formerly employed a seamstress several weeks every year, but who now do all their family sewing, with less confinement and wear than when the common needle was their only resort. The interest on a fifty dollar Machine is only \$3 to \$4 a year, which is a small consideration compared to its advantages. Five hundred families ought to be supplied through our premium list *this year*. At least 80 to 100 copies of the *Agriculturist* ought to be taken in every town, and would be if some enterprising man or woman would go round and gather them. Two or three ladies might join their efforts, and get a machine for use between them. We offer two kinds of Machines, both varieties of which we have had in use for several years, and with great satisfaction. They are both supplied with the Hemmer, and are sent out with full instructions for use.—The **Wheeler & Wilson Machine**, we have used during five years, and can bear full testimony in its favor. More of these machines are sold and used, we believe, than of all the other good kinds together, which is a strong proof of the satisfaction they give.—This sews with a double thread, both sides of the fabric showing the same stitch.—The **Wilcox & Gibbs Machine**, we have used for over three years, and for most kinds of sewing it is excellent. It is very simple in its operation and can be worked by those who have the smallest amount of mechanical skill. It can be used for most kinds of sewing, and may well be adopted generally, at least where the higher priced machines can not be afforded. We know many who prefer this to any other.—For every kind of sewing, especially where the same stitch is required on both sides, we prefer the Wheeler & Wilson.

F—G—Woodruff Mercurial Barometer.—This is conceded to be the best and cheapest instrument for general use, which is now offered to the public. The peculiar

form of mercury cup invented by Mr. Woodruff, renders the instrument far more portable than anything previously made. The safe delivery of every instrument given by us as a premium, is warranted by the manufacturer (Charles Wilder, Peterboro, N. H.), when to be sent within 1,500 miles. The instruments are beautifully made, are about 3 feet long, and are sent direct from the factory, with no expense save the express charges which vary from 50 cts. to \$1 50, according to the distance. We offer two forms which differ mainly in the style of case, both being supplied with *Thermometer* and *Vernier*. The \$12 form is of course more ornamental, and the more desirable instrument, though either of them is highly valuable. A barometer is to farmers or others on land, what it is to sailors at sea—an indicator of the weather to be looked for. There are many times every year when the indications of the barometer in regard to the weather, will often be of more value than its whole price, while the interest on its cost would be less than half a dollar a year. The habit of observation, and of scientific study cultivated in a family of children where a Barometer is used, is a valuable consideration.

H—The Aquarius.—This is an excellent little portable force-pump, useful in many ways. One can take this instrument in his hand with a pail of water, and throw a considerable stream to any point where a fire may be breaking out, and do more to quench it, than he could with a dozen pailfuls dashed on, even if the fire could be reached. We have thrown water from the ground up against the third story windows of a house. The Aquarius is very useful for watering gardens, for washing windows, carriages, etc., etc. It is provided with rubber suction pipe, to draw water from a pail, tub or bucket, and an ejection pipe having both a nozzle for throwing a stream, and a rose or sprinkler. It has also an air chamber for giving a constant stream. It is a handy instrument, for every household, aside from its benefit as a fire engine with which many an incipient fire has been subdued.

I—J—Melodeons.—None need to be told of the pleasure given by a good Melodeon in a household, or of its utility in the Week Day and Sabbath School Room, and the Church. "Musical charms to soothe even a savage breast," and we hesitate not to say that a benign influence is exerted upon every house and school room where a Melodeon or other good musical instrument is found.—We offer two sizes in our list above, and those of a different price may be selected for a proportionate number of subscribers. (For sizes, style, prices, etc., send a stamp to George A. Prince & Co., Buffalo, N. Y., and get one of their illustrated descriptive Catalogues, which will be sent free.) We have used one of these Melodeons during four years past, and it continues to give the highest satisfaction. It has not been tuned or otherwise repaired in all that time. The premium instruments will be shipped direct from the manufacturers at Buffalo, ready boxed. They can go by railroad, steamboat, express or otherwise, as desired by the recipient. *It will be an easy matter for Churches, and both Week Day and Sunday Schools to unite their efforts and secure an instrument for the public use.*—Many have done so already.

K—Q—Seven Volumes of the Agriculturist.—Here is a whole *Agricultural, Horticultural, and Household Library*, embracing also a large amount of interesting reading for Children and Youth, and thousands of instructive and pleasing engravings. Each volume contains more printed matter than half a dozen dollar books of the usual size. There are in each volume from one to two thousand articles and condensed items, among which every reader will find something useful to himself and family. We send them post-paid (as in the above table,) in new clean numbers, printed from stereotype plates as needed. The last number of each volume contains an index to the whole volume. (Any person preferring them bound, can receive them in this form, neatly done, at an expense of 65 cents per volume, for the cost of binding, and extra postage required when mailed in this form—or if called for at the office, or sent by express, or otherwise, if not to be pre-paid, at a cost of only 25 cents per volume.) Let every one selecting this premium be sure to name what volumes are desired, or how many of each, as duplicates of any number can be chosen if preferred.—We can only supply from volume 16 to volume 22 inclusive. The previous volumes are not stereotyped.

R—Best File for the Agriculturist.—Jacob's Portfolio file, made just to fit the *Agriculturist*, with the name of the paper gilded on, is exceedingly convenient. It is a neatly embossed or stamped cover, made so that each successive number of the paper can be inserted in a minute, when it is strongly held in. The numbers thus fastened together are as convenient as a bound book. When one volume is completed, it can be removed and stitched together, and the numbers of a new volume be inserted. A single cover will answer for a dozen or twenty successive years. It is without doubt the most perfect paper file yet made. It is sent post-paid, as above.

S—Water Color Paints.—Those offered (Osborne & Hodgkinson's) are the best of American Manufacture, and though not so fine for artist's work, as some of the imported (which now sell at six times the price), they answer very well for common sketching, particularly by children and beginners. They are especially useful to children, as their use tends to develop a taste for form and color, and skill in the use of the pencil. We send them post-paid, in a neat mahogany case containing 24 small cakes of assorted colors, with brushes, etc.

T—U—Premium Plows.—The two named in the table above (*Cylinder* and *Eagle No. 20*), are two of the best farm plows in use, and will doubtless give ample satisfaction to any one securing them as premiums. We have not space for a particular description. The Eagle Plow is well-known. The working of the Cylinder Plow, and other items concerning it are described on page 136 of Volume XX, (May 1861).

V—W—Hay and Straw Cutters—Steel-toothed Cultivators.—These implements are of first importance to all farmers, some of whom may find it most convenient to secure them through our premium list. We send the best implements we know of at the prices named.

The Markets.

AMERICAN AGRICULTURIST OFFICE. } New-York, Saturday Morning, Oct. 17, 1863. }

Table with 5 columns: Receipts, Flour, Wheat, Corn, Rye, Barley, Oats. Includes sub-sections for Transactions at the New-York Markets, Exports from New-York, and Aggregate quantity of Breadstuffs left at tide water.

CURRENT WHOLESALE PRICES.

Table with 3 columns: Item, Sept. 17, October 17. Lists various commodities like Flour, Corn, Wheat, and their prices.

The foregoing tables present a very carefully prepared comparison of the receipts and sales of Breadstuffs here, during the past and preceding months.

paring the annexed list of prices, this day and a month ago, every article in the produce line is much dearer to-day. The rise has resulted less from legitimate causes than from the action of speculators.

N. Y. Live Stock Markets.—The Cattle markets have been very largely supplied during the past month, the receipts averaging 6,238 per week.

Milk Cows.—The receipts have averaged 112 per week, and they are now selling rather better than last month.

Veal Calves.—Average receipts, 775 per week. They are now selling readily at 7c. @ 7 1/2c. per lb.

Sheep and Lambs.—The receipts have averaged 15,198 per week. There has been considerable inquiry for store sheep to winter over.

Live Hogs.—Receipts increase as the weather grows cooler. Weekly average for the past month, 20,700, or double the number for the previous month.

The Weather.—For a month past has been mild and pleasant for the season, with comparatively little rain, and but one or two light frosts.

Rain Fall for September, 1.05 inches, making a very dry month. The Barometer has ranged from 29.35 to 30.40, making a variation of nearly 1 inch.

Thermometer at 6 A. M., New-York.

Table with 2 columns: Date, Temperature. Shows thermometer readings for September and October.

Table with 2 columns: Date, Temperature. Shows thermometer readings for October.

To Sunday School Teachers and Others.

The Book of "Lessons for every Sunday in the Year," can be obtained at the American Agriculturist Office in large or small quantities.

1 copy, 14 cents. 4 copies, 52 cents. 7 copies, 90 cents. 2 copies, 28 cents. 5 copies, 66 cents. 8 copies, 104 cents.

THE SECOND SERIES of the above book will be published early in November. It will be of the same size and price as the first Series, and is a most valuable book.

Business Notices.

87 Eighty Cents per Line of space.

BEST AND CHEAPEST.—"Doty's New-York Clothes-Washer" is warranted to clean the bulk of eight shirts in five minutes, and not injure the finest fabric.

PREPARE FOR THE HOLIDAYS!

Booksellers, Fancy Goods Dealers, and the Public, will please remember that there is no other Gift which compares with the CRAIG MICROSCOPE and MOUNTED OBJECTS.

Lands—To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty-acre tracts, at from \$15 to \$20 per acre; payable within four years.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

IMPORTANT SALE OF VALUABLE HORSES.

The most valuable collection of Trotting Stock ever offered to breeders, will be sold at PUBLIC AUCTION on Thursday, Nov. 19th, 1863, at the farm of S. R. Bowne.

Which the collection will number about fifty, mostly colts, among which are a large number of Toronto Chiefs, ages varying from foals up to four year olds.

Among the brood mares offered will be the great trotting mare SONTAG. This mare is a grey, 16 hands high, of a pure Messenger stock.

Toronto Chief will also be sold. He is a very dark bay, no white, sixteen hands high, of great power, weighs upwards of 1200 pounds.

The famous untrained mare known as the Colt of Eurka is a large bay, weighing about 1,100 pounds, height 15.3.

The sale will be positive and without reservation. P. S.—Also a fine SHORT HORN BULL bred by Samuel Thorne, Esq. of Dutchess Co. N. Y.

Catalogues of the above stock furnished on application to JAS. M. MILLER, 23 Pine-st., New-York.

WANTED—A SITUATION AS FARMER. OR to assist a gentleman in farming, by an Englishman, capable of taking the charge of a large stock farm.

[CIRCULAR.]

IMPORTANT INFORMATION.**U. S. 5-20's**

THE SECRETARY OF THE TREASURY has decided to continue for a short time the sale of this popular Loan at Par, or until ten days notice is given to the contrary.

The whole amount of the Loan authorized is Five Hundred Millions of Dollars. **Nearly Three Hundred Millions have been already subscribed for and paid into the Treasury**, mostly within the last six months. The balance, (Two Hundred Millions,) is hardly sufficient to furnish the basis for circulating notes for the National Banking Associations now rapidly organizing in all parts of the country.

The sales frequently reach **Two Millions** in a day. It is confidently expected that the sales will still further increase, especially as a large foreign demand (mostly from Germany,) has lately sprung up, which is likely to absorb One or Two Millions, weekly. A very short period only must elapse before this Loan is wholly absorbed, and as it is well known that the Secretary of the Treasury has ample and unfailing resources in the Duties on Imports and Internal Revenues and in the issue of the Interest bearing Legal Tender Treasury Notes; it is almost a certainty that he will not find it necessary, for a long time to come, to seek a market for any other long or permanent Loans, **the Interest and Principal of which are payable in GOLD.**

Prudence and self-interest must force the minds of those contemplating the formation of National Banking Associations, as well as the minds of all who have idle money on their hands, to the prompt conclusion, that they should lose no time in subscribing for this most popular Loan. It will soon be beyond their reach, and advance to a handsome premium, as was the result with the "Seven-Thirty" Loan when it was all sold and could no longer be subscribed for at par.

It is a Six per cent. Loan, the Interest and Principal Payable in Gold, thus yielding Eight to Nine per cent. per annum at the present rate of premium, on coin.

The Government requires all duties on imports to be paid in Coin; these duties have for a long time past amounted to over a Quarter of a Million of Dollars, daily, a sum nearly three times greater than that required in the payment of the interest on all the 5-20's and other permanent Loans. So that it is hoped that the surplus of Coin in the Treasury, at no distant day, will enable the United States to resume specie payments upon all liabilities.

The Loan is called 5-20 from the fact that whilst the Bonds may run for 20 years, yet the Government has the right to pay them off in Gold, at par, at any time after 5 years.

The Interest is paid half-yearly viz.: on the first days of November and May.

Subscribers can have Coupon Bonds which are payable to bearer, and are of \$50, \$100, \$500, \$1000; or Registered Bonds of same denominations, and in addition, \$5,000, and \$10,000. For Banking purposes and for investments of Trust-moneys the Registered Bonds are preferable.

These 5-20's can not be taxed by states, cities, towns, or counties, and the Government tax on them is only one-and-a-half per cent., on the amount of income, when the income of the holder exceeds Six Hundred dollars per annum; all other investments, such as income from Mortgages, Rail Road Stock and Bonds, etc., must pay from three to five per cent. tax, on the income.

Banks and Bankers throughout the Country will continue to dispose of the Bonds; and all orders by mail, or otherwise will be promptly attended to.

The Treasury Department having perfected arrangements for the prompt delivery of Bonds; Subscribers will be enabled to receive them at the time of Subscription, or within Four days thereafter. This arrangement will be gratifying to parties who want the Bonds promptly on payment of the money.

N. B.—The above Bonds are furnished by

FISK & HATCH,
No. 38 Wall-st., New-York City.

BANKERS AND DEALERS IN

All kinds of Government and other Securities. Orders from the Country for purchase of Government Bonds, etc., attended to WITH CARE and Promptness.

As Agents for the sale of **U. S. FIVE-TWENTY YEAR SIX PER CENT. BONDS,**

Messrs. FISK & HATCH, are enabled to save parties all trouble and expense in finding Legal Tender Notes, or otherwise, investing in these Bonds. Orders or inquiries by mail will receive prompt attention, and the Bonds will be sent to any address, by mail or express, as desired. Payment may be made in BANK NOTES CURRENT IN NEW-YORK, DRAFTS AND CHECKS ON CITY BANKS, OR U. S. LEGAL TENDER NOTES. Persons in the country can send their orders and money to us direct, or call at the nearest Bank and ask the Cashier to do it for them. Drafts or Checks may be sent safely by mail. Bank Notes or Legal Tenders should be sent by Express.

A LADY WISHES EMPLOYMENT IN A kind family of some refinement. She understands most of the details of housekeeping, sewing, care of milk, &c., and teaches Music, with all branches of a thorough education. Address "INTEGRITY," 41 Park Row, New-York.

New-Jersey Farms.

To those wanting land for farming, trucking, or fruit growing, I am prepared to offer superior inducements, as I have a large quantity of good land, which I will sell at reasonable rates in quantities of from 5 to 200 acres.

The lands embrace all varieties of soil, with or without improvements, in good neighborhood.—Schools, Churches, Post-Office, Mills, and Rail Road depot in immediate vicinity. Situate on the Camden and Amboy R. R., 45 miles from New-York. For particulars apply to

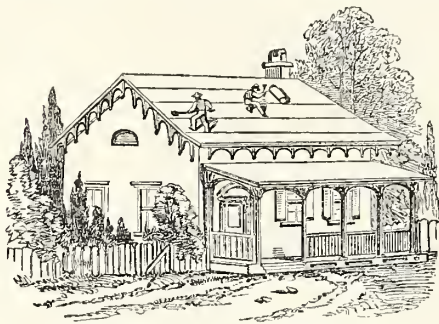
JAMES BUCKELEW, Jamesburg, N. J.

ONE THOUSAND ACRES of the Best Farming Lands in Ocean County, N. J., for sale, near the line of the Raritan and Delaware Bay Rail Road. The soil is a dark sandy loam, lying on a clay subsoil, situated central between the Rail Road and Barnegat Bay.—Convenient to the Bay for fish, oysters, marine manures, and water communication to New-York. Easy access to the Philadelphia and New-York markets by the Railroad. Apply to

EDWARD BRINLEY, Perth Amboy, N. J.

TO RENT.—Farm of about 100 acres on Oldfield Point, near Setauket, Long-Island—all necessary conveniences. Apply to

C. E. GROESBECK,
51 & 55 Broad street, New-York.

**Mode of applying JOHNS & CROSLY'S GUTTA PERCHA CEMENT ROOFING.**

This Roofing is Fire and Water Proof, and can be applied by any ordinary laborer. It costs only about one-third as much as tin, and is more durable.

GUTTA PERCHA CEMENT PAINT applied to leaky roofs of all kinds, will render them perfectly water-tight. It is put up ready prepared for use and for shipment to all parts of the country. This Paint is particularly adapted for painting Out-houses, Barns, Fences, &c., &c., and will effectually prevent wood from decaying. These materials have been tested on more than twelve thousand roofs during the past six years, and we can give abundant proof of all we claim for them. Full descriptive circulars and any required information furnished by the

JOHNS & CROSLY MANUFACTURING CO.,
78 William-st., cor. Liberty, New-York.

WHEELER & WILSON'S HIGHEST PREMIUM**SEWING-MACHINES.**

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"There is no better family machine than this made, as we have proved by use in our own family."
American Agriculturist.

LANE'S PURCHASING AGENCY. GRAPES. GRAPES.

Adirondac, 2 years old, No. 1, \$5; No. 2, \$4.
" 1 year old, No. 1, \$3; No. 2, \$2.

Iona—fine grape for table, \$2.

Israella, best early grape, \$2.

Roger's Hybrid, No. 4, dark purple, 75c. to \$1.50.
No. 15, deep Amber, 75c. to \$1.50.

Creveling, 50c. to \$1.

Delaware, 2 years old, \$1 to \$2.50.

1 year old, No. 1, 60c.; No. 2, 40c.

Diana, 25c. to \$1.

See Report on "Great Grape Show," p. 337, Am. Agriculturist.

FRUIT TREES.

The best quality of Standard and Dwarf Pears—Apples—Cherries and Plums, and Small Fruits.

Ornamental Trees & Shrubs

Suitable for Lawns and Gardens.

Dahlias and Gladiolus,

Choicest kinds \$2 per dozen.

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BEAUTIFUL COUNTRY HOMESTEAD Near New-York City.

All finished and ready to be enjoyed without further care or trouble.

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Just ready, a New Edition of our GREAT WAR MAP, colored to show

The Rebellion as it was,

AND

The Rebellion as it is.

- I.—The Loyal States.
- II.—Territory Wrested from the Rebels.
- III.—What the Rebels have left.

EACH IN A DIFFERENT COLOR.

"Look at it," said Webster, after Choate's "glittering generalities" had dazzled the eyes of the jury about a car wheel—and every loyal man should

Look at this Map,

and show it to his otherwise neighbor.

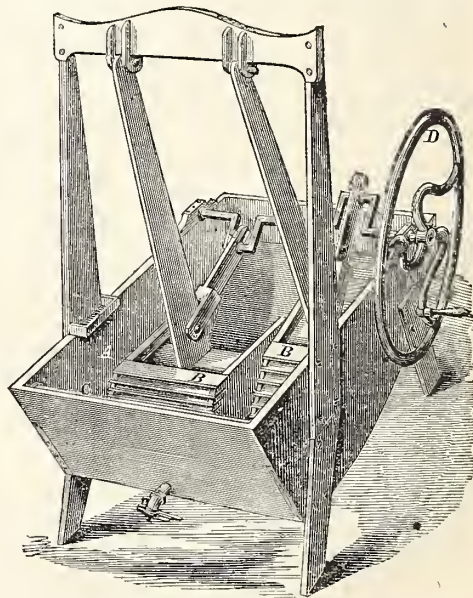
Battle fields and strategic points are marked in blood-red lines and dots. Mailed, post-paid for 25 cents; also OUR GREAT COUNTY COLORED MAP OF THE UNITED STATES, for 50 cents, and Lincoln's Letters, pamphlet edition, for 8 cents. Agents should send for our new circular, and see our long list of popular Maps, Charts, Pictures, and low prices. Address

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214 Pearl-Street, New-York.
Catalogues on application.

**The NONPAREIL WASHING MACHINE**

Is the only entirely reliable machine in use. It has been before the public two years, and has not in any instance failed to give satisfaction.

It saves two-thirds the labor and time required in hand washing.

It is a squeezing machine, and will not injure the finest clothing.

A girl of fourteen years can operate it.

It will not get out of order.

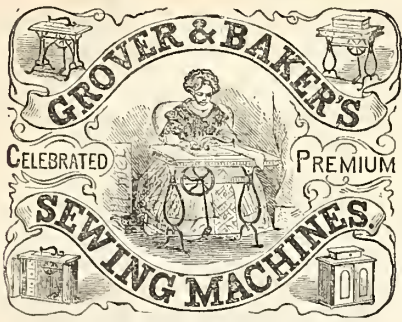
It is recommended by Mr. Judd, the proprietor of this Journal.

Prices: No. 1, \$12. No. 2, \$16. No. 3, \$30.

Send for free Circular to

OAKLEY & KEATING, 73 South-st., New-York.

HIGHEST PREMIUMS, 1863,

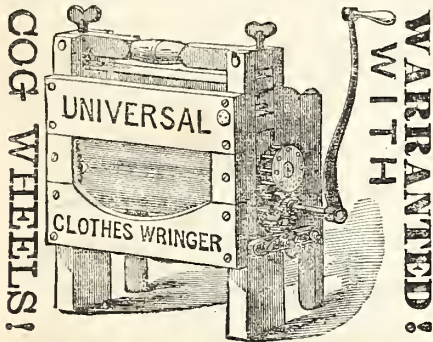


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AT THE LATE STATE FAIRS OF VERMONT, ILLINOIS, KENTUCKY, IOWA, NEW-YORK, INDIANA, MICHIGAN. OFFICE, 495 BROADWAY, NEW-YORK. "Grover & Baker's are the best."—Am. Agriculturist.

Doty's New-York Clothes Washer,

Patented and manufactured by WM. M. DOTY, 498 Broadway, New-York, is undoubtedly the BEST and CHEAPEST known. PRICE only \$30; three-fourths size \$24. It is pronounced BEST and CHEAPEST by Solou Robinson, Agr'l Editor, N. Y. Tribune; James Brown, of the firm of Brown Brothers & Co., 59 Wall street; A. Holland, author of Laundry Manual, and others. Agents wanted in every town. Send for Circular.



SELF-ADJUSTING and ADJUSTABLE! The only Wringer with the Patent

Cog Wheel Regulator, which POSITIVELY prevents the rolls from BREAKING, OR TWISTING ON THE SHAFT.

It was pronounced superior to all others at the World's Fair at London, 1862. It took the FIRST PREMIUM at the great Fair of the AMERICAN EXHIBITION, New-York City, 1863, where the judges were practical mechanics, and appreciated COG WHEELS.

It took the FIRST PREMIUM at the New-York State Fair.....1862 and 1863. Vermont State Fair.....1863. Pennsylvania State Fair.....1863. Iowa State Fair.....1863. Illinois State Fair.....1863. And County Fairs without number.

ORANGE JUDD, of the American Agriculturist, says of the UNIVERSAL CLOTHES WRINGER,

"We think the machine much more than PAYS FOR ITSELF EVERY YEAR in the saving of garments! There are several kinds, nearly alike in general construction, but we consider it important that the Wringer be fitted with Cog-wheels, otherwise a mass of garments may clog the rollers, and the rollers upon the crank-shaft slip and tear the clothes, or the rubber break loose from the shaft. Our own is one of the first made, and it is as GOOD AS NEW after nearly FOUR YEARS' CONSTANT USE."

We have seven sizes, from \$5.50 to \$30. The ordinary family sizes are No. 1, \$10, and No. 2, \$7. These have COG-WHEELS, and are WARRANTED in every particular.

On receipt of the price, from places where no one is selling, we will send the U. C. W., FREE OF EXPENSE. What we especially want is a good

CANVASSER

in every town. We offer liberal inducements, and guarantee the exclusive sale. R. C. BROWNING, 347 Broadway, New-York.

Life Insurance.

THE MANHATTAN LIFE INS. Co. OF NEW-YORK, No. 31 NASSAU-ST.

Accumulation \$1,500,000. Claims paid \$20,000. Dividends 700,000.

The greatly superior advantages of this old established Company, can be ascertained free of expense at any of the agencies, or by writing to the home office for a prospectus. J. L. HALSEY, Ast. Sec'y. HENRY STOKES, President. S. N. STEBBINS, Actuary. C. Y. WEMPLE, Secretary.

Imported and American Game Fowls.—Send for Circular to Lock Box A, Wellsburg, West Virginia.

GREAT DISCOVERY!

USEFUL and VALUABLE DISCOVERY!

HILTON'S INSOLUBLE CEMENT!

Is of more general practical utility than any invention now before the public. It has been thoroughly tested during the last two years by practical men, and pronounced by all to Be Superior to any Adhesive Preparation known.

Hilton's Insoluble Cement

Is a new thing, and the result of years of study; its combination is on SCIENTIFIC PRINCIPLES, And under no circumstances or change of temperature, will it become corrupt or emit any offensive smell.

Boot and Shoe Manufacturers, using Maelines, will find it the best article known for Cementing the Channels, as it works without delay, is not affected by any change of temperature.

Jewelers will find it sufficiently adhesive for their use, as has been proved.

It is especially adapted to Leather, and we claim as an especial merit, that it sticks patches and Linings to Boots and Shoes sufficiently strong without stitching.

IT IS THE ONLY LIQUID CEMENT

Extant, that is a sure thing for mending Furniture, Crockery, Toys, Bone, Ivory, and articles of Household use.

REMEMBER

Hilton's Insoluble Cement is in liquid form and as easily applied as paste.

Hilton's Insoluble Cement

Is insoluble in water or oil.

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Adheres oily substances.

Supplied in Family or Manufacturers' Packages from 2 ounces to 100 lbs.

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INDIA RUBBER GLOVES.

Are invaluable as a protection of the hands in all kinds of Housework, Gardening, etc., and are a certain cure for Chapped Hands, Salt Rheum, etc. Ladies' sizes, \$1.00 per pair; Gents' sizes, \$1.25. Sent by mail on receipt of price by

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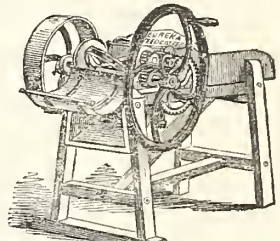
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Postage on the Agriculturist is only 3 cents per quarter, if paid in advance by the recipient. The old dispute about the weight, is settled by the new law which allows 4 ounces instead of 3; no copy weighs 4 ounces in any case. Any postmaster who insists upon charging more than 1 cent per number, when paid quarterly or yearly in advance, is either too ignorant to hold office, or is guilty of extortion. We ask the name of any one who hereafter exacts more than the above amount of postage, as has been illegally done hitherto, in some cases.

Friend "B's" Objections.

"B." writes: "I confess I get many times my dollar's worth from the *Agriculturist*, and like it almost first-rate now; but I would like it better if the publisher would not say so much about premiums, business matters, getting subscribers, etc., on the last page."

That is frank and friendly, and we like it. But, friend "B.," if you now get your money's worth 'many times,' why object to our using a page or two for business items? Please consider that it is only by pushing along the circulation, that we are able to devote so much expense to the preparation of the reading matter, to collecting information, to procuring engravings, etc. The larger the circulation, the more can we return to every reader for his money. We can supply a much better paper for a dollar a year, than we did eight or ten years ago, though we then gave the best one we could for the money.

Again, is not every farmer who reads any good paper devoted to his occupation, likely to think more about his work, to lay out better plans, to learn what pays best, and to labor more systematically and profitably, than he who plods along in the old way, getting no hints or suggestions from others engaged in like pursuits? Would it not be better if every man, woman, and child, read some such paper, than if all were living secluded from the outside world, like the Japanese, without much access to what others are doing and thinking—just as about four millions of farmers are now doing in this country? We think so, and aside from any personal interest in the matter, we believe we are doing a good work by pushing this journal into every family possible. With this view of the case we must keep on—urging people to read, offering special inducements to them in a variety of ways, asking our readers to solicit the attention of others, offering premiums to those who do so, and thus keep up an interest. When every body is brought to read, to talk, to think about improved modes of tillage, better and more profitable stock and implements, fruit growing, gardening, beautiful flowers, the best methods of cooking, and doing other household work, etc., etc., what a change will be produced! How much better off, and how much happier will the great agricultural class be. Give us your help, friend. Stir up all your neighbors, and induce them to get a paper that will pay them "many times its cost," as you say it does you. If they don't know what a feast there is for them, go out and "compel them to come in." And we, too, must keep doing. If our own books could hold no more names, we would even work for some other good journal—any way to get all the people to reading and THINKING. An ox has very good muscles for mere working purposes: *it is the MIND that makes the MAN.*

Condition of the Strawberry Plants.

As the Great Strawberry Plant was purchased, and is being cultivated and multiplied expressly for the subscribers to this journal, they will doubtless be glad to hear of its welfare occasionally. We are happy to report, that from the few plants first obtained (that is, all there were in existence) we have so far succeeded in getting plants enough to set out an acre. No expense or labor is being spared to multiply them as rapidly as possible. They are looking well, and we have no reason to regret the enterprise. The extraordinary dry season is very greatly diminishing the rapidity of the multiplication. Several thousand buckets of water have been applied, but the soil, ordinarily so wet as to be underdrained, is almost "as dry as an ash heap." The only effect, however, will be to delay the distribution a month or two longer than would otherwise be the case. We have not the slightest doubt of being able to distribute next season at least 40,000 to 50,000 plants—good strong ones, too, and not little puny things, such as have been sent out from some drouth-parched localities this year.

To answer numerous letters of inquiry, we say, that no one who has applied thus far, or who shall apply for some weeks to come, will fail to be supplied next season. We hope and expect to favor every subscriber for next year with at least one good plant, though to prevent any disappointment or misunderstanding, we promise only to send them as far as they go, sending to subscribers in the order of application—"first come, first served." As soon as any subscription is received for 1864, the name is also entered for the strawberry plant, if desired. The plants can go by mail safely, and this will be the best way generally, but those who expect them thus, should remember to forward the 5 cents in addition to the subscription, to meet the expense of postage and oil cloth. To prevent confusion or irregularity, let the application for the plants always come with the subscription for volume 23. We repeat, that the plants, as far as they go, will be presented to all subscribers for 1864, who apply for them—old and new subscribers, whether coming singly or in clubs, on premium lists, from agricultural societies, or otherwise.

Thirteen for Twelve.

All New Subscribers for 1864, received this month (November), will be supplied with the December number without extra charge. Those arriving during the first week, will also receive the Nov. number, or 14 months.

N. B.—The above offers extend to all new subscribers, whether they are received singly, or in clubs, or on premium lists, or from Agricultural Societies, or otherwise.

N. B.—Since many old subscribers are renewing in advance, it is important that new subscribers' names be marked as "NEW" when sent in, if the extra numbers are desired, for we shall not send these extra numbers unless they are specially and definitely asked for.

Good Pay.

Again we call special attention to the list of good articles on page 346, offered as pay to those who gather up clubs of subscribers. The various articles offered are valuable, are generally wanted, and not difficult to obtain, if any one sets about it in good earnest. Many thousands of persons have secured one or more of these, with no outlay of money. The premiums are forwarded as soon as the names are received. The extra number offered above, makes it easy to secure lists of new names this month. Please read the terms and the descriptive notes.

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Several subscribers, especially on the Pacific Coast, have from time to time asked if they could not just as well send on \$5 for five years, and thus save the trouble of remitting a small sum every year. This would be convenient where dollar bills are not common. We answer, yes, and even better than asked, those who prefer to do so, can, for \$5, receive a receipt for six years.

Specimens or Extra Numbers are costly, and each copy requires two cents postage paid in advance. So they cannot be scattered around very freely. When needed for canvassing, the judgment of the applicant will in each case decide whether both the paper and postage should be supplied by the Publisher. Unless used solely for our benefit, postage at least should be provided.

CLUBS can at any time be increased, by remitting for each addition the price paid by the original members, if the subscriptions all date at the same starting point. The back numbers will of course be sent to added names.

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AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

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ORANGE JUDD, A.M.,
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Suggestions and Notes for the Month.

The clock strikes Twelve! The hands have moved steadily around earth's broad dial-plate, marking off the months and the seasons, the snows and frosts of Winter, the flowers and new vegetable life of Spring, the glowing beauties of Summer, the fruits of Autumn, and the chill blasts that warn man and beast to again seek shelter and protection while the frost king reigns. The year is an epitome of life—its budding infancy, its joyous youth, its vigorous manhood, and age shorn of its strength. There is this difference, however: a life of failures can never be remedied; the errors and deficiencies of one year may be corrected in the next, if it be allotted to us. It is well, therefore, to carefully scan the immediate past, and gather lessons of wisdom for future guidance. Let, then, this closing month of the year be devoted to a careful examination, not alone of our business plans, our successes, and our failures, but of our motives and aims, as well. He is not living wisely nor well, who does not earnestly aim to make each coming year better than the past one, better for himself and for others. No one lives alone; no one is so humble that his daily life, his acts, his words, and even his countenance, do not exert some influence upon the thoughts, feelings, aims, and actions of another. Mere regrets for the past, or simply wishing and intending for the future, are not sufficient. It is truly said that "good wishes and good intentions pave the entire pathway of the lost."

Earnestness and promptness are talismanic words. In all plans for moral improvement, "to-morrow, or on such a day," is too often the fatal error in our calculations. To-morrow always has its to-morrow. To-day is the word. To make next year's efforts most successful, begin the work of improvement to-day....

This paper closes our editorial labors for 1863. While we have earnestly striven to make this volume not merely acceptable but profitable to our grand circle of readers, we can see where still more might have been done. Strong in the purpose to remedy past defects, and to do more than ever before to promote the prosperity and happiness of our readers, we now begin the labors of volume 23. Expecting to enjoy the company of all our present readers, we will not stop to say any farewells, but on to our work.

The artist's vignette for this month tells of children on their way to the school room. There is food for thought here. We who have passed the meridian of life, have lost much time that can never be regained. Errors of the head and heart may, and must be rectified, though it requires strong effort to turn out of the ruts and channels already deeply worn. But the generation to follow us is yet in the plastic period. The boys and girls of to-day can be molded in thought, feeling, and purpose, much as we will. If we guide and train the young wisely, the error and wrongs of the present generation will be remedied in the next.—With farmers, especially, this is the school season of the year. Even those children whose labors have been indispensable during the busy Summer, can now be spared to devote some time to mental improvement. An especial glory of American Institutions is the Common School, open to the common people without distinction. Let them not be common in quality. Nine-tenths of the great men and women of our country received only a common school education.

Let every parent remember that beneath the exterior of the dullest child is concealed a gem that needs but to be polished, to make it shine with brilliant lustre. Let every American citizen do his best to foster and cherish the public school. Go to the school meetings, leaving behind every vestige of a political, sectarian, or personal feeling. Talk, vote, and act, as public spirited citizens. Spare no labor or expense to make your school building attractive within and without. A few dollars extra tax to secure good, well warmed, and well ventilated rooms with pleasant surroundings, and especially a competent instructor, are far better expended than if devoted to securing a little finer clothing, or to paying doctors' bills, and the costs of protecting society against the depredations of the badly trained. Visit the school room very often to show your interest in what is going on there; it will encourage and stimulate both teacher and scholar to higher purposes and greater

efforts. Who does not remember the good effect of a visit to the school from even the poorest man or woman in the neighborhood. Let the visits be systematic as well as frequent. It often makes us sad to see a man *constantly* attentive to the wants, the comforts, and the progress of his dumb animals, while he never goes near the place where his children are daily trained for weal or woe.

Work for the Farm, Household, etc.

Accounts.—The present is of all times in the year the best to establish a thorough method of farm accounts. Mature a simple, easy and accurate plan, and between this and the first of January, old accounts may be at least got out of the way, so that their settlement need not interfere with taking a new start with the New Year. Well kept farm memorandums and accounts will be a source of no small actual profit, besides settling facts, proving dates, preventing prosecutions and lawsuits, and oiling the machinery of social life. Book-keeping is a simple art, though generally made a mystery.

Animals.—Shelter and food, cleanliness and ventilation.—The better the shelter for horses, neat stock and swine, the less food will they consume; if ventilation be provided, and they be kept clean, they will be healthier and more profitable. Pigs as well as horses show the good of clean bedding and dry pens in Winter.

Buildings.—Tidiness about farm buildings marks the thrifty farmer, and it is a virtue which grows by practice. The comfort of the family and the herd are alike promoted, and in this as in many other things, there is as strong an appeal to the pocket and to the conscience as to the principles of good taste. He who neglects little matters and can only "slick-up" now and then when he makes a regular business of it, is an untidy and probably a thriftless farmer. If you propose building, be satisfied with no plan until it is most thoroughly studied. Alterations and frequent repairs are costly luxuries.

Cows in our climate and in the system of farming usually followed, are during the Winter in a delicate condition: early preparation should be made so that an injured or sick cow may be removed from the rest to the hospital (a box-stall in an adjacent apartment). This is best even for slight injuries, for a cow may unexpectedly slink her calf and others "follow suit." Throw earth on slippery paths about the water-trough in freezing weather. Milk young cows to within 5 weeks of calving, to fix a long milking habit. Feed generously, for not only the size and character of the calf is affected, but the amount of the milk during the entire season following.

Corn-Fodder.—Well cured corn-fodder is worth just as much as good hay. It needs a greater expenditure of labor to prepare it so that cattle will eat it clean, but cut up and torn or crushed as is done by some feed-cutting machines, wet-

ted and allowed to stand a few hours with a sprinkling of salt, or oil-meal mixed in, it will be eaten with great relish. When hay is high and corn scarce, it is a pity to have any of it wasted.

Farmers' Clubs.—He who neglects opportunities to meet and talk over agricultural matters with his brother farmers loses much. See to it if possible that there is some regular neighborhood meeting of farmers, and their wives and adult children, to secure improvement in farming and kindred things.

Fence Timber.—As fence mending and setting is one of the first duties after the frost is out of the ground, so a standing job for the Winter is the getting out of a good supply of posts, rails, and stakes. Let it not be forgotten.

Feeding-Racks and Troughs should be substantial, sheltered, under roof if possible, always kept clean.

Grain.—Few farmers can afford to risk the holding of grain for higher prices. If possible, make sales by showing perfectly fair samples, and arrange to deliver it when there is good sleighing. Grain loses in weight by drying, and proportionately increases in value, but rats, mice, and weevils cause it to lose weight also, and this is a dead loss, besides risk of bad roads, broken harnesses, etc.

Grain-fields.—The wandering of cattle over the grain and grass fields, particularly when covered with snow, and in thawing weather, is to be avoided. Snow-drift dams should be cleared away, and standing water drawn off.

Horses.—All horses, young and old, should have warm, comfortable shelter, be cleaned daily, and, if used, blanketed, both in the stable and out of it—the stable blanket being the lighter, and not covering the neck. Colts and horses from which no labor is required, need no blankets in moderate weather, or in a warm stable. All horses should be well shod, and the calks kept sharp in Winter.

Ice.—The experience of last year will lead to the securing of the first crop of ice. This is well, for it is ordinarily the best. If snow falls upon clear "black" ice, it will ordinarily pay for family use to sweep off the snow from a sufficient surface to fill the ice-house, so that in case of a rain and subsequent freezing, the upper stratum of ice will not be soft snow-ice, and that the cold may penetrate more readily. See article on ice-houses, page 362.

Manures.—It is best to keep manure under cover and enclosed, so that a slow fermentation will be constantly going on. Too active fermentation is very injurious; it may be checked by packing it very close by the treading of animals, spreading level and keeping hogs upon it, or working it over. The latter secures an evenness of fermentation while it prevents burning or fire-fang.

Muck from the Swamp.—The present month ordinarily affords a very favorable opportunity to get out muck. Leaving it in heaps during the Winter, it becomes acted upon by the frost, and is much better for use in the Spring, or to be carted to the stables during the Summer for use next Winter. If needed for use at once in the stable, haul it as soon as it is dry enough, and keep it under cover, or it will be of little service as an absorbent.

Meadows.—It is very poor policy to let cattle browse the meadows in Winter, or even wander over them. When not covered with snow in thawing weather, they injure the roots; and the places of cattle paths through the snow are often traced by dead grass and bare spots in Spring.

Poultry.—To secure a supply of eggs keep hens in a light, warm, airy room, feed plentifully, giving regularly some animal food—oyster-shells pounded fine, or some other form of lime. A little pulverized white arsenic in the whitewash will destroy lice effectually. Fowls choose the highest part of the house to roost in, and if there be not good ventilation, they will sometimes suffocate.

Sheep.—Nature protects sheep well against the cold, but they suffer from soaking rains. They are healthier if they have open dry sheds to stand or lie under in wet weather, and a good dry yard.

Sheep are seldom diseased if they are thus treated, have access to salt, and have enough good feed.

Swine.—In the course of this month the pens will be for the most part cleared of fat hogs, and only breeders and store hogs left. Let these have dry, warm quarters, with rye or wheat straw for bedding; feed generously, so as to keep them in good growing order. Regular feeds of roots, with a little grain daily will show well next Spring.

Tools.—Winter is the time of all others to look over and put tools in order for Spring and Summer work. And at no time are good implements so much injured by exposure as now, when it is wet and freezing, or warm and dry alternately.

Wood.—Now the swamps are, or soon will be frozen, and we must secure a full supply of firewood, and wood for other purposes also, cut ready to be drawn to the house at the first good sleighing.

Orchard and Nursery.

If the Fall work has been performed in its season, there is little to be done now. Sales and planting are over, and the nurseryman can now arrange his plans, and prepare for the Spring's business, which promises to be very active. During a mild spell, ground may be plowed and prepared for planting, and at these times draining, often so necessary in an orchard, may be successfully prosecuted. Trees which were temporarily heeled in for the filling of orders, should be looked to, and if the work was not thoroughly done, the roots should be earthed over so as to prevent freezing.

Cions may be cut on any mild day, and preserved in slightly moist earth or sand, in a cool cellar. In cutting, select vigorous well ripened wood of the past season's growth. Tie up and label each sort carefully, and to guard against the loss of the label it is well to cut a number on one of the largest cions in the bundle which should correspond with a number on a memorandum list. In procuring grafts for setting, take only varieties you have proved yourself, or those having such a reputation that there can be no risk of getting a worthless sort. Many persons seem to think that it is only necessary to graft a tree to secure good fruit, and do not reflect that it is as necessary to be careful about the character of their cions as it would be if they were purchasing trees.

Fruit either in the fruit-room or cellar should be kept at as low and uniform a temperature as practicable without freezing.

Manure may be applied to trees, and compost carted to places where it is to be used in the spring planting. Surface manuring as described on page 370, has many advantages; the coating of manure prevents injury from sudden alternations of temperature, while the soluble parts are diffused through the soil, enriching it without injuring the roots of the tree by actual contact with the manure.

Mice and Rabbits do much injury to newly planted trees, especially when there is snow upon the ground. Various protections have been suggested from time to time in these columns. After snow has fallen, tramp it down firmly around the trunks of the trees so that the mice cannot work through it. Rabbits should be trapped. Shields of tin and drain tiles are sometimes used.

Nursery Rows not plowed, may be worked whenever the ground is open. Throw the earth against the rows, leaving the furrows as surface drains. See that stakes in the nursery are legible and firmly fixed in the ground. While no careful nurseryman will rely upon stakes alone for the identity of his trees, it is always a great convenience to have them. New stakes and labels can be prepared to meet next season's demands.

Root grafting can be done in the house on rainy days, the grafted stocks being carefully put away in boxes of sand, and each sort unmistakably labeled.

Winter pruning is not to be recommended where large limbs are to be removed. Small ones left at the summer pruning may be removed by the knife.

Kitchen Garden.

If the weather is severe or the ground is covered with snow, there is but little to be done here. But if the month should be mild, some of the neglected November work may be attended to now. Clearing up, which is generally postponed until Spring, should be done, and all rubbish put out of sight. The garden will not only look neater during Winter if this is done now, but valuable time will not be consumed next Spring in clearing up after last season's crops. Whenever the state of the soil will admit, it may be thrown up into ridges with the plow, or spaded as directed on page 370. But few special directions can be given, and these are all comprised in the general one to do everything possible to facilitate operations in Spring.

Asparagus.—If the beds have not been covered with manure, they should receive a thick coating.

Bean poles, stakes, and all brush needed in the garden can be cut and stored for next season.

Celery.—If any still remains out, store it as directed in the fuller Calendar for October.

Cold Frames.—Give plenty of air whenever there is no danger of freezing, removing the sash altogether on mild days. As severe cold weather comes on, bank up around the frames with stable manure, and cover the sash with mats or shutters.

Compost and Manures.—Much of next season's success will depend upon the care given to accumulating these during the Winter. Every fertilizing material should be saved. Have a good supply of muck on hand to throw into privies, hog pens, and the barnyard. If muck cannot be procured, use some other absorbent; forest leaves answer to increase the stock of manure, and black earth is better than no absorbent for the liquid portions. If manure is carted to the garden, cover the heap with earth to keep it from washing by the rains.

Hot Beds.—Repair frames, glaze, and paint sash, and make all in readiness. If new ones are needed, have them made. Collect manure and leaves.

Parsnips and Salsify.—When the ground is open, take to the cellar a good supply for use in freezing weather, and cover with sand to prevent wilting.

Rhubarb.—Cover the bed with stable manure.

Seeds: clean and carefully put away any not already cared for. Keep no rubbish in the seed bag, such as old seeds, or those of which the identity is not positive. Exchange choice sorts with neighbors.

Tools.—Rainy days can be profitably employed in repairing and painting. Many an implement goes among the old iron, which a small expense for blacksmithing would make as good as new. The character of a gardener can be pretty accurately judged by a look into his tool house.

Fruit Garden.

New grounds may be prepared if the weather is suitable. Give the borders a good mulch of manure. Prune currants and gooseberries, and save the cuttings in the cellar for Spring setting. Prune grape vines and lay down the vines, giving the tender sorts a covering of earth. Bend raspberries down and cover with earth. Strawberry beds should have their winter mulching, taking care not to cover too deep; only an inch or two over the crowns. It is the earth rather than the plants, that needs covering.

Flower Garden and Lawn.

The directions of last month apply in general to this. But few things can be done, except to protect those shrubs and plants which are still uncare for—according to the hints given in November. If the month is favorable, new walks and borders can be prepared. If new improvements are proposed, first accurately measure the land and make a plan upon an exact scale, on paper. When the plan is done, let it be submitted to the criticism of judicious friends, who may be able to see faults and suggest improvements which did not before manifest themselves. In laying out new grounds, or extending those we already have, there are two

things to be borne in mind: 1st, to have no larger grounds than can be well kept, and the style such as will be in harmony with the general expression of the whole estate. It is in poor taste to lay out elaborately ornamented grounds, with vases and statuary, when the house plainly says that these are out of place. All embellishments should be made in view of the dwelling as the crowning point of the whole. Trees, shrubs, and pleasant walks, may lead to a house of the most moderate character, but it is only when the house has some pretensions to architectural display, that highly ornate grounds are appropriate. 2nd, in all plans for planting, have reference to the appearance of the grounds ten or twenty years hence. It is often the custom to plant thickly at the beginning, with the intention of thinning out the trees when their size requires it. Thinning is seldom done, as it demands more courage than most people possess to cut out a tree that has grown under their own eyes and care for many years, and as a consequence, a great many grounds are seen in which the trees have grown up to a perfect thicket. Though the place may look rather bare for a few years with young trees planted at proper distances, it will be more than compensated by a finer development than is possible, where they are crowded for present effect.

Evergreens.—If the suggestions given in the Spring have been followed, the grounds will now be cheerful with the pleasant verdure of various evergreens. A little care will be required to keep the branches from breaking under the weight of heavy snows. Remove the burden by jarring the trees. Junipers, Yews, and other pyramidal evergreens may be protected by winding a strong twine spirally around them so as to keep their branches upright. Protect Rhododendrons and other broad-leaved sorts by a screen, as directed last month.

Climbers.—When Wistarias and roses winter-kill, remove them from the trellises and protect by a slight covering of earth. Hardy, climbing roses will be benefited by simply laying on the ground.

Lawn.—Top-dressings of fine manure and of leached ashes may still be applied with benefit.

Roses.—Protect the less hardy sorts by bending down and covering with earth, or if this is not practicable, take up the bushes and cover their roots and tops in a dry place, deep enough to prevent freezing. A friend informs us that he has found hard coal ashes to answer very well for covering, as this material does not retain much water.

Green and Hot-Houses.

The general directions given last month are appropriate to the present one. The chief matters for attention are heat, moisture of atmosphere, and ventilation. December is often a month of sudden changes, and watchfulness will be required to guard against these. In the green-house, fire will not be needed (except on damp and foggy days), unless there is danger of the mercury going below 40°. The temperature of the hot house should be adapted to the nature of the collection.

Bulbs should be brought from the green-house into the warmer apartments.

Camellias.—Syringe the foliage and water freely.

Heaths need water as time of blooming approaches.

Insects.—Keep in check from the start; fumigation and whale oil soap will destroy the most of them.

Roses.—Start cuttings for a good summer supply.

Water.—Give to growing plants, and keep those at rest as dry as they will bear without wilting. Stimulate lagging plants with a little liquid manure.

Apiary in December.

Prepared by M. Quinby—By Request.

The temperature of a colony of bees must at all times be kept above the freezing point; they can generate heat only by the consumption of honey. The horse or ox, exposed to all the inclemencies of the weather, consume much more provender than when protected by the warm stable. So with bees exposed to cold, they require more than when housed. Small colonies often cannot gener-

ate sufficient warmth to prevent freezing. Large stocks will eat scarcely any more honey in maintaining the proper degree of heat, than medium sized ones. The advantage of housing bees in large numbers is, it takes less honey to keep up the proper warmth; small colonies are warmed by their proximity to large ones. This is realized only when fifty to one hundred hives are put into a room, to make it warm. To get rid of the moisture in such a room, the hives may be turned bottom up, without any risk. If the temperature cannot be kept above freezing nearly all the time, the utility of housing them is doubtful. When bees are kept out of doors, other things must be regarded as well as keeping them warm. Wooden hives, when made of double thickness, will need openings, to let out the moisture, and through these much heat escapes. Hives made of straw, and perhaps rushes and flags, may be entirely closed, except a small opening at the bottom; for the moisture will pass out, while the warmth is retained. Ordinary colonies in well made straw hives, will winter outside just as well as those in the house. A strong colony, with abundant stores, and a sufficient supply of air in the wood hive will stand in almost any situation, with numbers only slightly diminished, while the small ones often fail. Hives can be made warmer by surrounding with hay or straw, but this does not assist in disposing of the moisture. Air passages large enough to admit mice, should be covered with wire-cloth, so as to exclude them, but allow the bees to pass. Such colonies as are housed, should be put in the first really severe weather. If any need feeding, turn the hive bottom up, and lay pieces of honey directly on the combs; caudry can be fed in this way.

The Pumpkin Show.

This exhibition was not quite equal to that of last year, because: First, the dry weather was very bad for squashes and pumpkins; and second, those who had fair crops, remembering the splendid exhibition of last year, held back their specimens fearing that they would be excelled by others. A number who have fine squashes of 100 to 150 lbs. weight, now tell us they would gladly have exhibited them, but the 200 to 300 pound squashes shown last year scared them out of any attempt to compete. Still, fine specimens and novelties were exhibited. One of the most striking things was a large gourd from Waldo F. Brown of Oxford, Ohio, called the "Sugar Trough Gourd." The specimen is shaped somewhat like a flattened pear, and is about 16 inches in diameter. When divided and cleaned, the thick woody shell forms two capacious bowls, which may serve as sap-troughs, and for various domestic uses. One of these which had been used for gathering sap for fifteen years, was sent with the whole specimen; it looks as if it might do service as much longer. The Yokohama (see page 372), and Turban squashes attracted attention. The Turban, so called from its peculiar shape, is fine grained, sweet, and of good flavor. According to Mr. Gregory, it requires to be planted early and have plenty of room, as it is a ranker grower than the Hubbard. The yield this season (a poor one for squashes) was six tons to the acre. They were grown on land in high culture, planted 8 x 8, and but one vine left to the hill. This variety was judged by a majority of the Committee to rank next to the Hubbard as a table squash, while one member gave preference to the Yokohama. We consider both varieties very fine, and the question of superiority difficult to decide upon single specimens.

The following is the award of the Committee, Messrs. Wm. S. Carpenter, Geo. Carpenter, and E. S. Williams:

1ST PRIZE; for Heaviest Specimen, 100½ lbs., to P. Kearne, gardener to William Shaw, Staten Island, \$10.
2ND PRIZE; 2nd Heaviest do., 95½ lbs., to same, \$5.

3RD PRIZE; for 3rd Heaviest do., (a Linn squash) 63 lbs., to George L. Jackson, Flushing, N. Y., \$3.
4TH PRIZE; for Best Squash for table use (Hubbard), to James J. H. Gregory, Marblehead, Mass., \$5.
5TH PRIZE; for Second do., (Turban) to same, \$3.
6TH PRIZE; for largest yield on a single vine (22 specimens, very fine, aggregate weight, 419½ lbs.,) to Rev. Charles C. Keyes, West Morrisania, N. Y., \$10.
7TH PRIZE; for second do., (3 specimens, aggregate weight, 168½ lbs.), to Geo. L. Jackson, Flushing, L. I., \$5.
8TH PRIZE; for largest and best collection of Fancy and Ornamental Gourds (90 specimens), to William F. Heins, Morrisania, N. Y., \$7.
9TH PRIZE; divided equally between W. B. Westcott, N. Y. City, and J. C. Williams, Mont Clair, N. J., \$5.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed on our tables for exhibition, since our last report:

FRUITS.—Apples: Roman Stem, by Mrs. Van Rensselaer, Burlington, N. J.... Vandevere and Northern Spy; George A. Read, Deep River, Conn.... Sweet and Sour Apple; F. A. Reed, Fredericktown, Conn.... Golden Russet and Baldwin; S. M. Howard, Perry, N. Y.... Gloria Mundi, 23½ oz.; Jacob Erwin, Westchester Co., N. Y.—Pears: Penn; Rev. A. P. Buel, Borden-town, N. J.... Beurre Diel; T. Hagadorn, Williamsburgh, N. Y.... Beurre Diel grown in triplets; Col. Dillon, Brooklyn, N. Y.... Duchesse; B. F. Seaver, Orange, N. J.... Catillac, 23 oz.; J. L. Miller, Richmond, N. Y.... Duchesse and Beurre Diel; William Chorlton, Staten Island.... Beurre Clairgeau beautifully colored; Richard Hales, Aurora, N. Y.... Vicar of Winkfield; C. M. Morton, Hightstown, N. J., and Mr. Devoe, Paterson, N. J.—Grapes: Union Village, Catawba, Taylor's Bullit, Concord, Diana, Herbemont, Creveling, To Kalon, Delaware, Rebecca, Elsinburgh, Anna, Isabella, and Hartford Prolific; Rev. J. Knox, Pittsburgh, Pa.—Miscellaneous Fruits, etc.: Fine Hickory Nuts; Isaac F. Stover, Erwin, Pa.... Seedling Raspberry from Catawissa; Dr. Hollick, Staten Island.... Cranberries; W. I. Spence, Blue Point, N. Y., George A. Bates, Bellingham, Mass., Wm. H. Starr, New-London, Conn., T. E. Bridger, Suffolk Station, N. Y., James Gammog, Tolland, Conn., and E. Dubois, Lakeland, N. Y.... Chinese Quince; H. Coger, Factoryville, N. Y.... Winter Cherry, Isaac Haring, Piermont, N. Y.... Apple Quince, 16 oz.; J. L. Miller, Richmond, N. Y.... Large Chestnuts; E. S. Lamoreux, N. J.

FLOWERS.—Chrysanthemums; James Wissing, New York City.... Dahlias, fine collection, from Orphan Asylum, and from James Gordon Bennett, N. Y. City.... Rose, Miss Stumpf; Isaac Buehanan, New York City.... Pomponne Chrysanthemums, splendid Bouquet; H. T. Haviland, Williamsburgh, N. Y.... Chrysanthemums, fine collection; Wm. F. Heins, Morrisania, N. Y.... Cut Flowers; W. B. Westcott, N. Y. City.... Beautiful Bouquet of out-door flowers; Miss M. A. Cortelyou, Staten Island, N. Y.... Chrysanthemums; Mrs. W. E. Meserve, Hoboken, N. J.... Dahlias; J. D. Hagaman, Harlem, N. Y.

VEGETABLES.—Chinese Egg Plant; J. D. Hagaman, Harlem, N. Y.... Sugar Beet and Mangel Wuzel; Geo. A. St. John, Norwalk, Conn.... Carrot, very long; Rev. N. Brown, Jersey City, N. J.... Red Onion; Francis A. See, Greensburgh, N. Y.... 2 California Tomatoes, 2½ lbs; John Metz, Hudson City, N. J.... Large Cabbage; G. A. St. John, Norwalk, Conn.... Purple Top Swede Turnip, P. C. Barnum, Hempstead, L. I.... Cow Horn Turnips; Wm. Blair, Hackensack, N. J.... Brussels Sprouts, Scotch Kale, Broccoli Sprouts, Cauliflower, Silver Skin and Red Onions, and Rosette Collard Cabbage; Wm. Erwood, Sen'r, Deer Park, L. I.... Sweet Potatoes; J. C. Thompson and J. W. Davis, Staten Island.... Turnip Beets; Mr. Carpenter, Pokeepsie, N. Y.... Potatoes, Pink-eyed Rusty Coats, Coppermine, Garnet Chili and Cuzco; E. Williams, Mont Clair, N. J.... Vegetable Egg Gourd; Mr. Bound, N. J.... Large Cauliflower from native seed; O. Judd.... Egg Gourds, Wm. C. Bryant, Brooklyn.... Purple Broccoli; F. Heeyer, Melrose, N. Y.... Carrots, curious, Dudley P. Ely, South Norwalk, Ct.

MISCELLANEOUS.—Osier Willows; E. Bridger, Suffolk Station, N. Y.... White Willow; James Reeder, Borden-town, N. J.... Rhubarb Wine, Louisa Capner, Flemington, N. J.... White Flint Corn; G. A. St. John, Norwalk, Conn.... Yellow Flint Corn; Misses Van Wyck, Fishkill, N. Y.... White Maryland Dent Corn; Mr. Hollinger, Weehawken, N. J.... Tricolored Sweet Corn; Col. S. R. Hazard, Newport, R. I.... Curious growth of grass through potatoes; L. A. Ladd, Greensburgh, N. Y.... Dent Corn; Josiah Valentine, Shrewsbury, N. J.... Yellow Flint Corn; B. P. Jones, Clinton Point, N. Y.... Balsam Pear (*Mormordica balsamina*), Michael Van Name, Jr., Mariner's Harbor, N. Y.... Spanish Leaf Tobacco; J. Reeder, Duck Island, N. Y.



Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

To Use the Index—Binding.—Instead of cutting down the reading matter as usual, we present the Title-page and Index on a separate Sheet, involving an extra cost of over \$500, which is a gift of so much to our readers. The Index sheet can be bound or stitched in front of the January number, to complete the volume. Numbers of any volume sent to the office will be bound in neat black covers with gilt backs, for 50 cents each, which hardly covers the present cost. Any missing numbers will be supplied at 10 cents each. Those desiring them can get the Covers for any volume (back to and including Vol. XVI.) They are ready prepared for the insertion of the numbers by any bookbinder. Price 25 cents each; they cannot go by mail.

Volumes and Numbers for Sale.—We have all of the Volumes from 16 to 22 inclusive, (1857 to 1863,) and can print more from stereotype plates as wanted. Price \$1 50 each, if bound—or \$1 each if not bound. If to go by mail, add 24 cents postage on an unbound Volume, or 45 cents if bound. Any single number of the above volumes sent post-paid for 10 cents.

A Hundred Good Items for this month's Basket are crowded over. The Basket for next volume will alone contain perhaps 2,000 or more of these condensed practical notes. The present volume has in all nearly 4,000 articles and items (40 for a penny!) The next volume will be like it, "only more so."

Hints on Sending Money.—Some persons still need to be reminded, in sending money:—1st to state how much money is enclosed, and tell plainly and briefly just what it is for. 2nd, To see that the amount is *actually* enclosed. 3rd, To put business and editorial matters on different pieces of paper, with the name, date, and place on each. 4th, To always give both the Post-Office and State. 5th, To seal firmly and direct very plainly. Attention to these points will save much trouble and ill-feeling. In our experience, not one letter in ten thousand is miscarried, nor does a mistake occur any more frequently, when the above directions are followed.

Good Premiums.—We again invite attention to the list of good premium articles on page 377. We are already sending a large number of these articles to persons who have secured them thus early, and there is plenty of time and room for others to get them. The supply is not limited, and there is no competition, except where two or more persons in the same neighborhood are each trying to get up a list first. Of course they can all get premiums in proportion to the number of names sent by each. Churches and schools are moving in the matter of getting melodeons; farmers' clubs are working for libraries, and many are at work on their own account.

Strawberry Plants for ALL.—A canvasser for a premium writes, that some of his club ask "what will be done with the extra 5 cents required, if their names arrive too late for plants?"—*Answer*: No one will be too late. We shall keep on propagating and distributing the plants, until every subscriber for 1864 is supplied who applies for them, and provides for the postage and packing (5 cents). It is merely a question of time. Those names already in, and many thousands more, will certainly be supplied in time to get the plants well started next season, and we expect this will be the case with all. Those applying last will be supplied last—perhaps some of the latest not until the following Spring; it will depend upon the weather next season, but *all* will be supplied as soon as possible. The plants will be sent out in the order in which the names stand on our books. These plants are not given as premiums for getting subscribers, but are offered to all on the same terms.

A Word to Advertisers.—It is necessary to repeat to persons who have not seen our previous notices, that we cannot take any business cards, at any price, for secret remedies, except in special cases, and then we must be informed of their composition and know this to be good. Advertisers unknown to us personally, or by reputation, must furnish references. Our rule is, to advertise nothing which we would not advise a brother or nearest friend to purchase, if in want of anything of the kind; and to admit no advertiser whom we have not good reason to believe will do just what he ad-

vertises to do. Advertisements must come in before the middle of the previous month to be sure of insertion. See the terms on page 378. These strict rules are needed and adhered to, not only for the protection of our readers, whom we desire to treat as if members of our own family, but also to protect good men, who of course prefer not to have their announcements placed among a lot of promiscuous advertisements of all sorts—good, bad, and indifferent. Considering the selection made, the character of the paper and style of printing, the length of time each number is in the hands of the readers, and the large circulation (90,000,) we are sure our terms are lower than any other journal in the world. We do not specially solicit advertisements—more than enough for all the space we can spare are usually offered. We of course are thankful for a moderate number of good business announcements, as these materially help out the finances in these times of high prices.

To Inquirers.—Numerous letters come to the *Agriculturist* office asking about matters of interest only to the writer. Questions upon subjects where the answer will be of general interest and will convey useful information, we are happy to reply to. It would not be just to the rest of our readers to occupy the columns of the paper with replies to personal queries. Persons who write upon matters of private interest should at least provide for the postage on the answer. Just now, certain so-called doctors are flooding the papers with their advertisements, and we receive numerous queries as to the standing of cancer and other special doctors. It is a safe general rule, to conclude that the physician who can not get patients, save by parading his wonderful cures in the papers, is not a man of remarkable skill. A physician who has a proper regard for the dignity of his profession, never publishes certificates of his cures. It will save our readers the trouble of writing, and us the trouble of replying, to recollect that we can not recommend doctors of this sort, the different "sure cure" medicines, nor the various "beautifiers of the complexion."

The New Sunday School Book. ("Lessons for Every Sunday in the year, No. 2,") was issued Nov. 21, and all copies previously ordered sent off soon after. This book has been prepared with great labor and care, and is doubtless free from the typographical errors occurring in the first edition of No. 1. It will be found very complete, and full of information, and it seems to be just what is wanted in every Sunday School, and in families as well. No. 2 may be used after No. 1, or entirely independent of it. The copyright of these books was given away to others, but editions are prepared for the Publisher of the *Agriculturist*, who will supply them at a price hardly covering cost at the present value of printing paper. They are both well bound, contain 112 pages each, and are supplied by the single copy, or in quantity, at 10 cents each. If to go by mail, the postage, to be pre-paid, is 3 cents each copy in packages of ten or more. The postage being rated by the 4 ounces, the price for less than ten sent by mail is:

1 copy, 14 cents.	4 copies, 52 cents.	7 copies, 90 cents.
2 copies, 28 cents.	5 copies, 66 cents.	8 copies, 104 cents.
3 copies, 42 cents.	6 copies, 80 cents.	9 copies, 118 cents.

Send your Name.—Money for books has been sent from Reading, Pa. No signature to the letter, and we are without clue to the owner. The same occurs in another letter, containing \$2, from Terre Haute.

Clothing for Children Wanted.—We have received an earnest appeal from the New-York "Children's Aid Society." The Association provides for a large number of homeless children. The wardrobe is empty, while clothing is needed to dress the children for sending to the West, and to enter the city Industrial Schools. Any common clothing will be very acceptable—"shoes, socks, coats, and pants, frocks and underclothes. Old clothes can be used to much advantage." Bundles sent for, if address be given, to J. Macy, Assist. Secretary, No. 11 Clinton Hall, Astor Place, N. Y. city.

A Lot of Humbugs.—Never before have we known so many schemes in operation to filch people's money. We have written item after item [see pages 359 and 363] supposing each would be the last needed, but every day brings to light some new swindling enterprise, and by the time the paper gets well to press, others will be discovered. We will group a few together here:—One advertises \$4 for \$1, in gold pens, books, etc., at 186 Broadway. There is no such number. John Street cuts through between 154 and 192 on the east side. So the dollar we sent down there to try the scheme, came back. We did not conclude to send it to the Post Office as invited, for we like to see into whose hands our money goes and what we are to get for it. At another place we did not conclude to invest in Gold Lockets, Watches, etc., advertised at "half price," though we could not positively

say the party would return no equivalent for the money so earnestly solicited *by mail*. Gold is gold, and silver is silver, in these days, and nobody has any to give away at half price.—"Zissino & Co.", (of Philadelphia we believe) send tickets right along with a very honest looking circular, marked "Private—To Agents." We advise that no one invest money there, unless he can *carry* it, and get the great prizes offered when he planks down the cash. If any one can get, in hand, the great amount of jewelry, and *know* it to be genuine, and if he wants it at the price, we have nothing to say.—If anybody for one dollar can get a weekly paper for a whole year, and also a grape vine, just such as anybody else can get but must pay \$2 for; and the said vine is known to be alone worth two dollars, it will do to invest, for it don't matter whether the paper is kept up a whole year or not, nor whether it is worth more than so much waste paper, when it is got.—"Prof. Weslook, Box W, No. 175 Bleecker Street, N. Y. City," (a private boarding house!) advertises two swindles at a dollar each. We sent the \$2 to catch him, but after various excuses, he told our young man he could only get the articles through the Post Office! We have handed *him* over to Mayor Oplyke, also.

In Writing to Advertisers for circulars, or otherwise, it is well to tell them where their business cards were seen; they are always glad to know where their announcements are noticed, or through what channels they reach the largest number of wide-awake readers.

New Book for Sheep Raisers.—S. Randall, LL. D., whose *Sheep Husbandry* at the South, published in 1848, and whose essay on fine wool sheep read before the N. Y. State Agricultural Society last year (1862) have caused him to be recognized as authority on Sheep, is again before the public as the author of a comprehensive work, adapted to the wants of American farmers—entitled *The Practical Shepherd*. It is a 12mo. of 454 pages, fully illustrated. We esteem the work highly and while recommending it to our readers, regret that it is not yet in the market, but for sale only by traveling agents. D. D. T. Moore, Rochester, is the publisher, and its appearance at this time is opportune, for there is now a great interest in sheep culture. The policy of confining its sale to agents is hardly advisable, for thousands would obtain it through regular channels, who will not be found by agents. When we can get a supply it will be announced in our book list.

The Illinois State Horticultural Society holds its Winter session at Alton, December 15, to last 4 days. The meeting will doubtless be a good one, and all interested in Horticulture are invited to attend.

The "Report" of the Department of Agriculture for 1862, is a book of 632 pages, far better than any of the previous annuals on Agriculture, issued at Washington. It contains many pictures of cattle, sheep, and horses, of fruits and insects, poultry-houses, etc., is excellently well adapted to the purpose for which it was made, namely, for an attractive and instructive volume for members of Congress to send home to their friends. It does not comport with the dignity of the Government to put forth a picture-book, nor one for the purpose above stated. Many subjects are well treated, the articles being a little more extended than would ordinarily be published in an agricultural Journal. Those on sheep, considering the great interest now awakened in sheep-raising, will give the book especial value with a great many farmers. We do not think this is the place for descriptions of a few old and well-known fruits, most of which are as well or better described in the fruit-books, nor for an essay on marbles, building-stones, or coal-oil springs, which are hardly agricultural topics.

Book on Fruits.—Alfred Street, Middlesex Co., Canada. Barry's Fruit Garden, is a very good work on the culture of Small Fruits. See our book list.

Books out of Print.—There are several orders on file for agricultural books which have not been filled, for the reason that the works are not to be had. Where there is a prospect of a new edition being ready soon, the money is placed to the credit of the sender, and the books forwarded as soon as issued.

Osage Orange Hedge Plants Wanted.—Tobias Martin, of Mercersburg, Pa., wishes to secure 50,000 to 100,000 plants. Who can supply him and other inquirers?

"Smith's Canterng Horses."—One of these, which came to our children as a "Christmas Present" in advance, has proved a very acceptable and interesting gift. Some "grown up children" enjoy a ride occasionally, and the horse manifests no signs of weakness under the load. His rations are not expensive.

Chloride of Lime.—Explanations.—

This is recommended in some papers as a manure, and we are asked how it is used to dry the atmosphere in fruit-rooms, without imparting an odor. In such cases the article usually known as chloride of lime (bleaching powders) is not intended at all; here, as in many other cases, a misuse of chemical terms may lead to an unpleasant mistake. When lime and salt are employed for agricultural purposes, whatever decomposition takes place produces *chloride of calcium*, which is the *chloride* of the metallic element of which lime is an *oxide*. When chloride of calcium has all the water driven off by heat, it absorbs moisture again very readily, and this is the material used in France to destroy the humidity of fruit-rooms. The chloride of lime is a common name for a rather complex substance containing several chemical compounds, besides a quantity of free chlorine. It is employed as a disinfectant and for bleaching, but not for either of the purposes above alluded to.

Sheep Washes.—

A number of these preparations are used in England, and one is now advertised in our columns. As a general thing, we refuse to advertise secret preparations, but the composition of this being made known to us, we should think that it would be certain to destroy vermin, and be beneficial in skin diseases. The certificates of reliable men who have used it would seem to warrant others in making experiments with it.

Persian Insect Powder.—

P. A. Berrens, Florence. This is the powdered flowers and leaves of *Pyrethrum Willemoti*, and probably other Caucasian species. The powder was first introduced, put up in small bottles, as a secret preparation, but it may now be purchased in bulk at some of our city drug stores. It readily stupefies most insects, and if the application is thorough, kills them. The powder should be kept in well closed bottles, otherwise it loses its power. The article has become one of considerable importance, and the inhabitants of a number of villages in the Caucasus devote themselves to its cultivation and preparation. It has been introduced into France, but we have not heard of its being grown in this country.

Sweet Potatoes and Yams.—

L. Kesinger, Buffalo Co., Wis., asks if these will succeed in his State. We have a letter from a correspondent who says he has been successful with the Sweet Potato there. If by Yam he means the *Dioscorea Battatas*, we suppose that it will grow there; it is perfectly hardy here, and difficult to eradicate when once it gets a foothold in the soil.

Buying a Farm on Credit.—

"A Friend" asks of the *Agriculturist*, whether it is advisable for a man having \$300 cash, to buy a farm for \$3000. Decidedly not, unless you know of a gold or other mine on the premises from which a large amount of the price can be speedily dug. As a rule, it is seldom safe to run in debt for more than one half of the purchase money, and many have found even this a heavier load than they counted on.

A "Water Gap."—

"Young Tennessee farmer" asks how to make a good permanent *water gap*. Perhaps some reader of the *Agriculturist* can tell us what it is, and him how to make one. It is probably a local appellation for something others know by a different name.

Straw Beehives.—

To "Black Brook's" inquiries about the straw hive described in the *Agriculturist* for October we answer: There is an entrance for the bees at the bottom of one end, three-eighths of an inch high by three inches long. It will admit all the air the bees need through the winter. Any good straight, clean straw is suitable, and probably flags and rushes would do. Oat straw looks rough, but answers well. Rye with the heads trimmed off, makes a very neat hive. For cutting the straw, the old-fashioned primitive straw-cutter is probably best. One is needed that will allow the straw to be pushed through the proper length. It is unnecessary to wash the hive with any thing before admitting the bees.

Grafting the Shag-bark Hickory.—

"J. S. H.," Marlboro, Mass. This is sometimes done in the South of Europe, but it is said not to succeed well in cold countries. Flute or ring budding is said to do best. Walnut trees are very difficult to transplant at any time on account of their few fibrous roots. We should prefer Spring for the experiment.

Three Crops of Pears in one Year.—

"E. N.," writes that there is a pear tree in Evansville, Ind., which produces two crops of pears in a season, and this year bore three crops, two of which came to perfection. It is not rare that pears set fruit for the second time, but such fruit is usually inferior, if it ripens at all. It is not a desirable character in a tree.

Distance for Dwarf Pears.—

J. C. Cole, of Chautauqua Co., N. Y., writes that he set his pears at 6 feet apart and finds them too much crowded. It will do to move them in the Fall or Spring if done with care. Pears may be so pruned as to be kept at this distance, but we think it better to give them more room, 8 or 9 feet is near enough for the free growing kinds.

Grape Vines on Walls.—

"Subscriber," who has a superabundance of stone, in a rocky part of Rhode-Island, wishes to know if it will do to train grapes against his stone walls in place of a trellis. In this country the European practice of growing wall fruit is not practicable. The sun here is so powerful that the leaves and fruit are scorched, and this takes place even where the vines are set too closely to a common board fence.

An Enemy to the Vine.—

G. L. Morris, Baltimore Co., Md. The caterpillar is the larva of the *Satellitella Hawk-moth*. They are great feeders, and are very destructive to the vine, but fortunately not very numerous. They enter the ground after they are full grown, where they undergo their transformation, and come out in the following June and July, as a night flying moth known as *Philampelus Satellitella*.

What is "Wine"?

It is the pure juice of the grape, which has undergone the vinous fermentation. The addition of sugar, water, milk, eggs, etc., to say nothing of logwood, brandy, alcohol, or sugar-of-lead, makes compounds which may make medicine, but not wine. The juices of other fruits, of rhubarb, sugar and water with a little ferment, the sap of birch and maple, and other things fermented, have more or less a wine-like taste, and may be called wines, but they are not, and as soon as we admit that any thing but the pure juice of the grape is wine, we are all afloat. An old German vintner's opinion was asked in regard to one of these sugared compounds profanely advertised "for Sacramental use," with the assurance that it would not make any body drunk. "No," said he, "it will make you sick though."

New-Rochelle Blackberries Pro-

ductive.—F. W. Winship, Bureau Co., Ill. writes: "In the Spring of 1861, I set out 12 roots of the Lawton Blackberry on the east side of a high board fence. They made a fair growth during 1862, as it was a wet season. I gathered the first ripe berries on the 8th of July, and the last on the 12th of September. One stalk had on it 1400 berries at one time, and commenced to ripen its first berries about the 21st of July, and finished on the 12th of Sept., at which time I gathered 182 ripe berries. Some of the berries from this bush measured 4 inches in circumference, and 10 berries laid in a line so as to touch one another, measured 11½ inches. The stalk was about 11 feet in length, and had 15 lateral branches. From the 12 original bushes I gathered about 3 bushels of berries. Who can beat this, and who says the Lawton Blackberries are not productive?" [The proper name is New-Rochelle, though the same variety is sometimes called Lawton—a name given without proper authority. The general complaint against this variety is its sourness—a prejudice resulting from picking the fruit as soon as it is black; it is not ripe until some days after coloring.—Ed.]

Cranberries from Seed.—

E. T. Baxter, Tuscola Co., Mich. This method of raising plants is not recommended by cultivators, as the plants are very slow in growing, and there is no certainty that a large proportion of them will bear well. If disposed to make a trial, cut the fruit crosswise, when the seeds may be easily taken out; these are to be sown in a patch of moist, well prepared soil, and covered very thinly. It will save much time to get plants from a fruitful bog, or to procure them from some of the experienced cultivators.

Small Fruits in the Shade.—

J. B. Jones, Hudson Co., N. J. Blackberries and especially Raspberries do well in partial shade. Strawberries require more sun. Currants will grow tolerably in a little shade.

Names of Fruits.—

I. M. Chapman, Portage Co., Ohio, wishes to know how to pronounce *Triomphe de Gand*, and objects to such "outlandish and barbaric names being applied to fruits, etc." *Tree-omph der Gan*, is as near as we can give the pronunciation in English. The strawberry originated in Gand (Ghent) and the name means the triumph of that place, and sounds not strangely there. The name is generally pronounced *Triumph de Gand*, in this country, and might conveniently be shortened into simple *Triumph*, in the same way that the *Duchesse d'Angouleme* is now abbreviated into *Duchess*. A Frenchman would be as much troubled at some of our names, Hubbardston Nonsuch for instance, as our friend is at that of this strawberry. When new things are brought into a country where a different language from the one in which they originated is spoken,

their names, if the things themselves become popular, are soon popularized. Such names are not "barbaric"—they are only unusual.

Plants for Names.—

"H. J. L.," Fairfax Co., Va. The plant is *Gentiana Saponaria*, the Soapwort Gentian.... R. S. Reeves, Logan Co., Ky., sends a narrow-leaved variety of the same species; variety *linearis*. *Gentiana angustifolia* has only one flower on the stem. J. A. Brown, Wayne Co., Ohio: The seeds sent are those of *Fraseria Carolinensis*, or American Columbo, the bitter root of which is used in medicine as a tonic, and is sometimes sold instead of the imported columbo.... Angelo Brown, Wayne Co., Pa. The hardy annual is *Erysimum Peroffskianum*; it came from the Caucasus, and is a species of Hedge-Mustard.... T. C. Wells, Riley Co., Kansas, sends *Dalea laxiflora*, a pretty perennial from the prairies. Those who send specimens are requested to give their address in full, as we sometimes wish to make inquiries.

Yellow Lupin.—

"Reader," Pine Plains, N. Y. We have not heard of any experiments with the Yellow Lupine. The White Lupine has been tried, but without much success. The difficulty with the Lupines as a green manure, seems to be that the seed is so large in proportion to the amount of foliage produced that it takes an enormous bulk in comparison to clover.

Thorns from Seed.—

T. Wilbur, Marion Co., Mo. Gather the fruit when it is dead ripe, put it in a vessel of water until the pulp becomes sufficiently softened to allow the seeds to be separated, and then wash them out. Sow at once if the ground is open, or mix with earth in a box and expose to the weather during winter, and sow in Spring. Some species of the thorn do not come up until the second year after planting. We do not know how the Black Thorn is in this respect.

Osage Orange Seed.—

Several Subscribers. We have to repeat what we have already stated several times, that we do not know where the seed can be procured. The supply formerly came from Texas, and other States now in rebellion. Seed is produced in the loyal States—but not at all enough for the demand—Now that the commercial supply of the seed is cut off by the war, those who have bearing trees are turning their attention to saving the seed from them, and we have several inquiries as to how it may be secured. The fruit is placed in heaps until it has decayed, the seed is then washed out and dried. It is better to expose it, mixed with sand, in boxes, to the action of frost, as it is then more certain to come up promptly in Spring.

Allen's Cylinder Plow.—

O. Kimmet, Sibley Co., Minn. Allen's Cylinder Plow is not made of steel. He has steel plows adapted for use on the prairies, at prices from \$10 to \$18; it may perhaps be cheaper for you to purchase one from some house nearer home.

Lightning Rods.—

R. D. Warren, Mass. Never having seen the copper rod of which you speak we can not express any opinion. As copper conducts electricity about five times more readily than iron, it has an advantage over that metal, as the rod can be made much smaller than usual, and be equally efficient.

Unreliable "Cures."—

How many of the vaunted "cures" of animals of one trouble or another, are really due to the applications made by the would-be doctor? Very few, we apprehend. Give ailing animals good care, a loosening diet if needed, with protection from the weather, and in nine cases out of ten they will get well themselves. Nature will often effect a cure in spite of all manner of malpractice, which is subsequently regarded and heralded as the means producing the cure.

Cheap Paint for Brick Walls, etc.—

Mix hydraulic lime (cement or water lime) with water to the consistence of thin cream, and apply it with a brush like a lime wash. The color which is a pretty stone color, may be varied by using any of the ochres, lamp-black, etc. It will not hold upon wood.

Removing the Hair.—

A lady wishes to know if there are any means by which superfluous hair can be removed from the hands and face. Several preparations called "depilatories" are sold; but, so far as we have any knowledge of their composition, they contain arsenic, lime, or some other caustic, unsafe to the skin. A less dangerous but somewhat painful method, sometimes used in surgical operations, is to cover the hairy spot with adhesive plaster, leave it on a few hours, and then remove it with a smart twitch, which will take out many of the hairs from the roots—if not all of them. Most of the depilatory operations are of only temporary effect.

Seaweed as a Manure.—S. Coates, Washington Co., R. I. Seaweed is most economically applied as a compost. Your proposed plan to decompose it with lime and soil or muck, is the right one. The gelatinous sorts like Ribbon-weed, Rock-weed, and Devils-apron, are the most valuable, while the eel-grass, which is frequently called seaweed, is worth but little. The report upon the geology of your State has, if I recollect rightly, some interesting matter upon this subject.

Ashes of Leaves.—"Will the leaves of the same plant, grown in different soils, contain in their ashes different proportions of any earthly materials which may be abundant in one soil and scarce in another?" inquires W. H. Washburn, Waldo Co., Me. The ashes of the same plant grown under these different circumstances, are very similar, but important differences may sometimes be noted, and these are particularly observable in the leaves. Still the ash of the leaves will not necessarily contain "any earthly materials which may abound" for clay at least is not taken up by the roots. Other things may also be rejected. The proportion of potash and soda, of lime and magnesia, and of oxide of iron, silica, phosphoric and sulphuric acid, and chlorine may and do vary.

Tobacco.—"J. B.," of Pleasant Valley Mills, near Staunton, Newcastle Co., Del., writes to the *Agriculturist* about some very fine leaves obtained from Cuba seed, and his fine crop generally. He says his system of culture is very different from the methods given in the prize essays published by the *Agriculturist*, and described in other works. Any new method should be well tested a year or two at least, before giving it to the world. One can not judge of his success before the crop is cut, cured, and weighed. The use of any process of culture which would make the labor less by doing away with the necessity of thoroughly enriching, working, and weeding the soil, would be most unfortunate, for it is in these that tobacco culture is of any real value in our agriculture.

Kentucky Blue Grass.—J. L. Woodbury, Kent Co., Del. Kentucky Blue Grass makes good hay, but the yield is much less than with Timothy or Red Top. It has the disadvantage that it is a long time in making a dense sward. It is more valued as a pasture than as a meadow grass. Experiment only can determine whether it will do better than Timothy with you.

A Good Crop from an Acre.—M. Allen, of Columbia Co., Wis., writes to the *Agriculturist*: "I have on one acre raised 5370 pounds of ears of corn, equal to 74 bushels of shelled corn; 800 pumpkins, 8 bushels white beans, and a few turnips on the same acre. Corn worth 50 cts. per bushel, \$37, beans rated at \$16, pumpkins worth \$8, making a total of \$61. No extra preparation or care. Can New-England do better?"

Union Sweet Corn.—An ear of sweet corn having the national colors, red, white, and blue, in the kernels, has been placed on our exhibition tables. It was raised by Col. Sylvester R. Hazard, of Newport, R. I., a veteran of the war of 1812. Such specimens are the result of a mixture of varieties, and can not be depended upon to reproduce the same assortment of colored kernels.

Popular Chemistry.—There is a great deal of nonsense to be found in agricultural and other papers, which passes for science among those who are ignorant of chemical facts. As an illustration of this we cite directions for making a tree wash which appeared in a paper edited by a "professor." "Heat sal-soda red hot in an iron vessel; to do this the vessel should be imbedded in, not over a hard coal fire; this will drive off the water and carbonic acid which it contains, rendering the soda caustic." We should like to see sal soda rendered caustic by heating in an iron vessel. Every one who knows any thing about chemistry knows that this can not be done by the action of heat alone. The water is driven off and when the heated soda is dissolved to make the tree wash, the solution will be precisely the same as it would have been if it had not been heated.—Another exchange commenting on the use of salt as manure remarks that "in the vicinity of salt water the lands are salted by the dews which fall." Will he please procure a small bottle full of this salt dew for exhibition; scientific men would hail it as the most remarkable discovery in meteorology.

Detection of Water in Milk.—The manager of an extensive cheese dairy in New-York consults us in regard to methods of testing the purity of milk. He uses two lactometers, neither of which he thinks "will detect the presence of 1 gallon of water in 20, 40 or 80 gallons of milk." That is, neither will show 5 per cent of water which is 1 gallon in 20 (1 gallon in 80 is only 1¼ per cent). Of course not. The specific gravity

of good milk is about 1.031 to 1.032; that of milk rich in butter, is 1.030 to 1.031, and the addition of 10 per cent of water will reduce the specific gravity of good milk only to about 1.029; 20 per cent to 1.025, or near it. Different samples of pure milk often show more variation in their specific gravities than 5 per cent of water added to either would effect. The only way to judge accurately of the value of milk brought from various sources is to have some man or woman of good judgment devote him or herself to the study of the different samples, testing, and noting down every day the character of the milk from each dairy. Noting 1st, the cleanliness; 2nd, the specific gravity; 3d, the length of time, before souring; 4th, the amount of cream, and its character, setting about a gill of each sample for these purposes; 5th, the color of the skim milk; and 6th, if sweet, its specific gravity. Thus those who furnish the milk can each be credited according to the quality of that furnished.

Prolific Hens.—People always like to compare notes about poultry. J. B., of New Castle Co., Del., says, six hens costing \$2.50, placed in an empty hog pen, fed on scraps from the table, egg shells, etc., with the sweepings of the mill floor, gave 497 eggs and 8 chickens in 172 days. He estimates his only outlay \$4.37, including 50 cents deterioration on stock. The eggs were worth 19 cts. per dozen—\$7.86. The chickens at 20 cents each are worth \$1.00, and the manure made is worth 18 cents (estimated too low)—in all, \$9.64. Subtracting cost, \$4.37, leaves \$5.27 profit in less than 6 months.

Damage to Sheep in Ohio.—36,778 sheep are reported killed by dogs in the year 1862; 24,972 injured, and the total damage estimated at \$126,347. Will any body tell us how much good was done by all the dogs in Ohio, during the year 1862? Also tell us what the boarding bill of these dogs amounted to.

Ants and Bees.—A writer in the Rural New-Yorker in directing how to get rid of ants from beehives, advises to blow smoke into the hives, which will expel both bees and ants, and then with a feather apply spirits of turpentine or kerosene to the places where they have harbored, which will keep them away. He forgot to add that bees also are very sensitive to unpleasant smells, and that they too would probably stay outside the premises, if they could not immediately cover over the infected parts that the odor would be suppressed.

White Flax Seed.—John Monteleiu, Stephenson Co., Ill., informs us that he once purchased some bushels of this variety, and that more or less of it has been raised in his vicinity for eight years. He can discover no difference between this and the brown seed either in the fibre or the oil.

What can be Done on Scrub Oak Land.—Mr. Wm. Erwood, an English gardener, who 8 months ago cleared up some scrub-oak land upon Long Island, has sent to the *American Agriculturist* Office specimens of his products, comprising fine Brussels sprouts, good cauliflower and collards, and onions of full size. Mr. E. states that he has fine potatoes and corn, and is altogether pleased with his attempt at making a farm in such an unpromising locality.

A Good Suggestion.—E. G. Topping, Whiteside Co., Ill., says that every farmer should keep on hand a supply of hoop iron and rivets, which can be procured at almost any store having an assortment of hardware. It requires but a few minutes work to replace a hoop from a cask, pail, or tub; and this if done in time, will often save the purchasing of a new vessel.

Queries About Trees and Shrubs.—L. Kessinger, Buffalo Co., Wis. The *Crataegus coccinea* of this country is not the same as the European Medlar. The objection to the use of our native thorns as hedges is the early fall of their leaves. Where this is not a consideration they will answer. The Persimmon does not succeed much north of New-York city. It is hardly probable that it would do well with you. We think that the Mulberry is hardly enough to stand your climate—at any rate we should try it. We know of no peaches that are likely to be successful in your locality.... I. F. McLain, Morrow Co., Ohio. The soil for Osage Orange should be well pulverized by deep plowing. If sod ground is used, the sod should be broken up and left to rot. The planting is generally done in the Spring. The plants are cut back to 6 or 8 inches, and the roots are trimmed. The hedge is not trimmed the first year, but the second and following years it is brought into shape. It requires about four or five years to form a perfect hedge. We have not space for details which have already been given in former volumes of the *Agriculturist*, and may be found in Warder's Hedges and Evergreens which is on our book list.... D.

P. Leonard, Washington Co., Ohio. Locust seed may be planted as soon as gathered, or be kept until Spring in boxes of earth exposed to the action of the weather. The seed bed should be of good soil, well prepared, and the seeds sown thinly and covered over half an inch deep. The plants will grow from 2 to 4 feet high the first season, and can be transplanted after the first year's growth.

Propagation of Forest Trees.—"T. C. H.," Pleasant Plains, N. Y. Clons may be cut any time during Winter, and treated like those of fruit trees. The Hickory has such long tap-roots that it is difficult to transplant; the seed should be planted where the tree is expected to stand. The Chestnut may be removed more readily, and small trees from the forest may succeed, but the only sure way is to get or grow seedlings which have been several times transplanted.... Mildred Luther, Boone Co., Iowa. Mix the Red Cedar berries with earth and leave them in an exposed situation, where they will freeze and thaw during the Winter. Sow when the ground is ready in the Spring. They sometimes remain a year in the ground before they start, but treated in this way there is more probability of their growing the first season.... Thos. Bell, Joe Davies Co., Ill. White Birch and White Maple seed, as soon as it is gathered, should be mixed with sand or moderately dry earth, as without this precaution they get too dry, and lose their vegetative power. Prepare the surface of the seed-bed by burning rubbish upon it, to destroy the seeds of weeds, and cover the seeds very slightly after sowing. To prevent the soil from drying, a light covering of litter is to be thrown over the bed, to be carefully removed as soon as the young plants begin to come up.

What Trees to Plant.—Harry Grundy, Montgomery Co., Ill., asks what trees he shall plant about his house. Advice of this kind is very difficult to give without knowing the character and climate of the locality. As the maple grows with Mr. G., we presume most of our hardy shade trees will do well. It is well to plant both evergreen and deciduous trees. For evergreens, the Red Cedar and Norway Spruce. Instead of putting out only one kind of deciduous trees, we should select a variety, not only as producing a more pleasing effect, but for the reason that disease or insects frequently attack all the trees of a particular kind within a large district. Having a variety of trees will often save one from great disappointment. The American maples, the Sycamore Maple, Elm, Whitewood, and Buttonwood, would probably all flourish, and give a variety.

"Responsible Nurserymen."—C. O., Hendricks Co., Ind., pertinently says that we recommend planters of trees to "send directly to some responsible nurseryman" for them. He followed the advice and sent, and obtained from "a nurseryman of large business, and reputed honesty and responsibility, badly grown and almost worthless trees." Now he says: "I insist on the purchaser selecting his trees, etc., personally." So we have often advised, to always do when practicable; but it is not always possible, and we must trust somewhat to the nurserymen. There are few men in the world who will cull out from their nursery rows the most saleable trees to send to a stranger. If he comes cash in hand, and makes the selection himself, it is a different thing. Still, there is no excuse for sending a poor lot of trees or vines, when a first class price is charged.

Pears in Illinois.—Jabez Webster, of Marion Co., Ill., writes that "pears suffer much from blight in his neighborhood. The Bartlett does best, and the Howell next, but this year even these have suffered. The Vicar of Winkfield grows well, but does not bear as a dwarf or standard. The Tyson, Beurre Giffard, Louise Bonne, and others on quince, neither grow nor bear. Bartlett, Vicar, Flemish Beauty, and Osband's Summer do much better as standards without manure than they do as dwarfs with manure." Mr. W. says that "dwarfs are about 'played out' thereabouts; people begin to open their eyes to the fact that they are not enough adapted to the climate to pay for the labor and trouble, while standard trees will flourish as well as apple trees and come into bearing as soon."

The Penn Pear.—The Rev. A. R. Buel, presented us with two specimens of this pear, which has also been known by the names of Frazer and Railroad Fuss. The latter name was given because the original tree was the subject of some difficulty at the time the Camden & Amboy R. R. was made. It has been called Penn, because it originated opposite the old Penn estate. The shape of the pear is remarkable, it being very much depressed and broader than long. Downing classes it as "very good." The specimens were tested at the fruit growers' meeting and hardly warranted this endorsement, probably because they had not been properly ripened.

Good Catawba Grapes.—The finest Catawbas we have seen this year, were a box of some 25 lbs. presented Nov. 6th, by Josiah Carpenter, Commission Merchant, whose business card has long been in our columns. They were grown on lattices, by J. Larowe, of Hammondsport, Steuben County, N. Y., which must be a good locality for this uncertain variety, judging from the well ripened, large clusters and berries. Mr. C. says he has had them from the same place through the Fall, and they have sold higher than any other Catawbas in market. They come packed in neat, light, board boxes, 24x10x5½ inches, with a division across the middle. The ends and division boards of ½ inch stuff; the rest ¾ inch thick. White wrapping paper is placed above, below, and between the layers. *Query:* Would not small air holes preserve the fruit longer?—A few bottom clusters, slightly mashed by hard handling, were a little sour.

Cold Grapery.—B. Ayers, Rock Spring. The interior is usually painted white, but in this country there is no objection to coloring them any pleasant tint. Light stone color makes a good contrast with the foliage.

Croton Point Isabellas.—Dr. R. T. Underhill sent us some very large Isabella grapes, rather larger than usual even from his vineyards, but hardly as sweet as in some previous years. The uncertainty of this variety in many localities, and its inferiority in flavor to some of the newer grapes, are not in its favor, though Dr. U. is still successful in supplying a very large amount of grapes to a multitude of persons in New-York who would otherwise be unable, as yet, to eat grapes at all. Some assert that his example has retarded grape culture generally, as so many have been led by it to go largely into the culture of the Isabella, with poor results. On the contrary, we suspect the noise made about his grapes, and the reported profit of his vineyards, have done much to awaken an interest on the subject, and if this leads to a larger culture of better varieties than the Isabella, good will come of it.

What Grapes to Plant.—“Onondaga” asks for a list of twelve sorts for family use. We do not know of that number of good grapes which have been sufficiently tested to warrant a general recommendation. The list given on page 325 (Nov.) includes seven sorts, and some of these are put in as only promising well. If disposed to experiment, we should add To Kalon, Anna, Elsinburgh, and test the newly-introduced Iona, Israella, and Adirondack. Unless one wishes to buy experience, it is best to plant only a few sorts which have been thoroughly tested. Hartford Prolific, Concord, and Delaware, will make a long season, and are reliable. When we know more of the Creveling, we may be able to put it in place of the Hartford. It promises well, but has yet to stand the test of extended cultivation.

Grapes for Canada.—R. M. Goodman, Ohama. The Delaware, the best of our native grapes, is hardy where any grape will grow. The Clinton, only a fair quality, is also hardy. The Oporto is not a good table grape, and is less suited to high latitudes than these.

“Caper Tree.”—A lady at Hampden, Me., says she has a caper tree, and wishes to know how to make pickles of the seeds. The true caper is a shrub, and is not hardy in this country. The imported capers are the unexpanded flower-buds, and not the seeds. We cannot guess what the tree can be.

Hawthorn Hedges.—Charles Elliott will find a portion of his questions answered in another item. The plants are set at a distance of 6 inches if in one row; or a foot apart if in two rows, and the plants alternating, i.e., those in one row set opposite the spaces in the other.

Oregon State Fair.—Many Eastern people, who remember how recently the Flathead Indians came from beyond the Rocky Mountains in search of the White man's Bible, can hardly appreciate the fact that Oregon is already a flourishing State, with all the institutions of the older States in full operation. The Pacific Christian Advocate, published at Portland, reports the Oregon State Fair as a “fixed fact,” the one this year exceeding any of its predecessors. There was the usual display of agricultural and horticultural products, of manufactures, household articles, etc., and the modern inevitable “agricultural” horse-racing. A yearling heifer, and a two-year-old bull, of the Durham breed, indicate that blooded animals are not overlooked. The Fair lasted five days, and was visited by about 10,000 persons! Military companies, and bands of music were present in large force, and were a marked feature of the occasion. The Advocate mentions one note-worthy fact, viz., “the order observed was excellent; we did not see a single drunken person, and heard but a single oath, though we mingled freely among the multitude present.”—We bid

our distant friends good-speed in their efforts to improve the agriculture of the new State, and we hope the many hundreds of copies of the *Agriculturist* they now receive, increased to as many thousands, will be found an efficient aid in the work.

Measurement of a Ton of Hay.—This is one of those things which are entirely indefinite. No man can tell how much space a ton of hay will occupy in a mow or stack. It depends upon the dryness of the hay, its age, the height of the mow, whether it has been trodden, either at the time it was placed in the mow or afterward, whether the hay has been disturbed or not since haying time, and *what kind of hay it is.* A ton at the top of a stack will measure more than one at the base. In a mow 20 feet high, carried up square to the top, the average will be about 400 cubic feet to a ton—more at top, less at bottom. (See *May Agriculturist*.)

Prairie Seedling Potato.—W. S. Carpenter, of Westchester Co., N. Y., has sent us specimens of this potato, which is a new variety to this neighborhood. He says that the yield is 300 bushels to the acre. The potato is of good size, and quality excellent.

Slugs on Potatoes.—Mrs. Babcock, Hampden, Me. The slug which infests your potatoes is not recognized from the description, and we can only suggest hand-picking, or the aid of a brood of ducks or turkeys.

Tan Bark as a Manure.—D. W. Kinsman, Cheshire Co., N. H. On account of the difficulty with which this is decomposed, it is not highly prized as a manure; it may be decomposed by composting with lime. Its chief value is as a mulch, for which it is applied around the roots of fruit-trees, bushes, and vines.

Fish, etc., on Dry Land.—“Subscriber,” asks how fish, frogs, etc., come to be found on land, as occasionally happens. Usually they are drawn up by a whirlwind, and fall when the wind subsides. Sometimes a single one, “alive and kicking” like the one described in his note, is dropped by some bird of prey. They do not “generate spontaneously” in the clouds.

Sex of Eggs.—A “friend of the *Agriculturist*” writes from Blue Point, that when he wishes a brood of males he selects the longest eggs he can find, and if females are desired, the roundest ones are chosen. He says that he never knew this to fail.

Cheap Sewing Machine “Agencies.”—Give them all a “wide berth.”—We have investigated some half a dozen and not yet found one to which we would entrust a dollar. Some offer a great discount after the first machine is paid for at full price. A good many have written us that after sending \$5, \$10 or \$15 to some out-of-the-way New England town for a “sample,” they could never get any response of any kind. One man ordered a sample machine to be paid on delivery, but the strict orders to the express man were to “C. O. D.” (collect on delivery,) and so he paid \$10, and \$3 more for charges, and when opened, the machine was not worth a dollar—even for scrap iron, and no answer can be got to his complaints. That's the way the thing works.

Humburg Mining Companies.—Just now the country is flooded with sundry “Mining Company” enterprises nominally located, or to be located on the Pacific Coast, but of which the real and only location is in some 3d, or 5th story in Philadelphia, New-York, Boston, or Cincinnati. Very attractive are some of the schemes, circulars, blank “Certificates of Shares,” etc. Post Masters are especially solicited to act as agents and offered large inducements. Two or three dollars of your money will buy a share that will very soon be worth \$5000 to \$10,000,—all in gold! We should like to make a few such investments if we could, but “we don't see it.” We have one of the most taking of these concerns in tow, whose operations we shall be able to show up in full by next month. In the mean time, if any reader will find one of these Eastern Mining Companies, advertised by circulars, which is at all trustworthy, we will pay a large premium for a chance in the enterprise.

The Wine Plant Humburg is still carried on in various parts of the country, as we learn from several letters. For example, Mr. B. F. Brown writes from Dane Co., Wisconsin, November 8, that “an agent is there selling Linnæus Rhubarb at \$37.50 per 100 plants—many of them not the size and length of a man's little finger—telling people that they can make 1½ gallons of wine from each plant next season, which will sell readily for \$2 a gallon; that government agents are contracting for all they can at this time, etc.” This is sheer lying and swindling. Neither government agents, nor any body else is doing, or will do any such thing. A plant set now, will not make 1½ pints even of what is called wine,

next season. Reliable men, King and Murray of Flushing, and others have this year advertised in the *Agriculturist*, good Linnæus Rhubarb roots at \$18 to \$25 per thousand (only \$1.80 to \$2½ per 100.) Our previous notice of this matter has probably put upon their guard all our readers except those subscribing recently. Don't believe the stories told, nor trust the samples of real or pretended wine shown. Lastly, try to get the *Agriculturist* into the hands of the multitude of farmers who are being constantly swindled by the thousand and one humbugs. It will save them much money.

Ear Doctors.—If we had a child or friend who had any trouble in the hearing apparatus, we would consult a regular physician, not those advertising; or go to Dr. Geo. Wilkes, (who don't advertise,) sure that he would not charge \$50 to \$500 for telling that there was a little wax in the ear, and how to wash it out; nor hold on to the patient (as long as he has any money) if the case be not curable. Dr. W. charges \$2 for each visit, we believe. His office is at 23 Lighth-st. He is President of the New-York Medical and Surgical Society, has business enough, and will doubtless not thank us for this public notice; but we are consulting the interests of our readers, and not his personal comfort. We have not seen him in several years, but we know his character and skill. This notice is needed now—we have just refused an \$800 advertisement of an ear doctor.

Philadelphia Humbugs in California.—Our old college “chum” (Rev. Jas. Rogers) sends us from Downieville, Sierra County, in the Mountains of California, specimens of Humburg circulars issued in Philadelphia, that have been scattered even to that distant point. One of these sets forth a sale (said to be “no Gift Enterprise or Lottery”) of \$700,000 worth of Watches, etc., valued at from \$5 to \$250, all to be sold at \$2½ each. The other is nominally from the next door in the same street, offering a beautifully illustrated Journal at \$1 a year, and a gift to each subscriber, ranging in value from \$1 to \$100. We hope these circulars show enough on their face to put people on their guard, yet somebody must patronize the operators, or they would not continue swindling. As the new law allows two or three circulars under one envelope, the operators now generally send out their schemes in pairs, or triplets, under different names, hoping that if one bait does not take another will.

To Remove Coal Oil from Cloth.—“S. B.,” of Ontario, Ind. Benzine, now very cheap and largely used in painting as a substitute for turpentine, will remove this and similar stains. In cleaning clothing it should be laid on a cloth folded to form a thick pad, or upon absorbent paper, so that the benzine which has dissolved the greasy matter will be soaked up. The spot should be treated thus several times until it is thoroughly washed out. Merely rubbing the oiled place with a little of the liquid only spreads it.

Why the P. O. Address in not given.—A correspondent thinks it very provoking that we generally only give the County residence of those contributing or making queries in the *Agriculturist*. One of the principal reasons for doing this is, that we may save our readers from annoying correspondence. When it is published that a person has some new or rare plant or other thing, he is immediately besieged by a host of applicants for cuttings, seeds, etc., and we are often requested, on this account, not to use names at all. Swindlers also seize upon all such names. One lady whose full name and P. O. address we happened to give, received 57 circulars within three weeks after.

Pickles for Beef, etc.—E. Montgomery, of Clay Co., Ind., sends the following recipe for 200 lbs., of beef: “Cut your beef in small pieces and pack it in a clean, tight cask. Take 7 pounds of salt, ¼ pound of saltpetre, 1 pint of molasses; put in a pot with water enough to cover the beef, and boil, skimming; when cold, pour it over the beef and put on a weight to keep the beef under the brine.” He says he has eaten beefsteaks in May thus preserved all Winter.

An Excellent Meat Pickle for General Use.—To 2 gallons of water add 3 lbs. salt, 1 lb. sugar, 1 oz. saltpetre, 1 oz. potash, boll, skin, and when cold, pour over the meat, which should have been killed two or three days. The amount of salt needs to be increased if it be desired to keep the meat into or through the Summer, or if the meat be packed in Spring. This is excellent for beef for boiling, dried beef, tongues, hams, shoulders, or mutton hams.

Cleansing Old Pork Barrels.—A subscriber, in Monroe Co., Wis., recommends, “After scrubbing, to turn the barrels open end down, and keep a moderate smoke under them for half or a whole day.”

Straw Valuable for Feeding.

The following statements, condensed from a report on the above topic by Dr. Charles C. Cameron, to the Royal Agricultural Society of Ireland, are valuable as giving light on a subject which needs further experimental investigation. Dr. Cameron concludes that, pound for pound, the least nutritious kind of straw equals the best varieties of turnips, in its amount of flesh-forming principles, and greatly exceeds them in its proportion of fat-forming elements. He says that straw is more valuable when it is cut in the just ripe state, than when it is permitted to over-ripen, and that green straw contains a far greater amount of nutriment than is found in it even when just ripe. The different kinds of straw are thus ranked in the order of their value: 1. Pea haulm; 2. Oat straw; 3. Bean stalks with the pods; 4. Barley straw; 5. Wheat straw; 6. Bean stalks without the pods. The following table shows the value of Oat straw compared with Meadow hay:

In 100 parts of.....		Meadow Hay.	Oat Straw.
Water	.....	14.61	14.0
Flesh-forming constituents	.....	8.44	5.0
Respiratory and fatty matters	.....	43.63	13.3
Woody fibre	.....	27.16	63.1
Mineral matter, (ash,)	.....	6.16	4.6

In comparing good Oat straw with common white Turnips, the latter were found to contain but little more than 1 per cent. of flesh-forming constituents, and less than 5 per cent. of fat-formers; while the straw has about 4 per cent. of flesh-formers and 13 per cent. of fat-formers.

As to the woody fibre of hay and straw, experiments made in 1859 by two German chemists, Stockhardt and Sussdorf, prove that cellulose, or the substance in plants of which woody fibre is formed, is capable of being assimilated by sheep and other ruminant animals. They selected two wethers and fed them—1st, upon hay alone; 2nd, upon hay and rye straw; 3rd, upon hay and the sawdust of Poplar wood which had been exhausted of soluble matters with lye, with a little bran and salt added to make it palatable; 4th, with hay and Pine-wood sawdust, bran, and salt; 5th, Spruce sawdust, bran, and salt; 6th, hay, pulp of linen rags (from the paper-maker,) and bran. The experiments were carried on from July to November, excepting a short time during which the sheep were pastured to recover from the injurious effects of the fifth experiment. The animals and their food, drink, and excrements, were weighed daily. The amount of cellulose in the food was determined, and also the proportion in the excrements. In this way it was ascertained that from 60 to 70 per cent. of the cellulose of hay, 40 to 60 per cent. of that substance in straw, 45 to 50 per cent. in Poplar wood, 30 to 40 per cent. in Pine wood, and 80 per cent. in the paper pulp, was digested.

To render a larger portion of cellulose digestible, Dr. Cameron recommends cooking straw. When consumed in an unprepared state, most of its cellulose remains unappropriated. He advises to chaff (cut short) the straw, steam it and mix it with roots and oil-cake or grain; or mix it with sliced roots, moisten with water, and keep it until a slight fermentation sets in. Experienced feeders in England have found that dairy cows in Winter, if fed on large quantities of roots, particularly Mangels and Carrots, will eat but little straw and become very lean; but that they will always eat a full portion of sweet, well-harvested straw, when they get a moderate allowance of roots—say 15 lbs. of mangels three times per day. Those who have roots can easily experiment in this direction,

and perhaps arrive at conclusions profitable to themselves and to the whole community. We should be pleased to record their results in the *American Agriculturist*.

Northern Sugar—Sorghum and Beets.

Many farmers may be discouraged by lack of success with the Sorghum this year, and so give it up as a farm crop. In this they will err. Corn has suffered equally by frost and drouth. It has been abundantly proved that an excellent syrup may be very economically obtained from the Chinese sugar cane, and from several of the varieties of the Imphee or African cane. It is most conveniently and cheaply produced, when the operations of expressing, concentrating, and clarifying the juice are conducted on a larger scale than most farmers would like to manage. So it has come to pass, that throughout the country, establishments have been erected, each capable of making several thousands of gallons of syrup. Many of these have this year stood comparatively idle, and the fear is that farmers will not contract to plant another season.

The production of *beet sugar* is now in its very infancy in this country—not a pound has ever been in the market, and yet we anticipate for it a great future. It is already demonstrated that the sugar beets will grow upon the prairies and in Ohio, standing such drouths as that of the past season, and still maturing what would be considered good crops in Europe, and very rich in sugar. This sugar we surely can extract as well as the people of France and Germany. It requires a good deal of capital, expensive apparatus, in fact a large establishment. No syrup is produced—the *uncrystallizable* sugar is inseparably mixed with substances of offensive flavor, and is therefore fit only for distillation. Up to the present time *sugar* has not been produced from the Sorghum in sufficient quantity to appear as such in market, but syrup is, and we suspect will be, the only product. These two industries, Sorghum culture and Sugar Beet culture, do not directly interfere, except so far as they both supply sweets.

The question whether cane sugar exists at all in the juice of the Sorghum is answered affirmatively by Mr. Wetherill, chemist to the Department of Agriculture. Still this gentleman after a labored discussion of the subject fails to make clear distinctions between grape-sugar and fruit-sugar. He acknowledges his own inability to prepare or procure pure grape-sugar, and fails to show the economic value of the syrup, containing as he asserts, a mixture of the two; for while the grape-sugar is not more than half so sweet as cane-sugar, the fruit-sugar is equally sweet.

Experiments conducted on a large scale to prove several questions in regard to the Sorghum are now in progress, which we anticipate will at least settle the question whether any marketable cane-sugar can be produced.

For feeding, the beet refuse forms one of the most valuable products—in fact the extraction of the sugar does not apparently reduce the value of the crop for cattle feed at all.

Talks at the Fruit Growers' Meetings.

These meetings have been interesting of late. Pears and grapes have occupied considerable attention—the different varieties, methods of cultivating, and training. The grape, particularly, is exciting much interest just now, and the question at a recent meeting was: "*What Grapes shall we plant by the acre?*"

Mr. Fuller said he had little hopes of the new seedlings sold at high prices. He would as yet trust only two, on

an extensive scale, viz.: the Concord and Delaware. He was very severe on parties who had sent out some of the late seedlings, which they well knew, or should know, would prove failures. This had a damaging effect on the cause by discouraging parties from trying sorts which would succeed. The Concord may safely be planted largely, for if something better is found after a few years, the Concord vines may be then dug up and thrown away, and they will have abundantly paid for themselves.

Mr. Judd endorsed the Concord, which if pitched into a man's lot would be likely to take root and grow, while the weak growing newer sorts would soon die with the care, or rather the lack of care, they would receive at the hands of most farmers.—He would have the Delaware, the Allen's Hybrid, the Creveling, and other new promising sorts pushed forward as experiments, and to supply smaller quantities of choice grapes, but for the million, he would place the Concord as one of the first.

Mr. W. S. Carpenter took the ground that we must educate the taste of growers and consumers, until the foxy sorts would not be relished by them. He thought the Concord would soon be discarded for the finer flavored Delaware, Iona, Adirondac, etc.—persons that would take no care of vines did not deserve to have grapes.

Mr. Fuller formerly had some faith in the Diana, but owing to imperfect ripening, will dig most of his up; has hopes of Creveling, but wants to see 100 vines in bearing, before endorsing it—Concords can be grown for 5c. per lb.

R. L. Williams, of Steuben Co., N. Y., had travelled pretty extensively over the grape regions of this State, and especially through the vineyards of Naples and vicinity, where there are from 50 to 100 acres of bearing vines, mostly Isabellas, with some Catawbas. They raise these sorts because the vines are cheap, are easily grown, and the grapes sell well in market, some of them unripe it is true, but they bring paying prices. The Catawba ripens better than Isabella in that vicinity, and is really a good grape; the Isabella is hard and sour. All grapes do better away from the coast; a limestone formation is best.

Mr. Fuller did not want to see a grape vine shed its leaves early, as his Adirondac did by the first of September; leaves are necessary to ripen wood and perfect fruit. If the Adirondac will only hold its leaf, it will take rank among the good grapes, though it has no very marked flavor to please any taste.

E. Williams saw some rot and mildew among his Concords, in New-Jersey. Dianas were also affected—the only sorts entirely free, were Clinton and Hartford Prolific. Wm. Clark, of Northampton, Mass., showed fine Concords grown under glass, where they had hung a month after ripening. They matured several weeks earlier than the same sort out of doors.

Dr. Ward thinks the Concord improves each year. A strong vigorous grower, it resists deleterious influences around it, to which the Isabella gradually yields.

THE PEAR claimed a large share of attention at some of the meetings. Dr. Ward showed *Beurre Superfinc*, which he esteems as a pear of high flavor. The tree is a thrifty, vigorous grower, and bears well. It should form one of six varieties for market. He will cultivate it extensively—fruit hangs on well, even after the foliage has gone. In response to the inquiry what manure was best for the pear, Dr. Ward says he uses all kinds, and nothing comes amiss, but prefers barn-yard manure, unfermented, applied to the surface in November—would give a tree two or three wheel-barrow loads.

Mr. Carpenter spoke of the Sheldon, as one of the very best sorts either for the amateur or for market. If he had but one sort, it should be the Sheldon, grown on the pear stock. *Beurre d'Anjou* was a very fine pear, worthy of more extensive culture, is a strong grower, good and early bearer. He is planting a new pear orchard, one fourth *Beurre d'Anjou*, one third Sheldon.

Mr. Field endorses *Beurre d'Anjou* and Sheldon, but were he to plant a pear orchard, he would set it wholly to dwarf Vicars, and then bud or graft in the branches, to secure strong *uniform* growth. If a variety of sorts be set out, the orchard soon presents a very uneven appearance.

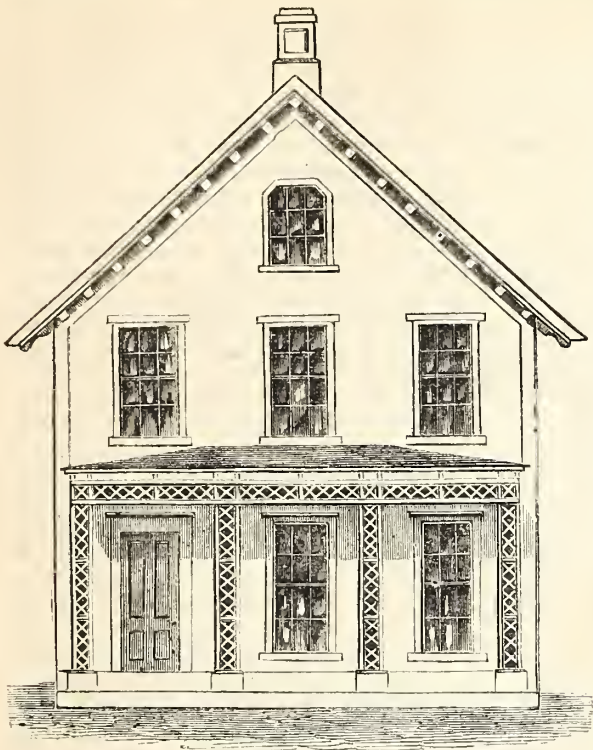
Dr. Ward replied to the inquiry, how to plant pear trees, that he trenched, or subsoiled his ground, and then dug large holes two feet deep, filled up one foot with inverted grass sods, trampled solid, covered with loam and set the tree in this, filling in and sifting the fine earth carefully among the fibres, and spread a mixture of muck, lime, charcoal, and decayed manure over the whole.

Dr. Trimble likes the *Beurre Clairgeau* for its thriftiness. It seems to rejuvenate weak sorts when grafted on them.

Dr. Ward endorses its growing qualities, the grafts always bear the year they are set, when put in old trees.

Mr. Carpenter says it is too great a bearer, and the fruit should be thinned—does not do well on quince, spoke of the premature ripening of pears and other fruit, owing to the drouth in Summer and Autumn—finds fruit does not keep as well on young as old trees.

Dr. Ward had observed the same thing. He had already (Oct. 26,) picked his Winter pears, including Lawrence, which he usually left on the trees much later.



A Country Dwelling of Medium Size.

So much of the comfort of life depends upon the arrangement and conveniences of one's dwelling, that we purpose devoting a little more attention to this department of the *Agriculturist*, now that we have more editorial aid. A different arrangement of rooms, closets, etc., may make a vast difference in the convenience and utility of two dwellings erected at the same cost.

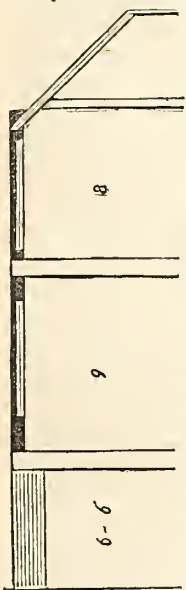


Fig. 2.—SECTION OF STORIES.

Perhaps the best way to draw out information is to solicit plans, hints, and suggestions, from our readers. We present herewith the essential portions of a very neat colored sketch of his own dwelling, furnished us by "Jack Plane," of Burlington, Iowa. This house he has occupied a year, and says he has no fault to find with it. (It is almost exactly like a village dwelling we boarded at, when at school many years ago, so we are pretty well acquainted with it.) The engraved plans show at a glance, the general internal arrangement, and the figures give the dimensions of the rooms. The cellar is under the whole house, as it should always be, and is 6½ feet high in the clear (which is too low for convenience). The first story is 9 feet in the clear, and the second story 8 feet. The rear part is 9 inches lower than the front or main building, to let the roof come clear of the chamber windows. A second cellar stairs leads from the dining room, under the hall stairs. Cost about \$1500

REMARKS.—While the general plan seems to be a good one, there are some defects that might perhaps be remedied by a different arrangement. The dining room is of course used as the general living room, and the 'living room' kept more

choice, especially if there are children to mar the furniture. There is not enough closet or pantry room on the first floor. This point we consider an essential one in every dwelling. There are a hundred articles in every family that come into almost daily use, and labor, steps, and time should be saved by having closet and shelf room for all such articles on the living floor. Books and papers may be kept in furniture cases standing in the main rooms, and the better hats and overcoats may be placed on a rack behind the hall door, if there be room; but we would always recommend a spacious closet in or adjoining every living room, where common overcoats, cloaks, hats, etc., may be kept conveniently at hand—otherwise the chairs, table, or mantel-shelf will be constantly called into requisition.—The main closet in this plan can only be reached by going through the bedroom, where perchance a sick person may be disturbed.—The bathroom is so located as to be inaccessible to persons in the chamber, without passing through the whole house, including the kitchen, and also through the open porch. Should not the sink be on the

right hand of the pantry, next the bath-room, instead of on the left, or rather should it not be in the kitchen? The dishes, if washed in the

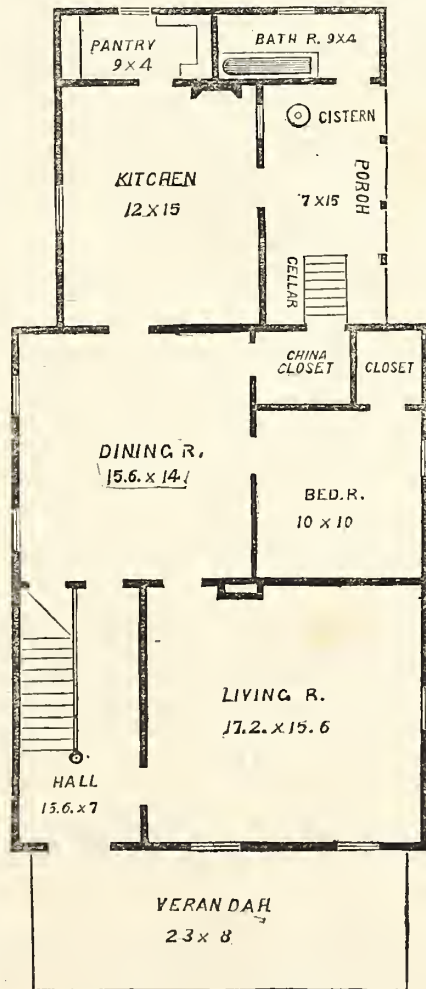


Fig. 3.—PLAN OF FIRST STORY.

minor items, but everything that saves steps saves time and labor. Dishes are to be used 1095 times a year.—There is hardly closet room enough in the second story. One or two dresses of modern style will fill a small closet, and can hardly be put into a wardrobe standing in a room. Perhaps the 6x7 room over the hall may answer for general storage. If this room be used as a bedroom it would often be convenient to have it connected with the front chamber by a door. There is, however, one closet not shown, under the attic stairs. This may be extended 9 or 10 feet, or more, and if needed take one foot from the other room to be added to this one. These remarks are merely offered as general hints to help others in planning. We shall give other plans and hints from time to time.

Query About Prairie Dwellings.

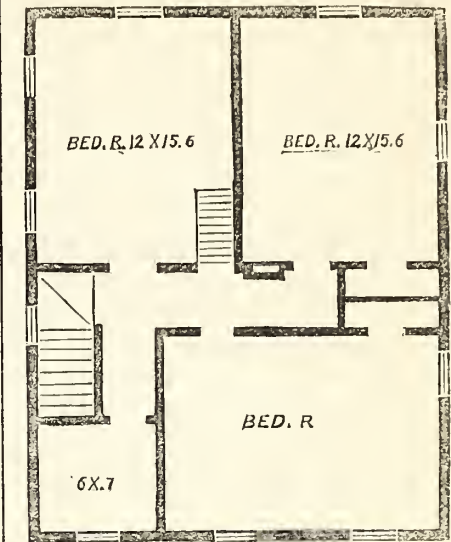


Fig. 4.—PLAN OF SECOND STORY.

In traveling thousands of miles through the West, during the past season, we could but notice that nearly all the dwellings are constructed a scant story and a half high, the first story 8 to 9 feet high, and the second only 3 to 5 feet at the eaves. Now it requires just as much cellar, flooring, roofing, framing, etc., for such a house, as for a full two-story one, having high convenient rooms above, with attic room also. The only difference in the cost is for a strip of 3 feet all around, requiring merely a little longer posts, a few more boards for siding, and a slight outlay for lath and plaster. We should say that for the ordinary prairie houses, costing \$700 to \$1200, forty to sixty dollars more would be all the extra cost of a convenient two-story house, over one having the same ground space, but only 1½ or 1¼ stories high. A little figuring will show that a house 20 feet square, and 17 feet high has the same amount of walls, as one 22 feet square, and only 14½ feet high, while the former has 168 square feet less of flooring, and of course costs less. Query.—Suppose the extra \$40 to \$60 (cost can not be added to the 22 feet square house, to run it up 2½ feet higher, would not a full two story house 20 feet square, be preferable to one 22 feet square, and only 1½ stories high?—We know there is one argument in favor of low houses on the wind-swept prairies, but a few extra braces would make up the extra strain of two or three feet more in height.

Nepaul Barley—Large Results.

Three years ago last Spring, Mr. Isaac Watkins, of Orange Co., N. Y., received from the office of the *American Agriculturist* one of the little seed parcels distributed among subscribers, which contained a sample of the Nepaul Barley. This he planted in the garden in a 3x4 feet bed. It yielded 3½ quarts, which was sown broadcast in the field the next Spring, but the cattle destroyed a part, so that he only got about ½ bushel. Last year the ½ bushel yielded 9 bushels, weighing 71 lbs. per bushel. His neighbors were so desirous of getting it, at \$5 per bushel, that he let five bushels go for \$25. The remaining four bushels he sowed this year on about an acre, and it yielded a little over 40 bushels. Mr. W. thinks it will produce fully a quarter more per acre than the common variety. (Mr. Watkins says, this is only one of several ways in which he has been more than repaid for his investment in a subscription to the *American Agriculturist*.)

Ice-Houses.

The views of both practical and theoretical men have changed much, within a few years, about the preservation of ice. Why ice keeps ordinarily better above ground than below, is explained in sundry ways: the fact is acknowledged. Why ventilation is necessary to the successful keeping of ice in small quantities has been likewise the subject of many learned explanations which, however, do not well agree. Still it is a fact. In keeping large quantities of ice, it is only necessary to pack it in a compact mass in a building which will shield it from the direct influence of the rains and sunshine, filling in straw or sawdust between the ice and the walls, or having the building double walled, and the space between the walls filled with tanbark, sawdust, or similar porous and non-conducting material. The ice-house should be constructed so that it may be easily filled, and the ice easily gotten out, bearing in mind that a mass of ice melts only on its surface, if well packed. It is desirable to have a double roof; absolutely necessary to have perfect drainage; desirable to prevent draughts of air coming up through drains, or striking the ice anywhere, and absolutely necessary to have ventilation above the ice—that is, above the straw or sawdust which covers it. This ventilation ought not to be a draught of wind, but only enough to keep the air from becoming close and damp.

Farm or family ice-houses must be constructed on the same principles, but the amount of surface exposed being so much greater in proportion, it is much harder always to secure the conditions necessary to keep the ice with little loss from melting. We advise no one to build an ice-house that may not contain a mass of ice 10 feet square, and at least 8 feet high. 12x12 by 10 feet high is a good size. For convenience in filling, the house may be set on a side hill. It is well to sink the bottom a little below the surface of the ground after leveling, to cement the bottom, and to provide drainage secure from currents of air passing through the drain. Eight inches is sufficient space between the outer and inner boarding, and this may be filled with any non-conducting material—spent tanbark is perhaps as good as anything. The building should, we think, be entirely of wood, not even having the side toward the hill of stone wall. The door for filling, which must be

in the gable, toward the hill, may serve also for taking out the ice, and ordinarily, it is best it should. A sliding pannel in this door, opening a hole a foot square, will furnish ventilation and the means of regulating it. The roof should be well shingled with extending eaves, and the rafters boarded over to prevent the too great heating of the air above the ice.

Willow Fences and Wind-Breaks—Report of Personal Observations in the Field.

During two years past there has been no little excitement in regard to the practicability of using the White Willow (*Salix alba*) for fences, especially upon the vast prairie regions of the West where fence-timber is almost inaccessible. The Osage Orange is successful south of latitude about 40° in Illinois, but is not always reliable north of this line, and there is a great need of a plant to fill its place. While in Illinois last season we tried to collect some items, but were not very successful. Having gathered some rather striking facts in regard to the willow in central New-Jersey, we deemed the matter of sufficient importance to send one of our associates of good judgment (Mr. Weld) to Illinois to make a thorough personal examination of the whole subject. Mr. Weld started Oct. 20th and was absent nearly three weeks, visiting Ogle county, where the willow has been most thoroughly tried, and extending his journey to some other parts of the State, to examine the Osage Orange hedges, and other matters of interest to our readers, of which some account will be given in future numbers. He visited several farms where the willows have been tested for fences, and for wind breaks, from two to twelve years, and reports as follows:

My visit to Ogle county, Ill., was in company with gentlemen intimately familiar with the agriculture of the prairies, with the soils and seasons, the crops and modes of culture. We traveled many miles, and examined a large number of localities where the willow fences are in use. We found a few hundred yards of fence 11 years old, the first planted in this county, or State, some also on the same farm, set during the immediately subsequent years—but of fences planted within the past 4 or 5 years, particularly that 1, 2, and 3 years old, we saw miles upon miles, throughout this entire region. Thus the conviction comes to my own mind, that where it is best known the willow is most highly esteemed. We observed poplars and cotton wood, and poor powdery locusts, and the yellow willow too, all giving way to the white willow. The 11-year-old trees were planted at first merely as a wind-break; cuttings of finger size and a foot or more in length being stuck in the prairie sods, a foot apart, so says the planter. From many cuttings two or more shoots starting from the ground must have been allowed to grow, for as the trees now stand, 10 to 12 trees occupy about 8 feet length in the row.



The cut illustrates the manner in which the trees occupy the ground, but they are larger and more completely fill the row than the cut represents. Lack of time and space prevents giving in this number a picturesque view of the fence. The trees now stand at least 40 feet high. The trunks at a height of 2 or 3 feet are from 6 inches to a foot or more in diameter, and rise with a uniform taper, and very straight,

to the top. They incline a little, uniformly, showing the effect of the prevailing winds, but not one, that we noticed, was broken or had lost an important branch, nor had one died. There is one vacant space of a few feet where a pair of bars had been. The land on which this row of willows stands is good corn ground. On the east side it has been for several years in cultivation, and now sustains a luxuriant growth of clover and timothy. The land on the exposed side of the fence has never been plowed, and is prairie grass, tamed by the grazing of cattle. In this, numerous roots extend near the surface to a distance of a rod at least, as I proved by digging, and doubtless they go further in some cases. These roots, however, were not so strong as to prevent plowing within say 16 feet of the fence. On the cultivated side, at eight feet off, no roots were found of large size. Still nearer, where the plow had been run closest to the trees, matted fibres abounded, and some as large as one's finger were stretching out into the field. The grass grew well within 6 feet. The owner of the land estimates that as a wind-break, the influence of this screen is felt for several hundred paces, making the land earlier and more productive, preventing the lodging of grain, the blowing down of corn, etc.

In a few places the trunks spread apart at a height of a few feet above the ground, so that a man can easily get through, but no farm stock could do it, and a better stockade would not be needed to confine a herd of elephants. To make it dog-proof, would require only a little labor and a few stakes.

The appearance of the fence is attractive, the height of the trees being very uniform; and even when the fences extend over dry knolls and through "slines," (sloughs,) the result only is to make the line of the tops a little less undulating than the ground line, showing that the willows grow faster in wet soil than in dry.

On the same farm there were some yellow willows, set at the same time, as we were informed. They had not made nearly so good growth, and there were numerous vacant spots where trees had died. They were more branching and crooked also. One farm which we visited was not only fenced externally, but the owner was dividing up the land into 10 to 15 acre lots, using the willow exclusively. Much was set on this farm last Spring. It was well cared for, and the growth, though small, was healthy. Here we saw no dead cuttings. There was also about an acre set last Spring for timber, fuel, etc., the cuttings being a foot apart in rows 12 feet apart. The ground has been regularly worked all Summer, and the plants look well, having made a growth of two and a half to three feet. Some of the older fences on this farm were originally set too loose, and the result is that in the four-year-old hedges spots are not infrequent where an animal might work through. It had been attempted to remedy this by setting some large cuttings to fill the gaps. They had all failed. The willow cutting must have light and air; it will not grow in the shade of either weeds or older willows.

From what I have seen, and from the views of those who know most about the White Willow, I am of opinion: 1st. That it will grow on all good soil, and in wet soil; 2d. That in four years, it will make a fence that will turn all domestic animals, if it be topped at a height of four feet, and the tops used to strengthen the hedge somewhat; 3d. That left to grow it will in 5 years, or 6 at most, make a fence without topping, so that this fence will be an effectual

wind-break, and after it is 9 or 10 years old, and periodically thereafter, will furnish a large amount of good firewood or durable fence-rails; 5th. That if the plow be run once every year or two at a distance of a few feet from the fences, the roots will not interfere materially with the culture or products of the soil; 6th. That the roots will not send up sprouts either before or after the removal of the tree or stump.

In regard to planting and subsequent care, I consider it indispensable to plow several deep furrows each side of where the cuttings are to be set, to remove all weeds and grass, to let but two or three stems grow upon each plant, to keep the ground open and well tilled the first year, and to see that cattle do not browse it. There is no doubt of the fact that animals will eat it, though we saw no hedges especially protected from cattle, nor damage done by them, nor did we hear complaint in this respect, but this ought to make no one less careful to prevent damage to his young fences from such cause.

While I do not say that, of the many quick-growing trees and hedge plants, which are used for timber-belts, shelter-belts, wind-brakes, fences, etc., on the prairies, the white willow is certainly best for each of the purposes of fence, wind-break, firewood, and timber, I now believe that it will be found to combine them better than any other yet brought before the public. Where the willow is known, and among those who have visited that part of the country where the fences may be seen, I have not been able to find a man who did not regard its claims to the favorable consideration of prairie farmers at least well founded.

There were many miles of cuttings set at the West last Spring; we saw some of these which had started well, but had died during the drouth, and heard of many more such. In my own opinion the failure of many cuttings last season militates no more against the use of the willow on the prairies, than the almost total failure of a corn crop does against its continued use. The drouth was extreme; corn, sorghum, tobacco, and grass, were much affected, and the early frost destroyed much of what had withstood the drouth. M. C. WELD.

Breaking Up Prairie Land.

Several have written in response to an inquiry on this subject in the *American Agriculturist*, and most of them agree on the main points. We give here two communications which include the more important particulars, and coincide with the opinions we have heard expressed with great uniformity by prairie farmers, during our trips West.—Mr. John E. Darby, Muscatine Co., Iowa, writes: "The first point of importance is the season of the year for breaking. This may vary slightly in different years, but as a general rule, the very best is the month of June. The operation may be commenced as soon as the young grass is sufficiently started for pasturage, and be continued until harvest. This gives a range of time from the middle of May until the middle of July. If done earlier, weeds sprout up through the sod; the grass also comes up and renders it tough to work the next year. If later, the sod does not rot sufficiently for wheat, though it generally lies clean and brings good corn. I can see no difference in the rotting, whether left smooth or rough, but it is far pleasanter working smooth, and a plough laying a smooth furrow runs lighter. New sod is good for almost any field crop, and gives the surest chance for spring

wheat, which is never or rarely injured by chinch-bug or rust, and less liable to smut. Wheat is sown on the sod as soon as possible in the Spring, always without stirring, but thoroughly harrowing, which is easily done if the sod has been properly broken, and at the right time. For corn, the sod must be re-plowed in the Spring. This is easily done, if the sod is well rotted, and it generally will be if broken in June; but if the sod is a little tough or raw, a rolling cutter is of great use. Plow an inch or two deeper than the breaking, and proceed as on sward in the East. Another thing of importance is, to break as shallow as possible; 2½ to 3 inches is sufficient, the sod rolling better than when broken deep. In "roughs" or bushy land, it must necessarily be broken deeper.

"Another point is, to have the land freshly burned, if possible: mark it off, burn the old grass, and break immediately. If the grass gets too high, the sod does not rot so well.

"A word as to mode. Breaking prairie was formerly almost exclusively done with ox-teams, from 3 to 6 yokes to a plow, the plow cutting from 18 to 28 inches. This made it necessary to employ regular "breakers," as not every one could afford to keep such a team; but now, smooth prairie is frequently broken with two or three good horses—if three, worked abreast. A plow of 10 to 12 inches cut, and of sharp wedge-like form, is used, and some prefer this kind of breaking. I have done considerable in this way, and with two medium horses can break from 1 to 2 acres per day. A poor man can thus make a farm with little expense beyond his own labor."

Mr. John W. Barrett, Pierce Co., Wis., writes: "The best time, or I might say the only time to break up prairie land, is from the 1st day of June to the 20th of July. The reason is, that broken before June, the grass does not get a good start, and it will turn and grow through the breaking. If it is done in June and July, the grass has a start, and when broken with a hot sun on it, is sure to rot. Have the sod all turned over, and let it be as rough as possible to make it, as when in this condition, it is more easily torn up and prepared for seed harrowing in the Spring. Wheat is preferable for the first crop, and also for the second. My own practice is to break my land in June, then sow turnips or ruta bage seed, which usually pays for the breaking. The following Spring I use a large cultivator, dragging it over twice, then sow wheat and drag twice again, which is sufficient, if the land is broken at the right time. The sod rots better when rough than when laid smooth and even."

"Why will not 'wild' prairie sod rot like that of 'tame' grasses at the West and East?" is a question we repeatedly asked, and received the response that the roots of wild grasses and weeds are so tenacious of life that they can not be effectually killed, and the sods made to decay, if turned under deep. In opposition to this view we have a single fact to present, and our prairie readers may draw their own conclusions. Mr. Theodore Gennert, of Livingston County, Ill., (the same of whom mention was made in the September number of the *American Agriculturist*, (page 270,) as testing on so extensive a scale the question whether sugar may profitably be made from the beet, in this country,) plowed the land for his beets, and for a considerable corn-field, to the depth of 10 or 12 inches, the latter being reached whenever practicable. Double Michigan plows were used, and the top paring of sod was covered

with 9 inches of mold. Mr. G.'s beets were the only good field crop we saw in Northern Illinois in October, and his corn, though "sod corn," and somewhat damaged by the frost, was by far better than any corn raised on old land which we saw, in that region. It stood the drouth well, and a large portion of the crop was so far matured as to be uninjured by the frosts of August and September. "Sod corn"—that is, corn planted immediately upon the sod—is seldom worth harvesting, as we understand it, except by cattle and hogs, and this year we saw none which appeared to have paid for planting.

To Prevent the Flavor of Turnips in Milk.

D. McM., of Ulster Co., N. Y., writes to the *Agriculturist* that he has fed turnips to cows for over 30 years and has never been troubled by any unpleasant taste in the milk. He cuts the turnips by means of a root cutter and spreads the pieces in a layer two or three inches thick, upon the floor of the barn or other convenient place, where they remain for 24 hours before they are fed out. He considers that by this exposure the flavoring principle is dissipated, and the turnips may be fed without risk of imparting much taste to the milk. This is certainly a very simple plan and is much to be preferred to the use of saltpetre, and other drugs of doubtful efficacy, which have been recommended as a preventive. A gentleman who has had much experience, informs us that he never found any bad taste in the milk, if the turnips were fed after the morning milking, but that it was always bad flavored if they were fed at night.

How Farm Laborers Live in England.

The *Agricultural Gazette* (England) reports upon the condition of the agricultural laborers in Norfolk County. Two closely printed columns are filled with statements like these:

"A man, his wife, and seven children occupy a small place not large enough to be called a room, being, in fact, the place between the ceiling and the roof. Here we find the man, his wife, a daughter aged 20 years; girl, 16; boy, 13; girl, 11; boy, 8; a girl, 6; and a girl, 3; the only ventilation and light are by one square of glass 11 in. by 9 in."

"A dilapidated old cottage unfit for human habitation, neither wind nor water tight; two bedrooms, one occupied by a man and his housekeeper, and the other by his five children. The windows are stuffed with rags, and the floor full of large holes, with large cracks in the walls. The lower floor is pulled up; pieces of wood stretched across the rooms to support the roof; a disgraceful place used as a privy, without any door, and drainage run into an open ditch."

Let our farm laborers read the above, and be thankful that it is different with them. No wonder that laborers are ready to leave a country, the social system of which subjects the tillers of the soil to such degradation. In the same paper we find it stated that a similar condition of things exists in Hampshire.

SALT CATTLE REGULARLY AND UNIFORMLY.

—A correspondent thinks he has traced several cases of cows slinking their calves to their haying eaten inordinately of salt. Either salt cattle regularly and uniformly in the manger, or let a lump of hard rock salt be accessible at all times, which is the better plan.

AN ABSURDITY.—A young man complimenting his sweetheart by telling her that her breath has the sweetness of roses, without shame that his own has the stench of whiskey and tobacco.

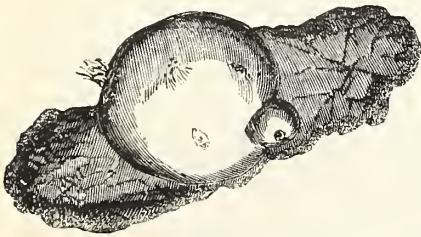
To Eradicate Sorrel.

Lime is often recommended to kill out sorrel; the alleged reason being, that the oxalic acid in the sorrel shows that the soil is sour, and to remedy this we must apply an alkali, like lime. Doubtless, good often comes from such application of lime, but not for the reason here given.

The presence of oxalic acid in sorrel is no better proof that the land is sour, than is the acidity of an apple or of the rhubarb plant. The same ground which grows a sour apple, will grow a sweet one: the two often grow on the same tree. The vegetable acids (of which oxalic is one,) are produced in the organism of the tree or plant, and not in the land. True, the elements of the acid are gathered from the soil and air, but they do not exist in the acid form which we find in the plants. These very elements when taken up by a potato plant form starch, when taken up by a corn plant form sugar, and when taken up by a grape vine form tartaric acid. If the soil itself be as closely examined as science will permit, there will be found neither the starch of the potato, the sugar of the corn, the cream of tartar of grapes, nor the oxalic acid of sorrel. In view of these facts, then it is useless to apply an alkali to the soil to neutralize an acid which does not exist there.

But is there, then, no way of eradicating sorrel? Yes. It spreads, like quack-grass and Canada thistles, chiefly by under-ground stems, with numerous joints, each of which will form a plant. Break up the land in July and August, and put in a crop of buckwheat or rutabagas, and the intruder will be pretty well snubbed out. So, a corn crop or other hoed crop, if well tilled in mid-summer, will answer a good purpose.

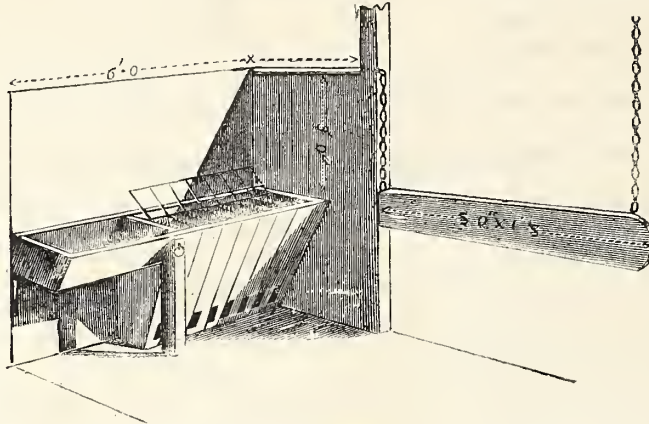
Dressings of the soil are also very important. Applications of lime are useful to decompose vegetable matter, and so to "warm up" the land, and quicken the growth of plants. Chief of all in value, is barn-yard manure, applied copiously, and well worked in. This gives strong food for the vigorous growth of other plants than sorrel, and when they occupy the land, this badge of an impoverished soil will disappear.



A New Potato Grown without Vines.

In the basket columns of the November *Agriculturist* will be found an account of the manner in which new potatoes are sometimes produced without vines. A friend has brought us a remarkable illustration of this. A potato was accidentally buried under a brick pavement, where it was warm enough to induce growth, but under conditions where branches could not reach the light and air. The engraving represents the appearance of the potato, the old tuber being completely shriveled and exhausted of its substance, while the new one is fresh and plump. Had this old potato been planted in the field, the nutriment contained in it would have gone to produce stems and leaves, but in this case, as there was no chance for these, it was consumed in producing an underground stem or tuber. There was simply a transfer of the

starch and other matters contained in the old potato, to the new one. This growth went on with such force as to lift a brick in the pavement, and thus led to its detection; this will account for the flattened shape of the potato.



An Improved Horse Stable.

A letter on Horse Breeding, addressed to John E. Dennison by W. Dickenson, read before the Royal Agricultural Society of England, describes the stables for *Draught Horses*, used by the writer. The engraving of the plan given above will make the following description clear.

"The stable should not be less than 18 feet wide, and of such a length as will allow 6-feet standing for each horse. It should be 10 feet high. The horses stand in a single row, and the harness is hung on pegs in the wall behind them. This width admits of thorough ventilation to the stable, without subjecting the horses to draughts. Each standing should be parted off by an upright post reaching from the ground to the ceiling rafter, placed 3 feet from the wall at the horse's head. These partitions should be closely boarded up 3 feet above the manger and hay crib, to prevent the horses quarrelling about the food, and biting each other. To each of these posts a "bale," 8 feet long and 20 inches wide, should be hung by a strong chain, to divide the standings, and suspended by another strong chain at the hinder end from the ceiling rafter. Each chain should have a hook and eye within reach, that may be readily unfastened. This arrangement will leave a space of 6 feet opposite the head of each horse, available for feeding purposes. The manger for corn and chaff (cut feed) may be 2½ feet long. It should be 2 feet wide at the top, 1 foot 2 inches at the bottom. The hay and straw, which should be cut into 6-inch lengths, will require a larger receptacle, which should be 3 feet 6 inches long, 2 feet wide at its upper part, and half that width below. It should be so constructed, that while it is even with the manger above, it should reach to the ground, 2 feet above which should be fixed to the wall a bottom, sloping to 1 foot above the ground in the front, where some upright openings should be cut, to allow the escape of the seeds and dirt.

At the top of this hay and straw crib, an iron rack with bars 6 inches apart, should be so hung as to open up and fall back against the wall to let the fodder be put in, and then be put down upon it for the horse to eat through. It should be so much smaller than the opening that it can fall down with the fodder as it is consumed, by which means not a particle is wasted. The manger may be constructed of yellow deal 1½ inches thick for the front, back, and ends; the bottom, of slate three-quarters of an inch thick.

The top of the front and ends should be covered with half round iron, 2½ inches wide, screwed on to project over the front, a quarter of an inch outside, and three quarters of an inch inside the manger. This prevents the food being tossed out, and the manger being gnawed. A short post

must be put up as near the centre of the standing as possible, to support the manger, into which a large screw ring must be put to let the chain or rope of the headstall pass freely up and down without constant friction. The manger may be 3½ feet from ground to top; the hay-crib of course the same height. The paving of the standings, to 3½ feet from the head should be flat, then with a fall from both sides to the centre, where an angle iron drain of 4 inches wide from end

to end, with a removable flat iron cover fitted to the inside of it, should be placed straight down the standing, with a fall into another larger cross main drain 10 feet 6 inches from the head, so placed as to carry away the urine from all the smaller drains into a tank outside the stable. This main drain so placed, takes the urine from the mares, and has a loose cover also fitted to it, easily removed for sweeping out when necessary, perhaps once a week. This system keeps the stable healthy, economizes the urine, and the straw also—the latter very important where it can be sold, or consumed as food. The width of 18 feet for the stable gives room for narrow corn bins 3 feet high, so that each carter may have his horses' corn separate."

The writer proceeds to describe his method of ventilating, which we omit because we have repeatedly published superior ways, which are of universal application. In some respects the stable described may be considered needlessly expensive, but when one builds a stable to last 100 years and to need no repairs, some extra expense at the outset is a good investment.

A New Remedy for Moles.

An article in the *Horticulturist*, recommends castor oil pomace to drive away moles. It says: "We have not tried it sufficiently to give it a thorough test, but we have the most implicit confidence in the assurance of a friend, who says that he has used it for many years with uniform success, driving the moles entirely from his place. The run of the mole is to be opened, and some of the pomace placed in it. The pomace has a very offensive smell, and is supposed to act by diffusing its strong odor through the run. It should not be placed too near plants, as it is very acrid, and will destroy them." Perhaps this is worth trying, as we know that castor oil beans have been recommended by many persons, who say they have used them with success. The pomace may be had of Mr. Lane and other dealers in fertilizers.

"BAD FOR THE COW."—When Geo. Stephenson was presenting the claims of his first Locomotive to the British Parliament, he was sneered at by many members. Said one of them: "Well Mr. Stephenson, see how absurd your idea is. Suppose it were possible for you to run your carriage twenty miles an hour, on straight rails so that it could not get off. What if a cow

got on the track, and you could not turnout for her?"—"Well, my Lords," said Stephenson, "It would be bad for the cow!"

A Talk Over a Cabbage.

The cabbage is so common an article of food that it may be supposed little can be said about it, not already sufficiently well known. Perhaps we may be able to show that its real nature is not generally understood. What is the cabbage? In the beet, carrot, and parsnip, we eat the root; in the potato, the underground stem; in asparagus, a tender above ground stem; while in spinach, it is the developed leaves which furnish food. What is the eatable portion in the cabbage? We answer, a large bud. A little study of the cabbage and comparison with other plants, will show that this is so. Let us compare it with a twig of one of our hardy trees—the horse-chestnut will answer best because its buds are large—and see if there is not a great similarity. Upon a twig of horse-chestnut (Fig. 1), we have a large bud at the end, the terminal bud, and smaller ones along the sides of the stem. These smaller buds grow just above the scars left by the fallen leaves, and before the leaves fall, they are found in the axil or angle made by the union of the leaf with the stem. On account of their position these buds are called axillary. The figure shows the stem with its terminal bud, and the axillary buds separated from one another by a considerable length of stem. These buds contain the rudiments of the next year's growth, as we shall see if we cut one of them open. Fig. 2 represents a diagram of a section of the terminal bud of the horse chestnut. It is found to be filled with leaves packed in and folded one over another, and all upon a stem, the joints of which are so short that the lower part of the leaves touch one another. The whole growth of the next year is here, in an undeveloped state.



Fig. 1.—HORSE CHESTNUT.

When vegetation starts in Spring, the short stem in the bud will elongate, and the leaves will expand to their full size, and thus complete the growth which has been prepared for and commenced the year beforehand. In most of our hardy trees and shrubs the annual growth is made in a very short time, and the rest of the season is employed by them in ripening the wood and in preparing more buds for the following year. A terminal bud is again formed, the growth of which will lengthen the stem, and others are formed in the axils of the leaves which will develop as side branches. With this brief sketch



Fig. 2.—INTERIOR OF BUD.

let us see what there is like it in the cabbage. The early growth of a cabbage is much like that of a woody twig. The first leaves are at some distance apart, and as the lower ones fall away, after they have contributed to the growth of the stem, we find that they leave leaf scars (fig. 3, a, a) similar to those on the horse-chestnut, only longer and nearer together, and that above them are axillary buds, b, b. When the plant

has obtained sufficient size and strength, it commences to form a large terminal bud, or head as we call it, and this consists, like the bud of the horse-chestnut, of undeveloped leaves crowded upon a stem, the inner leaves being gradually smaller and less developed than the outer. The figure shows the head cut open, and it is seen to be only a highly developed terminal bud, much like that of the horse-chestnut, only larger, containing numerous leaves, and in their axils quite conspicuous buds, c, c. In this condition the cabbage passes the Winter; when it is planted out in the Spring, the buds in the head start, and being supplied with the abundant nutriment which the fleshy stem and the thickened leaves

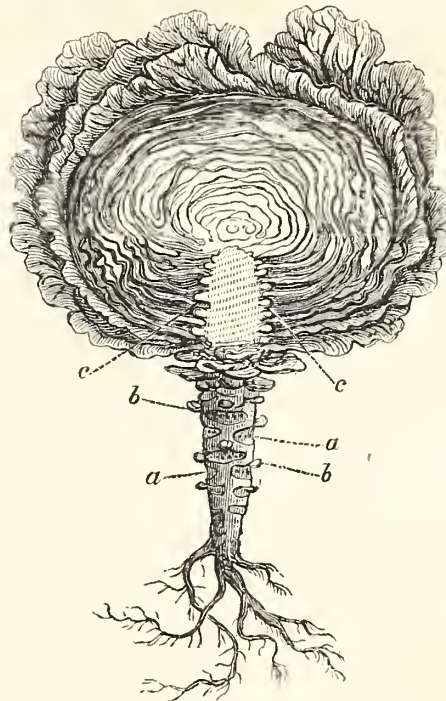


Fig. 3.—INTERIOR OF A CABBAGE.

contain, they grow very rapidly and bear flowers and seeds. If the head be removed and the stem or stump alone planted out, as is frequently done, the axillary buds, b, b, will start and throw out vigorous shoots. By cultivation and selection, varieties of cabbage have been obtained in which the terminal bud attains an enormous size, while in its natural or wild state this is very small. To keep up the peculiarities of the different varieties, the best cultivators raise seed from well developed specimens only, the whole cabbage being planted out and only a few of the central shoots allowed to grow. In this way the whole vigor of the plant and all the accumulated nourishment is thrown into a few stems. Sometimes cultivators are much troubled with the bursting of the heads, especially with the early varieties. This usually takes place when a rain succeeds a drouth. The outer leaves stop increasing in size in a dry time, and when a succeeding rain causes the interior of the head to increase, the outer leaves do not grow, and being closely wrapped over one another, can not yield, but are ruptured by the pressure from within. We know of no other remedy than to lift the plants and thus stop their growth. The late sorts are not apt to be affected in this way.

LONG MILES.—Prentiss says: "Recreants to their country's service should be scourged wherever they go. Upon the road they travel there should be more than three hundred and twenty rods to every mile."

Fattening Sheep in Winter.

If properly managed, the winter fattening of sheep may be made profitable. The first point of importance is, to have them come in from the pasture in thriving condition. It will hardly pay to attempt to winter poor weaklings, especially where large numbers are kept; better secure their pelts at once; fattening such animals at this season is out of the question. The following letter from John Johnston, Esq., of Geneva, New-York, wellknown as one of our most successful farmers, is to the point—we extract from H. S. Randall's new and valuable work on sheep: He says: "I generally buy my sheep in October. Then I have good pasture to put them on, and they gain a good deal before Winter sets in. I have generally had to put them in the yards about the first of December. For 23 years I have fed straw the first two or two and a half months, with a pound of oil cake, meal, or grain to each sheep. When I commence feeding hay, if it is good, early cut clover, I generally reduce the quantity of meal or grain one-half; but that depends on the condition of the sheep. If they are not pretty fat, I continue the full feed of meal or grain with their clover, and on both they fatten wonderfully fast. This year (1862-3) I fed buckwheat, a pound to each per day, half in the morning and half at 4 o'clock P. M., with wheat and barley straw. I found the sheep gained a little over a pound each per week. It never was profitable for me to commence fattening lean sheep, or very fat ones. Sheep should be tolerably fair mutton when yarded. I keep their yards and sheds thoroughly littered with straw.

"Last year I only fed straw one month. The sheep were fed a pound of buckwheat each. From the 20th of October to the 1st of March, they gained nearly 1½ pounds each per week. They were full-blood Merinos—but not those with the large *cravats* around their necks. I have fed sheep for the eastern markets for more than 30 years, and I always made a profit on them except in 1841-2. I then fed at a loss. It was a tight squeeze in 1860-1 to get their dung for profit. Some years I have made largely. I did so this year (1862-3,) and if I had held on two weeks longer I should have made much more. Taking all together, it has been a good business for me."

American Wool Manufacture.

The American Stock Journal gives the following statistics of wool manufactures in the United States: "In Maine there are 32 woolen factories running 32 sets of cards; in New-Hampshire 56, with 228 sets of cards; in Vermont, the same number of factories, with 122 sets of cards; in Massachusetts 154 factories, running 999 sets of cards; in Connecticut 93 factories, with 409 sets of cards; in Rhode-Island, 56 factories and 225 sets of cards; in New-York, 208 factories, with 441 sets of cards. They are devoted to the manufacture of satinets, cassimeres, cotton warp cloths, stocking yarn, worsted and woolen yarn, blankets and flannels, delaines, carpets, cashmeres, shawls, feltings, negro cloths and jeans, linseys, and a few other varieties of goods. A report on this subject was presented to the Boston Board of Trade, last year, by Mr. Geo. W. Bond, who stated that in the other States there were about five hundred sets of cards in operation. None of the finest broadcloths are yet made in the United States. Long wool with a silky luster is preferred, especially for the fabrics used for ladies' dresses."

Looking into the Birds' Stomachs.

The English papers have been for some time engaged in a discussion upon the value of birds to the farmer and gardener. Some writers contend for the destruction of the birds to save the grain and fruits from their attacks; while others warmly advocate their preservation on account of their usefulness in destroying insects, and consider that the injury they do to various crops, is more than counterbalanced by their destruction of the insect enemies to vegetation. As the *Agriculturist* has frequently advocated the preservation of the birds, we were pleased to see a list of the contents of the stomachs of birds, which were exhibited at the International Exhibition in London. The list comprises 20 of the common birds of Europe, and shows that the majority of them feed largely on animal food. Even the mischievous blackbirds are insect eaters during a greater part of the year. The stomach of the blackbird contained in *January* and *February*, seeds, spiders, chrysalids; *March*, worms, grubs, buds of trees; *April*, insects, worms, grubs; *May*, the same, and cockchafers; *June*, the same, and fruit; *July*, *August*, *September*, all sorts of worms, and fruit; *October*, grubs of butterflies, worms; *November* *December*, seeds and chrysalids. We believe that similar examinations have been made in this country and show like results, but we have not them at hand. Not only do the old birds eat great numbers of insects, but the quantity fed to their young is enormous. A gentleman who carefully watched a nest of thrushes, found that the old ones fed their brood no less than 206 times daily. Considering the great service the birds perform in lessening the number of destructive insects, we can well afford them a dessert of fruit. This view will be objected to by some who will declare that the birds cause them a great loss of fruit and grain, and there is much to be said on both sides. It seems to be a choice of evils, and the mischief done by the birds seems to us the lesser of the two. We know that in those places where birds are left unmolested and are encouraged to stay, there are no complaints of devastation by insects.

Last May we put up in trees and elsewhere a dozen small boxes with a single hole each, and they were all quickly occupied by wrens' nests. These birds destroy an immense number of insects. Next March and April we intend to put out from fifty to a hundred boxes of different sizes, and with apertures suitable for the different kinds of birds.

Sweet Potatoes Successful at the North.

A correspondent in Connecticut who made a single trial of Sweet Potatoes and failed, thinks the *Agriculturist* should not recommend their culture, in any localities north of New Jersey. It is hardly fair to form a positive opinion upon any plant from one year's failure or success. This is especially true of so tender a plant as the Sweet Potato. At our first trial, years ago, it happened to be a very wet season, and the plants ran all to vines, and made but few roots, and we did not get enough to pay the cost of the plants. Not discouraged with one season's failure, they were tried the next year, and every year since, to our great satisfaction. There are letters before us from Brown Co., Wis., Watertown, Ct., and near Providence, R. I., all speaking of great success with sweet potatoes this year. We visited the garden of J. C. Thompson, Esq., at Staten Island, at the time his po-

tatoes were dug. The crop was grown according to the method described by Mr. T., in the *Agriculturist* for April. One portion of the planting was upon ground occupied by the same crop last year, while the other was upon land which had formerly grown cabbages. Mr. T. has sweet potatoes in two different places where cabbages had been raised last year, and the yield in both instances was very inferior. Judging from this single experiment, it would appear that this crop can not properly follow cabbages. Upon the land which had borne sweet potatoes the year before, the crop was very fine, yielding at the rate of at least 300 bushels to the acre. The roots were of good size for the table, with very few so small as to be worthless. We have not the statistics relative to the cost per bushel. In addition to the above, our own experience on Long Island may be given. We set out 200 plants last Spring and have used the potatoes from the time they became large enough to cook, and are convinced that we have had a supply of better quality, and much cheaper than we could have procured them in the market, aside from the satisfaction of eating the product of our own land. They cost less per bushel than the common potatoes. We commenced early in September to examine the hills, by thrusting in the finger, and when a large tuber was found, it was taken out and used, and the smaller ones were left to increase in size, until the hard frosts late in Oct. W. H. Lewis of Ct., writes that he obtained the best results from deeply worked soil, contrary to the experience of Mr. Thompson. M. S. Shaler writes that he raised potatoes in the cold climate of Wisconsin, measuring 10 inches long and 3 inches in diameter. In answer to queries in the letters above alluded to, we would add that the vines should be moved occasionally to prevent their rooting, and that the crop should be dug as soon as the tops are touched by frost.—Next Spring we will give further directions for culture at the North. Our present method is uniformly successful.

For the American Agriculturist.

Goodrich's Seedling Potatoes.

These potatoes originated with Chauncey Goodrich, of Utica, N. Y., and have been before the public several years. They have been quite widely distributed, so that they are not a monopoly in the hands of any seedsman, and generally sell for the same price as other good seed potatoes. I received four varieties from Mr. Goodrich two years ago, and have tried them for two seasons. They were the Garnet Chili, the Cuzco, the Copper Mine, and Pink-eyed Rusty Coat. They all have their good points, and are worthy of general cultivation. The Garnet Chili was sent out some ten years since, and is much better known than the others. It is a large red-skinned, white fleshed potato, of very good quality for the table, but not the best, (ranks about with the Davis Seedling,) very productive, very hardy, and yielding few small potatoes. The Copper Mine is a long flattish potato, about as smooth and handsome as the Prince Albert, coppery skin, white flesh, very productive, and of about the same quality as the Garnet Chili. The Cuzco is a white skinned, white fleshed variety, nearly first-rate in quality, and the most productive of the four. I have never found any thing to equal it in this respect. The only objection to it is, a propensity to form little knots upon the tuber, somewhat marring its beauty. The Pink-eyed Rusty Coat is the best in quality, and is so good that it was used in my

family last Winter in preference to any thing else. There is but one potato that I should prefer to it, the Dover, and there is not much to choose between them. It is a large potato, with a rusty brown coat, white flesh, very hardy, very productive, and yielding very few small potatoes. To test their comparative productiveness, I planted upon a two-acre field the following six varieties.

	No. of rows.	Whole yield.	Average per row.
Davis' Seedling.....	26	92 bush.	About 3 1-5th bush.
Prince Albert.....	6	19 "	" 3 1-6th "
Dover.....	4	8 "	" 2 "
Garnet Chili.....	18	45 "	" 2 1/2 "
Copper Mine.....	8	20 "	" 2 1/2 "
Cuzco.....	6	25 "	" 4 1-6th "

The land was exhausted meadow, that would not yield ten bushels of corn to the acre without manure. It was manured with twelve bags of fish guano costing fifteen dollars, or seven and a half dollars to the acre. The manure was strewn in the hill. The yield for the whole piece was about a hundred bushels to the acre, which was quite good for so little manure upon so poor land. It is well known that the Davis' Seedling and Prince Albert are among the most productive varieties, and the Cuzco exceeds them by nearly a fourth. This is the general reputation of this potato. Under favorable circumstances, it has been known to yield over five hundred bushels to the acre. A neighbor planted a peck, and with ordinary field culture dug eleven bushels. The productiveness of the Pink-eyed rusty coat is quite equal to the Garnet Chili. This and the Cuzco have shown no signs of disease. The other two have rotted a little under circumstances calculated to develop disease. I regard them all as valuable contributions to our new seedling potatoes, and worthy of general cultivation. If I were to have but one of them, I should choose the Pink-eyed Rusty Coat, on account of its excellence as a table potato. I should put the Cuzco next in quality, and far ahead of the others in productiveness. It makes a very great difference in the profit of raising this crop, whether the yield be one hundred or two hundred bushels to the acre. A very desirable feature in these potatoes is that they are nearly all of merchantable size.

CONNECTICUT.

For the American Agriculturist.

Tim Bunker's Reasons against Tobacco.

"Why don't you use tobacco, and raise it like other people, Squire Bunker?" asked Seth Twiggs one day of me, with a discharge of smoke from his pipe that would have done credit to a locomotive.

"Because you do?" I replied a little gruffly.

"Wal neow I don't see the peth of that Squire."

"I do. You see Seth, you and your farm are a standing argument agin tobacco. You are always smoking, smoking, smoking, and you have pretty much smoked your brains out."

"You weren't in any particular danger on that pint, Squire."

"Well I admit I'm not so smart as some of my neighbors, and it becomes me to take care of what little brains I have got."

"Jest so," said Seth. "I see."

"Your eye sight is darkened half the time," I continued "by that cloud of smoke, and you don't know exactly what you're about. You waste time and money as well as brains. It takes you about one half the time to load your pipe, and the other half to smoke it. And it is a great deal worse since you have got them big Dutch pipes, with big bowls and crooked stem, than it used to be when you had that old stump

of a clay pipe that lasted you five years. Then you only put in a pinch of tobacco, and you had to stop in about ten minutes, to take breath and charge anew. But with these big-bellied things, that hold half a paper of tobacco, you smoke and smoke, and it seems as if you never would stop. You make every place blue, where you go. You go out to feed your pigs in the morning, and it takes you twice as long to do that chore, as it used to. You go into the garden to hoe, and you pay more attention to your pipe, than you do to your hoe. You stop and squirt around every cabbage as if it was covered with lice, and you don't do an hour's work in the whole morning. The weeds get a start of the cabbage, and your garden looks—well I can't compare it to anything else but Seth Twiggs in all the world—*weedy*. You go into the field to work on the tobacco, and the worms get the start of you, and what the worms don't kill, the weeds smother, so that your tobacco fields look worse than your garden. I wouldn't have a man on my farm that used tobacco, at half wages. Now maybe you can see that I don't use tobacco, because you do."

"Yes I see," said Seth, "and Parson Spooner couldn't have said it better. This has been a dreadful season for weeds."

"Reason!" I continued, "don't lay it to the rainy season. This thing grows upon you, and laziness goes down into your bones, as smoke goes up into the heavens. You go about dreaming you're making a great stir, and when night comes you find next to nothing done. Tobacco, like wine, is a mocker, and if a man don't want to be befooled, he better not touch it. That is my opinion on tobacco as illustrated in the life and services of Seth Twiggs, the smoker."

Then, to come to the question in the abstract, it is nasty; there is no other word that just expresses it. Don't a man belong by nature to the clean beasts, and what right have I to make myself a nuisance among my kind? It is offensive to every sense. Look into the smoking room of a hotel, or a steamboat, and was there ever a stable fouler?—splashes of juice, ejected quids, cigar stumps, and a reek "that smells to heaven." Won't the world be foul enough without my joining the smokers and chewers?

And it is a very expensive habit. Your tobacco would cost you thirty dollars a year if you did not raise it, and if you take into account your loss of time under the influence of the weed, it costs you four times that sum. You stop to talk with a neighbor, and it makes you long winded, for your brain is so befuddled that you never know when you have done. Many a man spends fifty dollars a year for cigars, and if one has a good deal of company, it is mighty easy to use up a hundred. Your friend, who smokes, never knows when he has enough. He always wants one more of the same sort, and the result is, that your box of Havanas is gone mighty quick, and you can't tell how or where. This makes quite a hole in the income of a man who lives by his hands, or by his brains. I have brains enough to see that I can't afford it.

It is very bad for the health. The doctors are all agreed on this, even those who use it. It don't help digestion. It don't save the teeth. There are better ways of reducing the flesh—eating less for instance. And if the doctors were not all agreed, every man who has his eyes open, can see that no man has sound health who uses it in any shape. They call themselves well, but have headaches, indigestion, don't sleep well, are nervous, have the fidgets, or some other complaints. Occasionally they break down under paralysis. Many make complete

wrecks of their bodies. Always life is shortened. Now what right have I to make an invalid of myself, and go through life sighing and groaning, when I ought to be well? It is worse for a man's mind than it is for his body. It makes him forgetful. He loses the control of its powers, and can't think connectedly. He forgets the names of persons, and places, his own plans, and in short about everything except to smoke. There was our minister, the one we had before Mr. Spooner, smoked himself out of his pulpit. His health failed and his sermons failed worse than his health. They were so foggy that even Hookertown, that never dismissed a man before, could not stand it any longer.

Then it is a bad thing for morals. It begets a great craving for stimulating drinks, and very generally leads to their use, and when a man gets to drinking, he is in a fair way to do almost any thing else. What right have I to endanger the morals of my neighbor, even if I could smoke with entire safety?

Then I have got children and grandchildren, and I think the best inheritance I can leave them is a good example. John would smoke if I did, and I should have more fears of his pipe in the army, than from all the bullets of the enemy. If he dies now, I am certain he will die sober, and without one vicious habit. What right have I to pollute the faces of my grandchildren with the stench of tobacco? I want them to have pleasant memories of their grandfather's home in Hookertown, and I should not feel sure of it, if I scented myself, and my house with tobacco.

Then I am the husband of Sally Bunker, and I think she has the right by marriage vows, to a decent companion in life, with a clean mouth and shirt bosom. What right have I to make a nuisance of myself in her home, to scent her bed with this insavory perfume, and to befoul her spit-boxes with quids and stumps? I am a little too proud to do that.

And lastly, and to conclude, as Mr. Spooner would say, I expect to give an account of myself hereafter, and if I were to be charged with the use of this weed, I should not know exactly what to say. That fifty dollars a year burnt up and wasted, I think would weigh against me. If I gave it for Sunday Schools, or for any good cause, I should not be troubled about an answer.

Then as to raising this crop, it is a bad thing for the land, affecting other crops injuriously, so far as I have observed. But if this were not so, I could not tempt my neighbor to use what I would not use myself. When I look at Seth Twiggs' farm and my own, I like the contrast.

Hookertown, } Yours to command,
Nov. 7th, 1863. } TIMOTHY BUNKER ESQ.

How Vegetation Influences Climate.

That climate controls vegetation in a great degree, is quite evident, and it is equally true that vegetation itself has a marked effect upon the climate. In the first place, it exerts an influence upon the wind. Where the land is bare of trees, the wind has an unobstructed sweep; and where this prevails, and is violent, the climate is not only unpleasant to man and beast, but is unfavorable to vegetation. Western farmers know how this is, upon their broad, unsheltered prairies, and New-Englanders know how it is along their bleak sea-coasts. The only way to grow handsome and healthy trees in such localities, is first to surround one's farm or garden with a belt of strong, coarse trees, like the willow, silver poplar, and evergreens. Outside of such verdant barriers, the trees and shrubs,

if planted, grow lop-sided, lean, and stunted; inside, they stand erect, well developed, and vigorous. Without this protection there is the unpleasantness of having a gale forever blowing about one's ears, the ceaseless roar of the wind around the dwelling, the rattle of windows and doors, the increased consumption of fuel, and the discomfort of cattle at all seasons, but especially in Winter; put these and the like things together, and we find that whatever serves to break the violence of the wind, or to change its direction, is a thing of considerable importance. It should not be forgotten that air in motion produces more chilliness than the same air at rest. Wet your finger and hold it up in the still air, and you will hardly feel the cold; but swing it around, and the hand will be rapidly chilled. The difference between the climate of a windy region and one sheltered from driving currents of air, is equally great.

Again, vegetation affects climate by limiting evaporation of moisture. Many years ago, Humboldt declared that men in all climates, by stripping the hills of trees, were preparing for themselves two calamities, viz.: the want of fuel and the want of water. The evaporation from trees produces a cool and moist local atmosphere. The overhanging boughs prevent the too rapid evaporation of moisture from the ground, and its dissipation by the wind. The sources of nearly all brooks and creeks are to be found in springs among the hills; and by cutting off the trees which have always overshadowed them, the moisture is rapidly evaporated, and the springs lowered, if not dried up.

Experience is continually demonstrating this. Every old farmer will tell us that his springs are less copious now than they were thirty years ago; and so of the various streams, large and small. The rains fall, perhaps, in nearly their former abundance, but they come oftener in torrents, which sweep down the hill-sides, unobstructed by trees, brushwood, and low vegetation, and pour themselves into the streams of the valley, producing freshets and hurtful inundations; and so we go from freshets to drouths, from heavy rains to long periods of arid, parching dryness. In some parts of Europe, so great harm has followed the destruction of forests, that legislation has been called in to stay their demolition and to promote the planting of new.

Artificial Fertilization of Grain.

Acting upon the supposition that all the flowers upon a head of grain do not produce kernels, a M. Hooibrenck, in France, has made some experiments with a view of helping the process of fertilization by artificial means. The method of doing this is very simple: a rope 20 or 30 feet long, covered with woollen threads so as to form a fringe 8 or 10 inches deep, is drawn across the field, by two men, at the time the grain is in flower. The pollen sticks to the woollen threads, and is by them deposited upon the pistils, which are thus fertilized. These experiments have been examined by a commission appointed by the Government, and the following are given as the results upon equal areas, the size of which is not given. The figures only represent the relative amount of the product:

Rye not fertilized16	Barley not fertilized16
Rye fertilized25.5	Barley fertilized24
Wheat not fertilized21	Oats not fertilized12
Wheat fertilized31	Oats fertilized17

These figures show an increase of about 50 per cent. obtained by a very slight expenditure of labor. Let those curious in such matters repeat the experiment, and report the result.



A SLEIGH RIDE IN THE COUNTRY.

A sleigh-ride! Not a city affair, where a splendid turn-out is hired from the livery stable at five to ten dollars an hour (no uncommon price here), and where you are driven over a mixture of snow and mud, between interminable rows of brick buildings, subject perhaps to the envy of a few who can not afford such a display, and also to the snow-ball peltings of graceless urchins who consider the perpetrators of such absurdity fair game. Nothing of this kind, but a genuine jolly *country* sleigh-ride, suggestive of sleek horses full of mettle, of happy hearts, sparkling eyes, cheeks rosy with an added glow from the braeing air, of inspiring songs and innocent glee, of social visits, renewed friendships, and the twining of yet more tender ties. Such experiences banish dreariness from Winter, and compensate for the absence of the outward glow of the more inviting summer season.

By nature, Americans seem eminently fitted for the highest social enjoyment; they are impulsive, frank, and generous, yet as a Nation, they are far behind some others in realizing the full pleasures of intercommunion. This may be because earnest devotion to business monopolizes attention, and also begets cautiousness, and, if not carefully guarded, jealousy between those who should be neighbors in more than mere nearness of habitation. Winter, with its greater exemption from imperative calls to constant labor, is every way favorable to the cultivation of the social nature. Neighborhood gatherings should be everywhere encouraged, and at the North, the season which makes all the highways smooth, should be prolific in growth of social communion. Let the old, then, as well as the

young, hail the return of the sleighing season, and realize the advantages it brings; let the good fathers and careful mothers remember that their children will be all the more affectionate and teachable, if they enjoy the sympathies of their elders, and that they can be the more surely guided aright by those who preserve the freshness of their own social natures. Bring out the family sleigh, grow young in the revival of old times, and make bleak Winter green with the joyousness of your own hearts.

Some More Humbugs.

A BIG ONE.—Just as our last number was being mailed, we began to receive from various parts of the country, and especially from the distant West, numerous copies of a sheet sent out from N. Y. City, called the "*Freeman's Journal of Science and Medicine*," "Vol. 37, No. 12," (probably the only number ever issued, as it certainly ought to be). This sheet contains a multitude of prescriptions, letters, etc., etc., admirably arranged to deceive the ignorant and unwary, and filch their dollars. It promises untold wealth to those who for two dollars "initiation fee" become members of the "British Metallic Mutual Association." That the scheme takes with a certain class, we have abundant evidence in the letters received, making serious inquiries. They ought to have been able to see the nature of the animal, when "Dr. William Freeman" offers, for \$2, to tell them how to make for \$8 a pound, "a metal that can not be distinguished from California Gold," which will "sell in New-York, London, and Paris, for \$150 a pound;"

and moreover he agrees "to pay \$120 per pound for all that can be made." Of course he would prefer to pay \$120 per pound, rather than to make it himself ("easily" as he says) at a cost of only \$8. The paper is ingeniously got up, but it is all humbug. If Dr. Freeman would only tell people, or tell us, where he might be found, we would straightway call upon him. We should like a hand in some of his enterprises, if the hundredth part he says is true, for we could make money ten thousand times faster than in publishing the *American Agriculturist* at \$1 a year, with printing paper getting towards a quarter of a dollar a pound. But his only advertised place of business in New-York City is just 4 by 6 by

10 inches—a large establishment, viz.: "No. 5153 Post Office" Street. The above is all the room we have for you, Mr. "Dr. Wm. Freeman," of the "British Metallic Mutual Association," and we hand you over to Mayor Opdyke.

THE GOOD SALARY HUMBUGH.—Our country friends will very often see fine openings for young men in the city, especially those who have a few hundred dollars to invest. Let us tell them, once for all, that 999 in every 1000 of these offers are humbugs. We give two illustrations: A few days ago an "Employment Agency" advertised for a clerk in an oil company in Pa., at \$800 a year, etc. A young man just over from England applied, and was told that for \$6 he could secure the place. He paid the money, or so much as he had, and was told that the President of the Company was coming to the city on the following Monday, and would call for him. The young man called on Monday, but found no one in (probably fifty others had paid for the same place and were told to call in the same way, but on some other day or hour.) The young man called again and again, and finally watched the door all one day, and at last caught the swindler in. He plead absence from sickness, and showed a (bogus) letter from the "President," saying he had been detained by important business but would come soon. The young man called day after day with the same result, and finally becoming impatient, used some harsh words, when the man ordered him out, threatening that if one word more was said he would have him arrested for assault, and swear him into prison. The swindler had found that his victim was a timid stranger, and got rid

of him thus; and by similar subterfuges he probably pocketed \$500 from a hundred victims, in less than a month; and thus the game goes on. The victims are strangers; their first experience makes them afraid to trust anybody, and they refuse to appear even as witnesses if any one happens to find out their case and offers to aid them.—The following letter explains itself:

To the Editor of the American Agriculturist:

As a warning to others, allow me to give your readers a little of my experience, if you suppress my name. I am a farmer's son of Western New-York—have devoted most of my spare hours to books, and learned but little of the 'ways of the world.' I came East to college with but a small sum to carry me through, and by boarding myself and earning what I can in vacations, hope to complete my course. As the winter vacation was approaching, I was casting about for something to do, when I saw the following advertisement published in a New-York Daily Paper:

“A GOOD CHANCE FOR A YOUNG MAN.—A fine exhibition of works of art is nearly ready. A young man is wanted for the Winter to assist in explanations and in attending at the door. One preferred with \$300, to be used under his own direction, in completing some final purchases of materials which he can retain until reimbursed. As security, he will have charge of the exhibition works, which are worth \$3000, and he will also have the care of all the money receipts. Salary \$100 a month and expenses, or if preferred, a part interest. Call on, etc.”

As I had just \$300 left, this seemed to be a good opening for me. So I hastened to New-York, and called as directed. I found a very bland man, who was exceedingly patronizing, and who, under the plea of learning my qualifications, drew out my personal history. He decided I was just the man wanted. He showed me a printed handbill (but I could not get a copy to keep,) setting forth a magnificent exhibition. He made very ingenious excuses for not showing me the works that day, and for wanting the money at a given time. On my insisting upon seeing them, he took me into one of the largest Picture Galleries, and named a dozen fine paintings as belonging to his outfit, which (he said) had been left there temporarily by special request. On my pressing him further to show me the chief objects, he led me around through several streets, and finally stopped before a large building closed up. He knocked violently but no one answered; he went round the building hastily, and soon after came back with the statement that his artists had all gone off on a target excursion without mentioning it to him. He then went into a rapturous description of what was inside of those closed doors. On our way back, he invited me to dinner at a splendid saloon, and on going out, felt for his pocket book to pay, but unfortunately he had “changed his pants, and left his purse”—wanted me to pay, and he would settle it at his room. I stood it, but my eyes were open by this time. I had two hours before the evening boat, and during this time he exercised his utmost ingenuity to get a bonus towards the \$300 (which I did not refuse to pay, until I felt myself safely out of his influence.) At last, when about to start, I told him I should keep my money. He then went off into a very high strain of injured innocence—accused me of using up his whole day, and demanded \$10 for his time—“a hundred dollars would not pay him.” He claimed I had agreed to invest the money early in the day, and called upon an apparently unconcerned man, who had been near us several times, who at once said he would swear I did positively so agree. The two tried hard to scare me out of \$25, then \$10. I was a stranger in a, to me, strange city, and felt a little nervous, as I hardly knew the way to the steamboat. One of them started off saying he was going round the corner for a warrant, and that I could not leave the city until I had made it right with him. I started, however, one of them following me, crowding me and trying to frighten me. Seeing a policeman I quickened my steps and called for his protection. Just then the chaps disappeared round the corner, and I got to the steamboat, arrived at my room the next morning, minus two days time, and \$9 expenses, but a much wiser young man. I give you in outline, a statement of facts—hoping others may become wiser at less expense.—Yours, &c.

HUMBUGS NOT IN NEW-YORK.—Before us are copies of a most ingenious and taking circular, being scattered to distant points, from Biddeford, Maine, which is well calculated to deceive the unwary. The matter is under investigation, and promises amusement if not instruction to our readers. We confess we formerly had, as a country farmer, a little experience in being humbugged. This, with the lawsuits commenced and threatened as an intimidation, by those shown up, adds zest to our labors in this line. Farmers, as a class, have honest aims and intentions, and are therefore less suspecting

of fraud in others: we therefore consider it a part of our legitimate labors to specially guard them, by frequent examples of how the humbugs operate, and shall continue the practice. The exposures in the *Agriculturist*, during several years past, have undoubtedly saved our readers, as a whole, many times as much money, as the entire cost to the country of issuing this journal.

The “New-Jersey Tea.”—A Caution.

This plant has been noticed in various papers as “Pennsylvania Tea,” “Alleghany Tea,” and “American Tea,” and it has even been claimed that it is the identical Chinese tea plant, discovered here in America. We have already shown what the plant is, in the September *Agriculturist*, page 265. As it has been long and generally known as New-Jersey Tea, we prefer to continue to so call it, rather than to apply a new name to a well known plant. A company claim to have secured a large tract of land in Pennsylvania where this plant abounds, and intend to prepare the article for market. In the leaf simply dried we are not able to detect any strong resemblance to tea, but when prepared by drying by heat, and rolling after the manner of the Chinese, it has, partially at least, the odor and taste of tea. A sample which was thus prepared in a rough way, we tried as an experiment, and found it made an infusion resembling that of the lowest priced imported tea, and, if properly made, it may perhaps prove to some extent a substitute for teas of this class. If low-priced tea—or what will answer its purpose—can be made from one of our native plants, we shall be glad to see it done, as it will open a new avenue for industry, and by producing, on our own soil, an article for which large sums are annually sent abroad, it will be a national benefit.



Fig. 2.—NEW JERSEY TEA. The whole thing is an experiment, and should succeed or fail on its own merits. We repeat that the plant is not the Chinese Tea, (*Thea viridis*, at all, nor does it resemble it either in ap-

pearance or botanical characters, but is the “New-Jersey Tea” (*Ceanothus Americanus*). It is not confined to any particular locality, but is common in all the northern States, though it may grow more abundantly in some localities than in others. We have stated that the infusion of the leaves had somewhat the taste of tea; whether it will have the refreshing and stimulating qualities of the foreign article, or whether it can be made a constant drink without causing derangements to the system, are facts which can only be determined by experience. The American Tea Company claim that the article can be delivered in the market at eleven to thirteen cents per pound. In this case there will be a strong temptation for dealers to use it in adulterating the imported article. That our readers may be on their guard against this, we give a drawing of the leaf of the Chinese Tea, and one of the New-Jersey Tea. By carefully spreading out the larger pieces from the “grounds” left in the tea-pot, the shape of the leaves can be made out. It will be seen that the Chinese leaf is narrow at the base or lower part, and that the strong veins run together near the edges of the leaf, and make a series of loops. The New-Jersey leaf is wider at the base, and has two strong veins which run nearly parallel with them near the edges, and are nearly straight, not making the looping, shown in the other.



Fig. 1.—CHINESE TEA.

Mildew and Rot in Grapes.

These subjects were discussed at the annual meeting of the East Pennsylvania Fruit Grower's Society, with the following result: “That it is the experience of this Society that mildew on the grape is principally atmospheric, and that shelter and protection are the only expedients known at present, that seem to offer an exemption; and that although the soil may influence the general vigor and health of the plant, and thus render it more liable to disease, yet it is not the prime origin of mildew. That the rot seems to depend more particularly upon the nature of the soil. That vines on open porous soils are less liable to rot, that heavy manuring and excessive enriching favors rot; and that clayey subsoils are “particularly pernicious.” The statement that mildew is “principally atmospheric” is a very vague one. Mildew is a minute parasitic plant of the fungus or mushroom family, which lives upon the tissues of the leaves, and causes their decay. The Society probably meant to say, that the growth of this parasite was favored or retarded by the condition of the atmosphere.

Notes on Grapes.

In our remarks upon the grapes exhibited at the Grape Show, the *Union Village* was passed with rather weak praise. Since then Dr. J. B. Chapin of Rhode Island has sent us a specimen of the fruit thoroughly ripened, showing that, with him at least, it attains a perfection we did not suppose it capable of. It is generally the case that black grapes color sometime before they are really ripe. This is illustrated by the *Isabella*, which is seldom found in the market well ripened. If the *Union Village* can be grown elsewhere, as fine as those sent by Dr. Chapin, we shall rate it much higher than heretofore. In size and beauty it is hardly excelled by any of our natives, and not surpassed by the *Black Hamburg*.—*Diana*. This variety is remarkable for its keeping qualities. A collection of about 20 varieties has been exposed upon our tables for some two weeks, and while most

of the others have become shriveled and unsightly, the Dianas remain plump and fresh. Good judges place it high as a wine grape, and consider that a mixture of this and the Delaware produces better wine than can be made from either variety alone. Elsinburgh and Herbeumont.—These small grapes grow in favor as they become better known. They will probably never be popular as market fruit, but for the table we consider them very fine. The berries are scarcely larger than good sized peas, but they have such a sprightly vinous flavor that they are great favorites with many. The Elsinburgh is the more hardy of the two. Though these grapes are much alike in size and general appearance, they differ in sweetness and flavor, and are both desirable in amateur collections.

Origin of the "Clinton Grape."

In his address at the Kirkland Agricultural Fair, Prof. North stated that the Clinton Grape originated in the horticultural amusements of a student at Hamilton College, and that the original Clinton vine is now growing over a tall elm tree near the house formerly occupied by Dr. Noyes. It was planted there in 1821, by Hon. Hugh White, of Cohoes, who was then a Junior in College. Two years before, he had planted a quantity of grape-seed in his father's garden in Whitesboro'; and out of the hundreds of seedlings that grew up from this planting, one was selected that looked promising, and was planted near the house of Dr. Noyes, with whom Mr. White then boarded. It proved to be a rampant grower, and wonderfully productive. As a grape for making wine and jellies, it has come to be a favorite in latitudes where the Catawba will not ripen. It is a somewhat popular grape with those who make no special objection to a little foxiness, because the vine is so thoroughly hardy, and the crops so unfailing. The original Clinton grape-vine now girths fifteen inches for each of its main branches.

Mr. L. B. Langworthy, in a communication to the Rural New-Yorker, claims to have first introduced and named the Clinton, and that it originally came from a farm in Waterford, on the Hudson River. As Mr. L. did not know the vine until 1830, while Mr. White planted his in 1821, it is possible they may both be the same. Mr. Langworthy invites an interchange of specimens to settle the question of identity.

Keeping Grapes.

J. S. Christian communicates to the Prairie Farmer the following plan: The grapes are picked when fully ripe, on a dry afternoon, and taken to a dry cool room where every unripe or decayed berry is removed by means of a pair of scissors. The bunches are laid out so as not to touch each other, and allowed to remain for three weeks, until the stems are thoroughly dry. Tissue or soft printing paper is cut into pieces of a size to envelop each bunch. The square of paper is laid on the left hand, a bunch of grapes is laid upon the paper, and the edges of the paper are brought up over the bunch and secured by twisting the ends. The bunches thus enveloped are laid in boxes deep enough to contain two tiers. The boxes are covered and kept in a cool room. If there is danger of frost, they should be covered with carpets or quilts. Isabellas, Dianas, and Delawares, may be kept in this way until Spring, in a perfectly fresh state.—*Query.* Will the grapes keep well when thus left three weeks in the open air?

Labels for Fruit Trees.

"Shady Side," of Pittsburg, Pa., thinks that the leaden label described in the *Agriculturist* for October, may be good, but he prefers a label of sheet zinc which has a hole punched at one end to receive a piece of copper wire by means of which it may be attached to the tree. The name is written upon the label with a common pen, and with an ink made as follows: 1 drachm each of verdigris and sal ammoniac, $\frac{1}{2}$ drachm lampblack, and 10 drachms of water. This can be prepared at any drug store. The recipe is not by any means new, and we give it for the benefit of those who may not have seen it. The advantage of the sheet lead label is, that it yields to the growth of the tree and there is no danger of that strangulation which is often produced by copper wire, when neglected, as it often is. The zinc labels might be fastened on with lead wire, which is sold at the agricultural implement stores. In the engraving of the lead label published in October, the end passing through the slit should have been bent over in order to properly secure the label.

Prepare the Vegetable Garden.

In December there is often a mild spell in which preparation can be made for Spring in the garden. A deep soil is essential to the production of garden vegetables; but if the soil is unfortunately shallow, and with an unfavorable subsoil, measures should be taken to deepen it. Works upon gardening, presuming that the soil is of course deep, direct trenching. In this operation, properly performed, the ground is dug at least two spades deep, and the lower soil brought to the surface, and the upper soil put in its place below. There are many gardens in which it would be decidedly poor management to bring a poor subsoil to the top, and to bury the good surface mould a spade deep. Where the soil is shallow, the aim should be to increase its depth and better fit it for the growth of those plants the roots of which penetrate deeply. In small gardens this work can be done with the spade and at this time of comparative leisure, provided the ground be not frozen nor too wet. The usual method of working is to dig a trench about three feet wide and a spade deep, throwing out the soil on one side; put a good supply of manure into the trench, and spade it well into the subsoil at the bottom. This being done, commence a second trench close to and parallel with the other, throwing the top soil into the first trench, working in manure at the same time. The subsoil in the second trench is treated the same as that in the first one, and the work is continued by making trench after trench, and manuring each one in the same way. The top soil of the first trench is finally put into the last one. The



accompanying diagram will show how the work may be laid out so as to avoid the fatiguing labor of wheeling the earth taken out of the first trench to the last. The spading is begun at *a*, the dirt being thrown out at *b*; this trench being treated as above directed, and the work continued until *d* is reached. The top soil from *e* is thrown into *d*, and the other half of the plot is then spaded over and treated

in the same way, and the job finished by putting the earth thrown out at *b* into *f*. If the garden is of sufficient size, it should be so arranged that the greater part of the labor can be done with a horse. It is a great saving to substitute the plow and cultivator for the spade and hoe, and to do this requires a little forethought. All those plants which remain in the same spot for several years, such as asparagus, rhubarb, and the perennial herbs, should have a location by themselves; the remainder of the garden, which at most needs but a single path through the centre, will then be left unobstructed. It is a great waste of space to cut large vegetable gardens into beds, as it costs about as much labor to keep the paths clean as it does to entivate the crops. Gardens laid out in beds and edged with box or other edging, may look very neat, but they are unprofitable. Every crop, the nature of which will admit of it, should be planted in rows sufficiently wide apart to allow of cultivation with horse power.

Manuring Pear Trees.

At one of the Fruit Growers' Meetings, Dr. I. M. Ward, of Newark, N. J., gave, by request, an account of his manner of manuring his pear orchard. In Autumn he applies several barrow loads of course stable manure to each tree, spreading it several inches thick all around the tree as far as the roots extend. During the Winter the soluble matter is gradually leached from the manure and carried into the soil. In the Spring what remains of the manure is covered with a coating of salt hay (or any other cheap hay) and it is allowed to remain on until Fall, when it is removed, and manure applied as before. By having the ground milled in this way, it is kept moist and free from weeds. This mode of applying manure is approved by some of our most successful cultivators, and is preferred to plowing in the manure, at the risk of disturbing the surface roots.

Fruits for Eastern Pennsylvania.

Frequent inquiries come to the *Agriculturist* as to what fruits to plant. These we answer when we have the statistics at hand. The very local character of many of our fruits is not generally appreciated. What will succeed in one place will sometimes fail in an adjoining town or county. The knowledge of the geographical characters of fruits is yet very imperfect, but each year is adding to it, and we watch with much interest all the reports of discussions of horticultural societies, farmers' clubs, and the like. At the Fruit Growers' Society of Eastern Pennsylvania, the following were decided upon:

Summer Pears.—Manning's Elizabeth, Doyenne d'Été, Tyson.—*Autumn Pears.*—Bartlett, Seckel, Belle Luerative, Beurre Diel, Beurre d'Anjou, Louise Bonne de Jersey, Sheldon.—*Winter Pears.*—Lawrence, Vear of Winkfield.

Strawberries: Wilson, Triomphe de Gand, Fillmore, Jenny Lind, Lady Finger.—*Raspberries:* Purple Cane (earliest and best), Brinckle's Orange, Franconia, Hornet.—*Blackberries:* Dorchester, it being preferred to the New-Roehelle, as being sweeter and earlier.

HOW TO LAY UP MONEY.—Always spend each week less than you receive. Our real wants are always less than our desires. The writer has lived on two shillings a week for eatables, for months together, living on hominy and milk,

and enjoyed as good health and spirits as when eating up what costs thirty times two shillings. He modified his desires to suit his income, and has now "something for a rainy day."

Cranberries on Upland.

From the fine specimens which have been exhibited this season, our hope that Cranberries may be successfully grown in common garden soil is increased. The tables of the *Agriculturist* have now several samples of the fruit grown upon dry land, which will compare favorably with any produced in bogs. One specimen, remarkable for the high color and beauty of the berries, was grown upon the pine barrens of Long Island, by T. E. Bridger. The lands were cleaned and broken up, and planted with roots taken from a natural bog. The plants have now been out for three years, and produced at the rate of 75 bushels to the acre. Another fine specimen is from W. I. Spence also of Long Island, who shows a potted plant to illustrate his manner of growing the vine. Mr. S. keeps the runners clipped off, and induces the plant to grow in a bushy form. The plant exhibited, is a miniature tree perfectly loaded with fruit. Experiments continued through several years are needed to determine if the vine will do well under this treatment. Recently, we saw a patch set out in common garden soil with the addition of a dressing of sand. The vines had been planted but two years; from their strong growth they looked as if they would be a success. It will cost but little trouble to make the experiment of growing cranberries in the garden; the plants can always be procured from those who grow them for sale. We have some hope that garden culture will prove so successful that the cranberry patch will be as common and as indispensable as the strawberry bed.

Collect a Store of Leaves.

There are loads of excellent manure being blown about by the winds or hidden in the forest, which should be made available in the garden. If the snow has not covered them, the leaves may yet be secured. It is but little work to gather a large store of them from the woods, while those which disfigure the lawn and collect in the fence corners should be very carefully saved. They are best preserved under a shed, or they may be made into a heap upon which some boards are to be placed to keep them from blowing about. Leaves are an excellent mulch for strawberries and other plants, but require to have brush laid over to keep them in place. One of their most important uses in the garden, is in the making of hot-beds in Spring. Used in equal quantities with stable manure, a more manageable and lasting heat is obtained than with manure alone, and when the hot-bed is done with, there will be left a mass of most excellent compost. Leaves may be used to increase the stock of manure by putting them into the hog-pen, barn-yard or compost heaps.

How to Fumigate a House Plant.

Bessie W., wishes to know how she can destroy the aphids or plant louse upon her roses and geraniums. We have found tobacco smoke to answer the purpose. Coil up a newspaper or other large paper in the form of a cone, pin it so that it will keep its shape, and invert it over the plant. Then if you happen to have some friend at hand who smokes, get him to

light a little tobacco in the bottom of the bowl of a common pipe, and when this is well kindled, fill up the pipe with tobacco. Then introduce the bowl of the pipe under the edge of the paper cone and blow through the stem. The fire being at the bottom, there will be copious clouds of smoke driven into the cone. If no smoking friend is at hand, you may manage it yourself, by putting a small live coal at the bottom of the pipe, place the tobacco upon it, and proceed as before. Care should be taken not to drive the hot smoke from the pipe directly against the leaves. Let the plant remain 10 or 15 minutes in the smoke, and then lay it on its side in a sink and give it a thorough drenching from a watering pot.

Hints about House Plants.

There is quite a pile of letters upon our desk from persons who have written to the *Agriculturist* complaining of their want of success in growing this or that house plant, and asking for advice. These letters we shall be obliged to answer in general terms. The great difficulties in growing plants in the living room are: the excessive dryness of the atmosphere, too much heat and too little light, the great alternations of temperature, and improper watering. There are a few plants which will stand any treatment and neglect, but most of the choicest varieties must have some care in respect to the conditions above noted. In Winter the air of our living rooms is too dry for the healthful condition of either animals or vegetables—especially when the house is heated by a stove or a furnace. Now, unless we can avoid excessive dryness by evaporating water, either on the stove or in the furnace, there is but little use to try to cultivate house plants. An atmosphere, not unnaturally dry is one of the first essentials.

In many of the rooms where plants are grown, there is an almost tropical heat and very little sun. Under such conditions it is in vain to expect a healthy growth. The plants, to flourish well, must have the sunlight; the morning sun is preferable, but the afternoon sun will do. Plants will survive if kept in diffused daylight, but will not be vigorous unless they have direct sunlight during some part of the day. Another great drawback to the growth of plants, is the serious changes of heat to which our dwellings are generally subject. During the night the temperature is allowed to sink nearly to freezing, and in the morning when the fires are built, it is suddenly raised to over 70°. These daily alternations are very severe upon the health of the plants, and only the most hardy can endure them.—If all conditions of temperature and light are satisfactory, still the plants will not grow unless properly watered. House plants are liable to suffer both from a lack of water and a superabundance of it. All glazed pots or porcelain jars should be discarded. There is nothing so well adapted to the growth of plants as the common clay pot or crock. Nor should these be, as is often the case, kept standing in a saucer or feeder of water. The saucers may answer very well to keep the pot from contact with the shelf or stand, but as a receptacle for water it is worse than useless.—Too much attention can not be paid to potting. The pot, if of medium size, should have at least an inch of broken crocks placed in the bottom before the earth is put in, to afford the soil ample drainage. The proper amount of moisture for plants is just what can be held by the soil where it has free chance to drain off. If the pots are

well drained, the plants may be watered freely, and the excess will run off through the holes at the bottom. In warm rooms, plants will generally need watering every day; this is best done with a watering pot, which will distribute the water evenly without disturbing or packing the earth. The water applied should be at least of the temperature of the room. It is a serious check to plants in an atmosphere of 70°, to give them water at 40°. The water should be kept long enough in the room to acquire its temperature, or be brought up to that by the addition of hot water. In house rooms the foliage soon gets covered with dust, which not only injures its appearance but seriously impairs its health. All smooth leaved plants will be much benefited and their appearance greatly improved by carefully wiping their leaves with a damp sponge. Those which have hairy leaves and can not be treated in this way, should be placed out of doors on a mild day, and syringed or showered; or, if the weather will not admit of this, they may be placed in a sink and there receive a drenching. The plants should have plenty of air on mild days. By observing these hints, our readers will have less cause to complain of their want of success with house plants.

Spring Flowers in Winter.

Several favorites of the garden can be had in flower during the Winter, by taking a little pains. The *Dicentra*, *Lily of the Valley*, *Deutzia gracilis*, and many other hardy plants may be made to serve as ornaments in the parlor or sitting room. The plants taken up before the ground is frozen, and potted, will make a tolerable show, but some will flower much more finely if they are allowed to make their first growth in the dark and are then brought to the light. The *Lily of the Valley*, if judiciously treated, may be made to show its beautiful and fragrant flowers by Christmas. The following directions for forcing this charming plant are condensed from Rand's excellent little work, called "Flowers for the Parlor and Garden." After the middle of November the oldest tubers are taken up, being careful to select those which have thick blunt buds, as these alone produce flowers. The tubers are wrapped in a little moss and packed as closely as possible in pots or boxes, filled with light porous soil; they are planted just deep enough to cover the buds. An empty pot, or box, of the same size is inverted over that in which the plants are placed, and the whole set in a warm place, and it is all the better if they can have a little bottom heat, which can be given if one has a greenhouse. The plants are kept in this way in the dark until they begin to show flowers. The pots may then be transferred to a light room, or the plants may be placed in vases or in baskets, where they are to flower. By bringing them gradually into the sun-light, the leaves will soon turn green. Of course as soon as the plants start, they should have a supply of water. The *Dicentra* may be treated in the same way, and we know of no more beautiful plant for forcing. The *Deutzia gracilis*, from its small size and neat habit, is one of the best shrubs for winter blooming. Take up the plants with a ball of earth and place them in a cool cellar, and when wanted for flowering, pot them and bring them into a warm room. Plants forced to bloom in the Winter, cannot be expected to flower again in Spring. They may be planted out and allowed to recover, or if there is already an abundance, they may be thrown away.



Notes on the Basswood or Linden.

A note in the *Agriculturist* for June, upon the preparation of basswood bark, has called out inquiries as to the characters by which it may be recognized, and the manner of its growth. As the tree grows from Canada to Virginia, and southward, it is probable that most persons who live in the country are somewhat acquainted with it. The botanical name of the tree is *Tilia Americana*, and it is known by the popular names of Basswood, Linden, Lime-tree, and White-wood—the last name is, however, in some regions exclusively applied to the Tulip-tree. When allowed to grow by itself, the Basswood forms a large tree of a very regular form, and in the density of its shade, is equalled by few of our native trees. The bark of the young trees is very smooth, and that of the young shoots is of a very dark color. The leaves are roundish, heart shaped, with one side larger than the other, sharply serrate—rather thin, and about 5 inches long and wide. The flowers, which appear in July, are in clusters upon a long stalk, are yellowish white with a very pleasant fragrance. The flower stalk has a long leaf-like bract or scale attached to it for about half its length; this alone will, in the flowering season, distinguish it from any other native tree. The fruit consists of a round gray nut, about the size of a large pea, which contains a single seed, and is ripe in October. The tree will grow in poor soil, though it delights in a fertile one, and is valuable as a shade tree. The European Linden is often planted for this purpose, but the native species is preferable on account of its greater freedom from the attacks of insects. The flowers are much liked by bees, and the honey which they furnish, is said to be finer flavored than any other. The use of the inner bark is well known to all who work in the garden, its flexibility and great toughness rendering it the best possible material for tying. It is largely used in northern Europe for making mats, cordage, fishing nets, and even coarse clothing. The Russian mats furnish the main supply of tying material to our gardeners,

though a superior article can be made from the inner bark of our native tree. The bark from the tree, cut any time during the growing season, and treated as directed in the June *Agriculturist*, will give a most excellent material for tying. In localities where it is not found native, it would pay to cultivate the tree for this purpose only. Trees of a foot or less in diameter are preferred to larger ones, for furnishing bark. The wood is tough and pliable, and is used by wagon builders for panels, by cabinet makers for drawers, and by stair builders where the work has to be curved. The tree is readily raised from the nuts, which are planted in the Autumn, or kept through the Winter in boxes of earth. The young plants are left for two years in the seed bed, they are then taken up, the roots shortened, and the side branches trimmed up and set in nursery rows where they are left until large enough to be planted where they are to remain. The tree is also propagated by layers. When a tree is cut down, numerous shoots spring up from the stump; these at two years old, are layered in Autumn, and at the end of a year will be well rooted, when they may be removed. The engraving represents the flowers and smaller leaves, with fruit of the natural size.

A JACKET TO KEEP OFF BORERS.—Geo. T. Leach, Litchfield Co., Conn., uses a strip of White-birch bark 3 or 4 inches wide and long enough to go once and a half around the tree to be protected. The soil is removed and this is wrapped around close to the roots and the soil replaced. Mr. L. says that he never knew a tree thus treated to be harmed by the borer. Any wrapping which can not be penetrated by the young borer will answer a good purpose, and where birch trees are plenty the bark may be used instead of wrappers of strong paper, cloth, and other materials, which have been recommended. We suppose that our correspondent means the Canoe-birch rather than the White-birch. A gentleman in Connecticut informs us that he saved his peach trees by a mound of stones around the trunk to prevent the parent of the borer from depositing eggs near the root.

The Growth of Pear Trees in Hedges.

Allusion has been made to this way of growing the pear, and those who have tried it, are enthusiastic in its praise. Mr. T. W. Field of Brooklyn has a large number of the Duchesse in hedges; he thinks this variety particularly adapted to this treatment, and is convinced that he can get larger crops of fruit than can be obtained by any other mode of culture. Dwarf trees are planted two and a half feet apart, and are clipped yearly, like any other hedge. Such a hedge would make a very pretty boundary to a fruit garden. Mr. Field cultivates the trees in this way for the fruit, and his hedges are parallel with each other at a distance of only 4 feet. Mr. J. C. Thompson of Staten Island is cultivating a hedge of Bartletts, but he follows a different method. The trees are five or six feet apart; the branches are allowed to grow upright at first, and are gradually brought to the horizontal position by bending them down and tying them to the neighboring trees by means of strings. Low branching trees are to be selected for this purpose, and if they do not branch sufficiently low, or if a branch is needed to fill a gap, a twig is inserted by side grafting; or, if a dormant bud is found in the right place, it is induced to start by notching the bark just below it. Grown by Mr. Thompson's method the tree is like an espalier without a trellis. The bending down of the branches causes the formation of fruit buds along the whole length. We never saw a greater promise of fruit than these trees present, and shall watch their future growth with interest, and report the result.

A New Squash—The Yokohama.

Thomas Hogg, Esq., the well-known horticulturist, now in Japan, sent from that country to his brother here, Mr. Jas. Hogg, some squash seeds which were planted and carefully cultivated at a distance from any other variety. The vines proved to be very robust and vigorous, running freely, taking root at every joint; they bore a large crop of squashes so different in appearance from anything we now have, as to mark it as a new variety. The engraving, fig. 1, will give an idea of its shape. It is about 8 inches across, 4 inches thick, and weighs from 6 to 8 pounds. The stem instead of being round and fleshy as in Hubbard and other fine fleshed squashes, is very long, woody, and angled



Fig. 1.—YOKOHAMA SQUASH.

like that of the pumpkin. The surface is strongly ribbed; the skin warty, and of a dark green color, which frequently turns more or less completely to a dull orange. The cavity for the seeds, as seen in fig. 2, is very small and placed near the blossom end, where the flesh is very

thin. Seeds very small, not larger than those of the summer crook-neck. We have cooked this squash in various ways, and consider it of the first quality. The flesh is very fine grained, sweet, sufficiently dry, and good flavored. It has

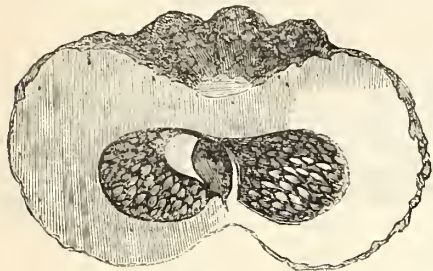
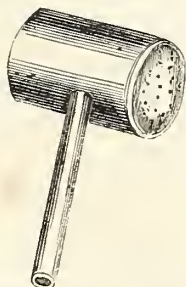


Fig. 2.—INTERIOR OF SQUASH.

the appearance of being a good keeper, but in this respect it is yet to be tested. From the size of the seeds, Mr. Hogg supposed it to be a bush-squash, and planted it so closely that the vines did not have a fair chance to run, but in this unfavorable condition it proved to be a good bearer, and much earlier in maturing than other Autumn varieties. We suppose the small stock of seeds will be placed on sale with some of the seed dealers; we have none to dispose of.

A Convenient Clothes-Sprinkler.

A subscriber to the *American Agriculturist*, Geo. L. Hale, Cumberland Co., Pa., sends a model and description of the clothes-sprinkler illustrated herewith, which we find upon trial to be a convenient instrument. It is made of tin, the main part or cylinder, $4\frac{1}{2}$ inches long, and $3\frac{1}{4}$ inches in diameter. One end is convex and is punched with very fine holes, $\frac{1}{2}$ inch apart. The handle is $4\frac{1}{2}$ inches long, hollow, and opens into the cylinder. When in use, the top of the handle is closed by a well-fitting cork. To fill the sprinkler, take out the cork and plunge the cylinder into a vessel of water; then insert the cork, and with a gentle shake, the water will be thrown over the clothing more evenly than can be done by the hand alone, and without necessity of wetting the fingers. The article is not patented, and can be very easily and cheaply made by any tinman.



CLOTHES SPRINKLER.

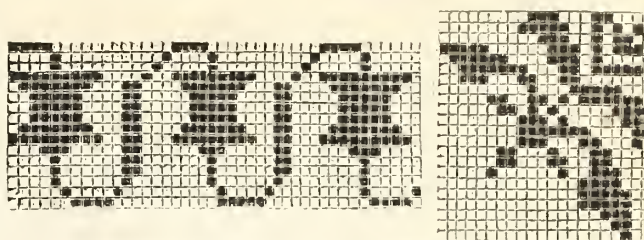
Economy in the Household.

With cotton cloth at 40 cents a yard, chickens at 18 cents a pound, and beefsteak not much less—with every article of food and clothing greatly increased in price, there is need of economy, especially among that large class, having fixed salaries and incomes. The war or something else has greatly increased the expenses of living, without adding to the income of a large class of the people. The laborer and mechanic have raised the price of their wages very properly, perhaps not in proportion to their increased expenses. But the doctor does not charge any more for his visits, the lawyer probably thought that he charged about enough before, and the people seldom think of raising the minister's salary, 40 or 50 per cent., to enable him to make both ends of the year meet. The board of directors in the bank have not increased the salary of the cashiers and clerks, and the grocers and dry-goods men have forgotten that the board and clothing of their employees have advanced a third or more. (Though printing paper costs double now, the subscription price of this journal is not increased at all.) With the general prosperity of the country, there is a good deal of pinching in spots.

What is to be done to meet the emergency? The hardest matter, perhaps, is to get rid of a little pride, and adapt ourselves, with true manliness, to our new circumstances. An old coat, if it be clean, is handsomer upon an honest back, than the most splendid garment a bankrupt ever wore. In these days of cheap benzine, (there is one thing cheap,) a little money will go a great way in removing grease-spots and renovating an old garment. We must wear our garments until, like the deacon's *one-hoss shay* celebrated in Holmes' muse, they fall to pieces of their own weight and antiquity, or rather until the day before that catastrophe. We shall have less to sell to shoddy manufacturers, but they will make enough without our patronage. Then, in taking care of the stomach, we must go in for the substantial rather than the most costly and fashionable dishes. If flour costs \$11 a barrel, do not buy a poor article of flour, but use more Indian and rye meal instead. Look back over the *American Agriculturist* recipes for cooking corn meal; one must be hard to suit if he does not find dishes good and cheap. A dollar in this article will go as far in sustaining life as \$2 in fine flour. Rye makes an excellent bread, and is much cheaper than wheat. The unbolted wheat commonly known as Graham meal, makes a very wholesome bread.

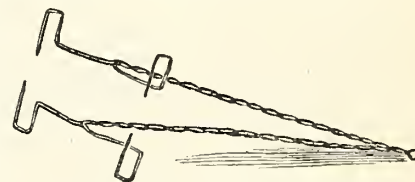
If sugar is \$40 a barrel, use less of it. Substitute sweet apples for the prepared sweetmeats, and both money and health will be saved. It is not necessary, at every evening meal, to have preserved quinces, peaches, or strawberries, that have been made with a pound of sugar for every pound of their own weight. Baked apples, with a little milk, disappear with celerity. If coffee is 50 cents a pound, barley is only 2 or 3, and the latter is the more nutritious article, and makes a very fair drink. If tea is a dollar, use water, which is both cheap and wholesome. You will soon get accustomed to it, and find that it agrees well with the nerves. "But would you have us starve to death in these hard times?" Not at all. The country is too much in need of every good citizen to lose one, by under or over-feeding. We must have good wholesome food, and that which is enjoyable. When beefsteak is 18 cents a pound, it is not necessary that every meal should come out of the sirloin. A shin-bone costing a quarter as much, made into a soup, will dine quite as large a family, and give them as much strength for physical or mental labor. We are greatly behind our neighbors, the Germans and French, in the use of soups, and indeed in all matters of economy at the table. With the same income they will live comfortably and save, where we should feel pinched and run in debt. The war is working out good results for us, in many respects. It will be one of its greatest blessings, if it teach us simpler modes of living, and constrain us to a more healthful use of the bounties of Providence.

TAINTED BARRELS.—A. Nepper, Ohio, says: "Fill the barrel with hay, then fill up with boiling water, let stand for 24 hours, and the thing is done." We have seen hams, which during a long overland journey in a warm country, had acquired an unpleasant odor, rendered perfectly sweet by putting them for a day in a tub with hay and cold water. "Wm. L.," Orange Co., N. Y., directs to fill the cask with sour milk or whey, let it stand several days, then refill with water, and change occasionally.



Pattern for Crocheting or Netting a Tidy.

The above pattern, designed for the *American Agriculturist* by Miss Sallie R. Bowman, Philadelphia Co., Pa., is intended for crocheting, or for darning a netted tidy. Those skilled in the mysteries of such fancy work will have little difficulty in making an enlarged copy to work by; or by noticing the arrangement of the small squares, the design can be followed directly from the engraving. As will be generally understood, the smaller figures at the top are samples of the border and corners. The space left between the chief ornament in the centre and the border will be regulated by the size of the tidy and the fancy of the maker.



A Home-made Toast Holder.

This simple contrivance will be found a very convenient article, particularly for those who use coal fires, and are often troubled to toast a slice of bread quickly by holding it near the coals. If the bread is laid upon a support on the top of the stove, it dries hard before the surface is browned, impairing the sweetness, and requiring either very good teeth to masticate it, or to be moistened by hot water or milk. Or if a common fork be used, the fingers are burned, and the forks heated and loosened in the handle. To make the "holder," take two pieces of common wire about the size of coarse knitting needles, each 3 to $2\frac{1}{2}$ feet long. Twist them together to within about 5 inches of each end, bend the twisted part double, to bring the ends together, and then form the arms or supports as shown in the engraving. They can easily be sprung apart to receive a slice of bread, which can then be conveni-

ently held in any desired position, without burning the fingers. A ring may be added to the end, by which to hang up the apparatus when not in use. It is an unpatented article, originated by one of the Editors of the *Agriculturist*, and is free to all.

Costume for the Garden, etc.

A "Farmer's wife" writes to the *American Agriculturist*: I have just been reading an article in the October number, page 307, wherein "Gardener," calls upon the ladies to devise a dress, in which they can visit the green-house to admire his beautiful plants, or work in the garden without destroying all with which they come in contact. Perhaps, he and others interested, would be pleased to know that such a dress has been devised, and is now worn by hundreds of ladies all through the Eastern and Western States. The "American Costume," which consist of a dress made in the ordinary way, except that the skirt is shortened so that it comes below the knees, with pants of the same material as the dress, forms a costume in which ladies can go up and down stairs with both hands full, work in the house or garden, or take morning walks when the dew is on the grass, without all the trouble and inconvenience attendant upon trailing robes. "After wearing the American Costume as a working dress, for over two years, I can say, that I find it very comfortable and convenient, and it has been pronounced by many sensible people as neat, modest, tasteful, and becoming."

About Starting Thirteen Million Fires.

An old adage, and a pretty true one, is, that "It takes a fool or a philosopher to build a fire well"—which, we suppose, means that the fool will blunder into the right way, the philosopher will reason himself into it, while others make bungling work of it. As nine-tenths of people belong to neither of the two classes, there is a deal of worry and bother. The ninety thousand families who receive this number of the *American Agriculturist* will need a fire started at least once a day, for the next five months, or in all over *thirteen million times!* How much time would be saved, if these fires could all be started so as to heat up the house, and get the breakfast and other things going, in half an hour, instead of the average time of an hour. (13½ million half hours equals 675,000 days of 10 hours each, or nearly 2,000 years. This multiplied by five in a family, amounts to 'considerable'.) How many colds would be prevented if the houses were warmed early for the children to wash and dress. So the subject of kindling fires is not so insignificant after all, even confining it to our own readers. Let us study the science of the matter a little, and try to increase the number of philosophers.

Heat results from the rapid union of the oxygen of the air with the carbon (coal) of wood or other combustible material. The more air, the more heat. We blow the fire with the natural bellows (lungs), or an artificial one, to drive more air upon it, and thus supply more oxygen. Stoves and chimneys are constructed to make the fire blow itself. Heated air expands, becomes lighter, rises up, and draws a current of fresh air after it. The longer or higher the stove pipe or chimney, the greater the upward draught. Open a hole in the side of a chimney, or stove, or stove-pipe, and part of the air drawn in comes through the hole instead of through the fire where it is wanted. Put the fire close to the front opening of the stove, or directly at the throat of the chimney, and it gets the full force of the in-rushing current of air, and oxidation or burning is intensified. Put the fire back in the stove, or low down on the hearth, and much of the current of air passes above it. The secret of starting a fire quickly is, to so arrange the kindling that it will receive the greatest possible draught at the very point where the first spark is applied; then arrange the fuel closely around it so as to allow it to spread rapidly. Throw a lot of kindlings loosely over a grate in the bottom of a coal

stove, and the draught is diffused all over the grate, and is not strong at any point. But cut the kindlings short, pack them closely in a little heap, and cover the rest of the grate with coal so as to partially stop the air current, except through the kindlings, and the latter will burn more intensely, and soon communicate fire to the rest. To secure this latter end, all fuel should be placed close together, with just space for the passage of air between the pieces. The finer the kindlings, the greater will be the surface exposed to the air, and the more rapid the burning. The best way is, to have a little fine or nut coal to put around the kindling. The small lumps will quickly heat through and take fire, and heat to the burning point the larger lumps placed in contact above and around them. A single handful of kindlings placed together and the draught of air concentrated at that point, is more effective in quickly starting a fire, than a large basketful thrown in at random. It is often well to close up all the grate with ashes underneath, except just under at the point where the match is applied, and then open more room for air as the fire spreads.

The above is the general principle, which may be applied in various ways. If the draught hole in the stove be in front, put the kindlings compactly close to the hole, and arrange the larger fuel upon and against them. In the wood fire-place, arrange the larger sticks to form a sort of pipe or narrow opening between them, for the kindlings. This will concentrate the air draught which is weak at first, directly upon the starting fire. The larger fuel placed above, in the line of the draught, will be rapidly ignited. The best chimney fire-places are those which have the throat placed high up, because the larger back surface thus exposed, acts as a radiator to throw heat out into the room. But to start the fire quickly, a blower (curved piece of sheet iron) is extended down from the throat to throw the draught through the fuel. The closer this iron fits to the throat and to the jams, the more effective will it be in directing all the air current through the fire.

There are several points relating to the best or cheapest fuel, modes of economizing it, best stoves and grates, best mode of conducting heat through buildings, best forms for fire-places and chimneys, smoking chimneys, etc., which may well occupy our attention, in the coming Winter numbers, especially in these times of high priced fuel.

What to Eat, and When to Eat What?

MR. EDITOR:—In your article on "Meals for a Week," in the November *Agriculturist*, there are some startling propositions—*chacun a son gout* finds pat application, and truly "there is no accounting for tastes." Yet it is a fact, that men of civilized nations have settled down into certain usages and proprieties, and consider infringements of these as—incongruous with good taste. Custom among refined people and good livers, banishes pies, molasses-gingerbread, doughnuts, ordinarily cheese too, from the breakfast table, and "crust coffee" from anywhere but a sick room. "Sauce" is a much abused word—alone, it means nothing, except vulgarly, what we none of us like to take from any man. Compound condiments (not gravies) to eat upon meats or fish, are called sauces, as Worcestershire sauce, caper sauce, etc. So stewed fruits in various forms are called sauces, as apple sauce, cranberry sauce; but what sauce is referred to by your correspondent, when he mentions "sauce and cheese, or broiled salt-fish" for breakfast, I do not know. Sauce, as a name for table vegetables is simply vulgar, if Webster does half authorize it. Your correspondent from Rahway has civilized notions; but the Andover man shows his utter disregard for all the proprieties of the table, when he says that his breakfasts for a week will, if meat-breakfasts are not desired, serve for dinners.

A few general principles in regard to meals seem to be established by convenience and natural propriety. In this country it is usual to have three meals a day—and these at morning, noon, and evening. For an early breakfast it is inconvenient to

have those kinds of food which require long preparation or cooking immediately before. Therefore roast, boiled, and baked meats, pastry and confectionery, and many kinds of vegetables find no place—but broiled, fried, fricaseed, cold or hashed meats are appropriate, with sundry preparations of eggs, fried or stewed and sometimes baked potatoes, griddle cakes, etc. In hot weather, fruits, muskmelons, tomatoes, etc., are appropriately placed on the breakfast table. So also may stewed fruits (quite tart) be served. In the private family, propriety as well as convenience is outraged by a great variety of dishes which do not go well together. For example, apple-sauce which is excellent with pork-steak, is shocking with fried fish. KITCHENER.

How to Keep Beef:

In response to an inquiry for practical directions how to cure beef, so that it will keep until June, and yet not be too salt for the table, W. B. Dryer, Douglass Co., Ill., writes to the *American Agriculturist*: For every 100 pounds of beef, use seven pounds of salt, well rubbed on. Allow the beef to stand in the salt for twenty-four hours; take it from the vessel and pour off the drippings; then pack closely, and cover with brine, made as follows: For every 100 pounds of beef, 4 ounces of Saltpetre, 4 ounces of Bicarbonate Soda, 1 qt. Molasses.

E. A. Leonard, Defiance Co., Ohio, says: I allow the beef to cool sufficiently after killing, then cut it into convenient sized pieces for use, and pack it loosely into a barrel in which I have previously placed a quantity of weak brine. When the meat is all in, or the barrel full, see that the brine covers it. Let it stand two or three days, then take out the meat, throw away the brine, rinse out the barrel, and repack the meat snugly. Make a quantity of brine sufficient to cover the meat, and strong enough to hear up an egg. Add 2 ounces of saltpetre for every 100 pounds of meat, pour it on the meat, and it will keep until hot weather.

A subscriber in Greene Co., Ill., writes: To 8 gallons of rain water, add 2 pounds of brown sugar, 1 quart of molasses, 4 ounces of saltpetre, and enough of common salt to make brine sufficiently strong to float an egg. Rub the beef well with salt before placing it in the barrel. Then pour over it the prepared brine, and put on it a sufficient weight to keep the beef covered with the pickle.—Each of the above contributors says, that the method recommended has been tried by him several years, and the result was every way satisfactory. Where a considerable quantity of beef is to be cured, it might be well to try all the above ways on different parcels; we should like to hear which produces the best article next May or June.

Pickled Pork Equal to Fresh.

A lady contributor at Perry, Ill., sends the following directions to the *American Agriculturist*: "Let the meat cool thoroughly, cut it into pieces 4 to 6 inches wide, weigh them and pack as tight as possible in the barrel, salting very lightly. Cover the meat with brine made as strong as possible. Pour off a gallon of the brine and mix with it one tablespoonful of saltpetre for every hundred pounds of meat, and return it to the barrel. Let it stand one month, then take out the meat, let it drain twelve hours. Put the brine in an iron kettle, add one quart of molasses, or two lbs. of sugar, and boil until perfectly clear. When it is cold, return the meat to the barrel, and pour on the brine. Weight it down, and keep it covered close, and you will have the sweetest meat that you ever tasted."

Wire Clothes-Line.—Geo. E. Pomeroy, of Lenawee Co., Mich., says in reference to the use of galvanized wire for a clothes-line: "In the first days of telegraphing and the introduction of galvanized wire for telegraph use, I fancied it would make a good clothes-line. I used it and it worked well. In 1848 I moved to Michigan; I put up the

wire for a line, and it is now in use as good as the day it was put up: it never rusts or mildews, shrinks, or stretches. Tinned wire will not answer: it must be zinc-galvanized. The first cost is no more than hemp, and it will last always."

From the *New England Farmer*.

"West's Improved Pump."**

Editors of New England Farmer:—I can give Mr. Geo. C. Noyes the information that he wants. Perhaps in doing so I shall give a good many other persons some useful knowledge about pumps for farm use. If so, I shall be doing some good. In doing so, I may benefit the pump maker as well, but what of that? He is one who has done much for the benefit of others, by his powers of invention. So let us reciprocate.

West's improved pump is an anti-freezing pump. I have proved this four years. The only protection ever given is to open a small vent below the platform before freezing weather. This lets the water down from the spout in a minute or two after using the pump, but an extra stroke or two will fill the pipe again. In Summer this vent is plugged. In four years this pump has not required four cents' worth of repairs, though in daily use, often to the extent of many barrels a day, for the use of two houses and barn, neighbors and travelers. It is a good pump—the best I ever used. It does work easily—so easily that small children can always get water. It is not liable to get out of order. It is both a sucton and force pump. I have a hose to screw on the muzzle, through which I can throw water wherever I please. There is also a place below the platform where a pipe can be attached, through which water can be forced any distance.

I have another of West's pumps in my kitchen, which draws water from a cistern twenty feet distant. This is like the one spoken of by you. The working part of the pipe will not freeze. The pipe below the pump requires protection. This, though in use continually, has never had a cent expended for repairs in four years, and it is but little more trouble to get water than it would be to draw it from a cack, it works so easily.

There may be other pumps equally good. I hope there are. The more the better. I don't know them; I do this, and give it this unqualified recommendation, for the benefit of others—of all farmers.

Near New York, Oct. 14, 1863. SOLON ROBINSON.

* This pump is manufactured by the inventor, Mr. J. D. West, 179 Broadway, New York City, who will doubtless send descriptive circulars to all applying for them.

Washing Machine Queries.

Letters without number are coming to hand, which we cannot find time to answer individually. We are weary of testing these machines, having tried a new one every few weeks for many years past. We have not, of course, tried every one of the thousand patented washing machines; but the only one which has stood the test with us for any length of time is the "Nonpareil." Doty's machine we have now under trial, and it promises well. The washing part is similar to that of the Nonpareil, while the operators seem to like the motion, which resembles the old-fashioned up and down washboard movement of the arms. Our first impression would be to call it one of the best, if not the best machine we have seen, but we have long since come to the conclusion to recommend no machine which has not been proved by long and thorough trial. Several years ago we thought the Metropolitan washing machine to be just the thing, and we still believe the principle—the combination of pestles on springs—to be better than anything else yet invented. But long trial developed the fact that working the pounder at arms' end, was too much like lifting a ladder, or working with the short arm of a lever, to adapt it to general use by the weaker sex. If strong men did all the washing, we would say get the Metropolitan. The balance wheel of the Nonpareil relieves the con-

stant strain upon the muscles. The only difficulty is that those habituated to the up and down motion in using a washboard, do not at once take to the crank movement. When the muscles become accustomed to it, the Nonpareil is much liked. The movement of Doty's machine will be a strong recommendation of it to that class who do not like to change their habits. Either of the machines named is a labor saver and a clothes saver, as compared with the washboard, and anything to save time on washing days, is certainly very desirable.

BOYS & GIRLS' COLUMNS.

To Our Young Readers.

Well, we have had pleasant times together for a year past! Although we could visit you but once a month, few, circles, if any, have had more agreeable and interesting entertainments than we have enjoyed together. We have laughed over the stories, puzzled our brains with the problems, learned curious and interesting facts in the Botany of common plants, and altogether have had much real pleasure and profit. But we are reminded by our subscription books, that some 60,000 of our nearly 90,000 subscribers, are now receiving the last visit which we have been invited to make. In the families of these subscribers there must of course be two or three hundred thousand girls and boys, or more, and we are glad to know, from hundreds of letters received, and from what parents tell us daily, that the *American Agriculturist* is the especial delight of the young people. That is just what we like to hear, and is just as it should be. This paper is for the Household—all of it. If we can interest, instruct, and improve the growing people, the boys and girls, our ambition will be greatly gratified. We want to see the next generation better than the present one, and to do all we possibly can to help in making it so.

Shall we say good-bye to any one of you? Certainly not. Our "school" keeps right on without vacations—the pupils say *Agriculturist* school hours are as pleasant as any "vacation."—The young folks do not have all the pleasure to themselves. What should we do without their company? How blank and desolate would our own home be, if the group of little ones were not there to greet us on our return from each day's weary labors. How lonely the rooms would be if we found not the sleepers there as we passed through them, the last thing before retiring at night, as is our custom, to see that all are "tucked up" snugly, and resting quietly. How dull the waking hours if we missed the taps at the door and the pleasant "Good morning papa." Cheerless would be the breakfast circle if there were no occupants for the little and larger chairs around to the right and left.

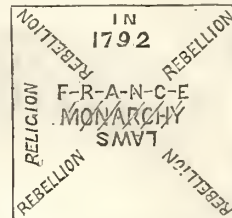
Perhaps we could endure it if our household was made up wholly of grown people, but we are glad it is not—we almost wish the little ones would not grow large. Our greatest desire is that they shall grow up wise and good. The same feelings that go out to our own little ones, and to the larger circle that greet us on Sunday afternoons, are in a measure extended to that still greater company of children and youth who make up the *Agriculturist* family. They are scattered, it is true, over the broad expanse from the Atlantic to the Pacific, but when we sit down to prepare this department of the paper, we in imagination gather them all around us. We shall love to continue the "Boys' and Girls' columns," and to make them even much more interesting and profitable. That you may here gain instruction as well as amusement is our anxious desire. We shall therefore be happy to meet you all during 1864—not one can be spared. Come on by tens, by twenties and by hundreds; there is room enough, and supplies of good things are plentiful. Invite your playmates to join the circle. All of you can get one, or more. There are many premiums you can earn. We have sent out a large number of these to boys and girls, some of them every year, and there is always a peculiar pleasure in doing so. Can we not double the number this year? Will you bring at least one more?

About the Origin of Words.

Where do all the words come from? Men do not agree as to how language was made at first. By many, however, it is supposed that man received the gift of speech at his creation. However this may be, we know that new words are being added to every language, as men have new thoughts and make new discoveries requiring new terms to express them. Thus the word "telegram" has been invented within a few years as the name of a message sent by the telegraph. It is often very interesting to trace out the derivation of words; sometimes quite a history is connected with them. Thus the term *dunce* so often used, is said to have come from the following cir-

cumstance: A Franciscan monk, named Duns Scotus, had many followers, who used often to quote his writings in defence of their doctrines, and as these doctrines became unpopular, the term Dunsman or Duns was used as a term of contempt for those who advocated them. From this it came to be applied to any person whose notions were considered unreasonable, and with a little alteration in spelling we now use it to designate a stupid person. Our word "tariff," meaning tax or duty paid on Imported goods, comes from Tarifa, the name of a Moorish fortress on a promontory at the southern point of Spain, extending into the strait of Gibraltar. At this point the Moors used to watch all vessels passing through the strait, and require their owners to pay a tax for the merchandise they carried. "Hurrah," is from the word Hurrag, which was used in old times as a battle cry, by some of the warlike nations of Europe. It signified "To Paradise." They believed that every man who died in battle for his country, went immediately to heaven. A curious account is given of the origin of the word "Teetotal," so commonly used to express entire abstinence from intoxicating drinks. It is said that a Lancashire laborer in his first public speech on temperance, was much embarrassed, and repeatedly stammered at the word total, making it t-t-t-total, and the amused audience afterward frequently repeated it, and others took it up until it became a fixed word in the language. Many more examples might be given. Our young readers will find instructive amusement in studying the derivation of most words. How many of them can tell the origin and meaning of the name of this journal—the *American Agriculturist*.

New Puzzles to be Answered.



No. 59. *Puzzling Sentence*.—This has appeared in print before, but it will probably be new to many of our young readers. It was constructed in commemoration of a great historical event. Those who study it out, will be pretty sure to remember the occurrences and their date. It will be interesting to read the whole history of which this puzzle forms a part.

No. 60. *The Wheel Puzzle*.—As every body knows, a small wheel must turn around more times than a large one, in rolling over equal distances. Now when you examine a wagon wheel, you notice that it is composed of two circles or wheels, the tire and felloe or outer circumference, and the hub or smaller wheel at the center. Why, in rolling any number of miles, does this smaller wheel revolve no oftener than the outer or larger one?



No. 61, *Illustrated Rebus*.—A rule for successful life.

Answers to Problems and Puzzles.

The following are solutions of the puzzles, etc., in the October number, page 345. No. 55.—*Sentence in Cypher*. The key to this is to take for the first, third and fifth letter of every word, the next letter above it, as a for b, m for n, etc. For the second, fourth, and sixth letter, take the third letter above in the alphabet, as m for p, u for x: Ukf krvuodm ddmofg ukf bptufbq bjsldxmwvnyu jv gys ukf gdsf hdsfgq bqe lrvvfkpoc jgdovgqih ukf mluwvnh grmnt. Jv drtwt pqmb pqf ermobu b zhub. Qofdlh nhmo bom zrnu gujhogt bepux jv bqe bvl ukfp ur udhh jv. Ukfb xhmo mlhh jv bqc ukbkl zrv.—No. 56. *Puzzle Picture*.—The boy is making mellow D (melody).—No. 57. *Illustrated Rebus*.—Four chair I T covers a multitude of s in s = "For Charly covers a multitude of sins."—No. 58. *Miscellaneous Questions*.—A step farther, (step-father); Room for improvement; the Alphabet.—The following have sent in correct answers up to Nov. 13th, the numbers indicate the problems, etc., answered by each. R. Van Namee, 55; "A. N. H. E.," 58; Estis, 57; H. F. Boynton, 55, 57; "E. E. K.," 55, 57, 58; J. N. Miller, 56; Emily L. Webb, 57; Charles Mungler and Orra Bruce, 57, 58; T. S. Peck, 57; Daniel Gilbert, 57, 58; O. Coombs, 51; J. H. Ransom, 53; W. Johnson, 53.



"ASTONISHMENT."—FROM A PAINTING BY W. HUNT.

Engraved for the American Agriculturist.

The Boy in the Picture—Self Control.

Very much astonished indeed this lad must be. His looks show that his senses seem to have escaped from his eyes and open mouth, even faster than the milk is pouring from the pan he is carrying, but which he appears to have entirely forgotten. What he is gazing at, we can not even guess—perhaps at a white cow, which in the twilight he fancies to be a ghost; or as a friend at our elbow suggests, perhaps he is "taken all aback by seeing a silver half dollar," which, in these times would be a novel sight. It is very plain that he has never learned to be master of himself. He would certainly make a poor soldier; the first shell that came whizzing near him would make him forget his musket, his companions, and his duty, and he would be of no more use than a wooden image. But he may not be much to blame for all that. It is no easy matter to learn to control all one's powers. It takes years of practice to know how to manage a steam engine, but what is that compared with the wonderful machine—the body with a mind in it—that every boy and girl possesses? The lad in the picture appears like a neglected boy, kept by some unthinking employer just to do chores, and with no thought or care for him only to keep him at work. There are such men, but it is of little use to say any thing about them here, for they are not of the sort that take the *American Agriculturist* or any other good paper for themselves and their girls and boys to read.—It is the testimony of the Wise Man that "He that ruleth his own spirit is greater than he that taketh a city," and it will be found that no one is fitted to rule others until he has gained some mastery over his own powers. Strive to train your eyes,

ears, tongue, hands, feet, all the faculties, to act rightly and at the right time, and it will save not only a good deal of "spilt milk" but of spoiled life.—The most difficult thing to control is the temper. An aged friend of ours, who is noted for his calmness, says he commenced when a little boy to always count seventy-two before speaking, when he began to feel angry about anything. *

"A Merry Christmas."

It will soon be here. Already the little folks are counting the weeks and days before Dec. 25th. Some boys are dreaming of new skates, sleds, knives, or books; the girls, of dolls, play houses, puzzles, and other gifts of Santa Claus. Christmas should be the happiest holiday of the year. Most other holidays are in commemoration of events which pertain to the particular history of the nation in which they are celebrated. Thus we, as a people, have our Fourth of July and 22d of February; in England, the Fifth of November is celebrated; in Germany, the 18th of October. (It will be interesting for you to learn from history why these days are specially regarded in those countries.) Christmas, however, is or should be a holiday for all nations. It is in remembrance of the *Great Gift* to mankind. In all Christian nations, it is remembered with rejoicing. The exact time of the birth of Christ is not determined, but, as you know, all have agreed to keep up the 25th of December, to bring to mind that event. The word Christmas means a *mass* or special worship to Christ. It came to be called "Merry" from the revels and sports which were instituted in England, at Christmas times, extending formerly from Dec. 25th to Candlemas (Feb. 2d). In the houses of the nobles

a "lord of misrule" was appointed whose business it is said by an old writer, was "to make the rarest pastimes, to delight the beholder." An immense fire was built in the largest room in the old castle, on which a great log, called the "Yule log," was kept burning until Candlemas. The laborers were all invited into the castle, to feast, and dance, play games, and engage in every kind of amusement. These scenes must often have been tumultuous, as barrels of ale and great bowls of punch were freely given out to the revelers. Although such scenes are not now enacted, Christmas is nowhere observed with greater spirit than in England. In Germany and the north of Europe, this day is often called the "children's festival," and the Christmas tree is introduced on the preceding evening. A very interesting custom on this occasion is observed in some places. After the presents from the Christmas tree have been distributed, the mother takes opportunity to say privately to the daughters, and the father to the sons, what has been observed most praiseworthy and what most faulty in their conduct. In other places, the youngest child on behalf of the others, makes a little speech to the parents, expressing their love and gratitude; the writer once witnessed this performance where the occasion was kept in true German style. We are pleased to notice that in late years the observance of Christmas is becoming more general in the United States. Many families have the Christmas tree, bearing its beautiful fruit of presents for old and young, though in most places the good old-fashioned plan still prevails of hanging the stockings in the chimney corner for Santa Claus to fill. From our hearts we wish you all a Merry Christmas this year, with stockings full of presents to help make it so; but all will be pretty sure to have it, who take care to keep their stockings filled with good children's feet, until that time.

Amusing Remarks of Children.

A very talkative little girl used often to annoy her mother by making remarks about the visitors that came to the house. On one occasion a gentleman was expected whose nose had been accidentally flattened nearly to his face. The mother cautioned her child particularly to say nothing about this feature: imagine her consternation when the little one exclaimed, "Ma, you told me to say nothing about Mr. Smith's nose, why he hasn't got any!"—This recalls an anecdote of a little girl whose teacher often had occasion to reprimand her. One day she gave the child an unusually long and sharp talk for some grave offence, and from the steady attention of the latter, supposed she was making a strong impression on her, when suddenly the little girl exclaimed, "Why Miss Jones, when you talk, your upper jaw don't move a bit."

A Thick Fog—A Quizzer Rebuked.

A talkative individual encountered a quiet old gentleman on the ferry boat one morning, and vainly endeavored to draw him into conversation—evidently with a desire to make sport of him, but without much success. At length the talker remarked, "I suppose you consider Down East a right smart place; but I guess it would puzzle them to get up as thick a fog as we have here this morning." "Well," said the old man, "I don't know about that. I hired one of your York chaps to work for me last Summer, and one rather foggy mornin' I sent him down into the meadow to lay a few courses of shingle on a new barn I was finishin' off. At dinner-time the fellow came up, and sez he, 'That's a long barn of yours.' Sez I, 'Not very long.' 'Well,' sez he, 'I've been to work all this forenoon, and haven't got one course laid yet.' 'Well,' sez I, 'You're a lazy fellow, that's all I've got to say.' And so after dinner I went down to see what he'd been about, and don't you believe, he had shingled more than a hundred feet *right on to the fog!*' "Answer a fool according to his folly said the Wise Man."

Reading One's own Obituary.

An eastern journal had a subscriber who had not paid up in several years, though he often promised to "call and settle." Finally after a sharp dun he said, "If I don't come and pay up to-morrow, you may be sure I am dead." The next day came, but no money. On the following morning the subscriber was horrified at reading in the journal a notice of his own death, giving a sketch of his life, and recounting many good qualities he possessed, but stating that one of his failings was his neglect to pay the printer. Seizing his hat he posted to the office and exclaimed, "What does this mean?" "Why" replied the editor, "you told me I might consider you dead unless that bill was settled yesterday, and knowing you to be a man of your word, I wrote accordingly." "Oh! ah! yes, I see," said the subscriber, "here's your money; and now, if you please, contradict the report in your next paper." "That's not necessary," replied the editor, "the article was printed only in the copy of the paper sent to you!" He took the hint, and ever after paid the printer promptly.

A Miser Rebuked.

It is related of Lord Braco, a Scotch Judge of the last century, and an intense miser, that on one occasion one of his farmers saw him pick up a farthing, and said to him: "I would give a shilling Lord Braco, to have a sight of all your silver and gold."

What a Word May Do.

The chaplain of a Western regiment relates, that while visiting a family in Illinois, the mother, an elderly lady, told him the following circumstance: Many years before, her son of about four years old, was one day playing in the road, when he fell and hurt himself slightly, and commenced crying very loudly.

A Key to a Person's Name.

One of the Agriculturist boys in Fulton County, Ind., sends the accompanying table of letters, by which the name of a person or any word may be found out in the following manner: Let the person whose name you wish to know, inform you in which of the upright columns the first letter of his name is contained.

New and Useful Premium for Boys and Girls—and Others.

A subscriber in Missouri (an officer in the army, we believe) wrote some time ago: "If possible, add a case of Drawing or Drafting instruments to your general Premium List. Nothing could be more useful to the young, and to the old also—farmers and others—than a case of instruments for drawing plans, plotting out fields, buildings, etc., etc."

AN AMUSING REPLY.—The little sister of a friend of ours asked the meaning of the word biped, and was told it signified having two legs. A quadruped has four legs, continued her brother, "and now," asked he, "what would you call any thing with three legs."

A COMICAL MISTAKE.—At an exhibition of a magic lantern the children were asked to name the pictures as they were shown. A view of the children of Israel crossing the Red Sea was brought out. "What is this," was asked. A little fellow in the audience enthusiastically called out "is Burnside crossing the Rappahannock!"

PREMIUMS for 1864.

DOING GOOD, AND GETTING PAY FOR IT.

While many Journals are adopting our long-time mode of doing business, some contemporaries deery our practice of giving premiums. As a cloak to their want of enterprise, they intimate that certain other periodicals are not good enough in themselves, but need a "make-weight," or premium, thrown in.

But we go a little further, and offer some pay to those who devote time and effort to this work. The easiest and best way to do so, is to offer specific Premiums of good articles, for a definite number of names. Owing to the special goodwill of manufacturers, publishers, etc., and to some advertising arrangements, we are able to offer much larger premiums in this way than in cash.

We do not pretend to give an article costing \$2, and throw in the paper for a year, all for \$1. We offer no article of inferior quality or value. The premiums are all useful and desirable, and cheap at the prices named. Every article offered, is a good one—nothing second-hand, or of poor make or quality, or kind. We intend in all cases to deal fairly with every one.

Table of Premiums for 1864.

Open to all—No Competition.

Table listing various premium items such as American Cyclopedias, Sewing Machines, and Agricultural Tools, with columns for Price of Premiums, Names at 80 cts each, and Names at \$1 each.

No charge is made for packing or boxing any of the articles in this Premium List. The books and the Premiums K, to S, inclusive, are DELIVERED to any part of the United States and Territories, free of all charges.

The names (with money for each,) can be sent in as fast as gathered, so that the subscribers can begin to receive their papers. The premium will be paid to any one as soon as his list is completed. But, let it be distinctly noted, we can reckon for premiums only those names which are marked as for Premiums, when they are sent in.

Premium clubs need not necessarily be all at one Post-Office. Each list ought to contain a fair proportion of new names, for it is to bring the paper before new subscribers, that the premiums are in part intended.

To avoid confusion, please send in the exact amount with each list of names. In special cases, the whole sum for a premium list may be forwarded, and the premium be received at once—the names to be sent in afterward.

All names sent in now, get the great Strawberry plants. Note that 5 cents extra are needed if the "Agriculturist Strawberry" plants are to go by mail. This will, of course, be paid by the subscribers themselves.

Descriptive Notes on the Premiums.

* Books.—Any person sending 20 or more subscribers, may select from our Book List (page 382) to the amount of 10 cents for each name sent in at the club price of 80 cents, or to the amount of 30 cents for each name at \$1.

A—Appleton's New American Cyclopedic.—This magnificent work is now completed, and ready for immediate delivery. It consists of 16 heavy volumes, averaging 800 large two column pages, or in the whole work, 12,804 pages!

B—Best Clothes-Wringers.—This is a most excellent Household Implement, which should be in every family. It can be set upon any form of tub, and by turning with the right hand and picking up the garments with the left, they are pressed rapidly and easily between two elastic rollers, and drop out into a basket, quite as free from water as they can be wrung by the hardest twisting by hand.

C—Nonpareil Washing Machine.—The best recommendation we can give of this, is, that while we have tried fifteen or twenty kinds, this is the only one that our "help" continue to use without being required to do so. It acts somewhat like the old "milling mill": the clothes are put into the hot water, and heat by two pounders which constantly turn them over.

D—E—Sewing Machines.—We need not enlarge upon the benefits of Sewing Machines. It is no exaggeration to say that a woman can in a day do ten times as much ordinary sewing with a machine, as she can do by hand. The interest on a \$50 Machine is only \$3 to \$4 a year, which is a small consideration compared to its advantages.

F—G—Woodruff's Mercurial Barometer.—This is conceded to be the best and cheapest instrument for general use, which is now offered to the public. The peculiar form of mercury cup invented by Mr. Woodruff, renders the instrument far more portable than any thing previously made.

The habit of observation, and of scientific study cultivated in children where a Barometer is used, is important.

H-The Aquarius.—This is an excellent little portable force-pump, useful in many ways. One can take this instrument in his hand with a pail of water, and throw a considerable stream to any point where a fire may be breaking out, and do more to quench it, than he could with a dozen pailfulls dashed on, even if the fire could be reached. We have thrown water from the ground up against the third story windows of a house. The Aquarius is very useful for watering gardens, for washing windows, carriages, etc., etc. It is provided with rubber suction pipe, to draw water from a pail, tub or bucket, and an ejection pipe having both a nozzle for throwing a stream, and a rose or sprinkler. It has also an air chamber for giving a constant stream. It is a handy instrument, for every household, aside from its use as a fire engine with which incipient fires have been stopped.

I-J-Melodeons.—None need to be told of the pleasure given by a good Melodeon in a household, or of its utility in the Week Day and Sabbath School Room, and the Church. "Music hath charms to soothe even a savage breast," and we hesitate not to say that a benign influence is exerted upon every house and school room where a Melodeon or other good musical instrument is found. We offer two sizes in our list above, and those of a different price may be selected for a proportionate number of subscribers. (For sizes, style, prices, etc., send a stamp to George A. Prince & Co., Buffalo, N. Y., and get one of their illustrated descriptive Catalogues, which will be sent free). We have used one of these Melodeons during four years past, and it continues to give the highest satisfaction. It has not been tuned or otherwise repaired in all that time. The premium instruments will be shipped direct from the manufacturers at Buffalo, ready boxed. They can go by railroad, steamboat, express or otherwise, as desired by the recipient. It is easy for Churches, and both Week Day and Sunday Schools to unite their efforts and secure a good melodeon. —Many have done so already.

K-Q—Seven Volumes of the Agriculturist.—Here is a whole Agricultural, Horticultural, and Household Library, embracing also a large amount of interesting reading for Children and Youth, and thousands of instructive and pleasing engravings. Each volume contains more printed matter than half a dozen dollar books of the usual size. There are in each volume from one to two thousand articles and condensed items, among which every reader will find something useful to himself and family. We send them post-paid (as in the above table) in new clean numbers, printed from stereotype plates as needed. The last number of each volume contains an index to the whole volume. (Any person preferring them bound, can receive them in this form, neatly done, at 65 cents extra per volume, for binding and extra postage—or at a cost of only 25 cents per volume if called for, or sent by express, or otherwise, so as not to be pre-paid. Let every one selecting this premium be sure to name what volumes are desired, or how many of each, as duplicates of any number can be chosen if preferred.—We can only supply from volume 16 to volume 22 inclusive.

R—Best File for the Agriculturist.—Jacob's Portfolio file, made just to fit the Agriculturist, with the name of the paper gilded on, is exceedingly convenient. It is a neatly embossed or stamped cover, made so that each successive number of the paper can be inserted in a minute, when it is strongly held in. The numbers thus fastened together are as convenient as a bound book. When one volume is completed, it can be removed and stitched together, and the numbers of a new volume be inserted. A single cover will answer for a dozen or twenty successive years. It is without doubt the most perfect paper file made. Sent post-paid.

S—Water Color Paints.—Those offered (Osborne & Hodgkinson's) are the best of American Manufacture, and though not so fine for artist's work, as some of the imported (which now sell at six times the price), they answer very well for common sketching, particularly by children and beginners. They are especially useful to children, as their use tends to develop a taste for form and color, and skill in the use of the pencil. Sent post-paid, in neat mahogany case—24 small cakes of assorted colors, with brushes, etc.

T—U—Premium Plows.—The two named in the table above (Cylinder and Eagle No. 20), are two of the best farm plows in use, and will doubtless give ample satisfaction to any one securing them as premiums. We have not space for a particular description. The Eagle Plow is well-known. The working of the Cylinder Plow, and other items concerning it are described on page 136 of Volume XX, (May 1861).

V—W—Hay and Straw Cutters—Steel-toothed Cultivators.—These implements are of first importance to all farmers, some of whom may find it most convenient to secure them through our premium list. We send the best implements we know of at the prices named.

The Markets.

AMERICAN AGRICULTURIST OFFICE, New-York, Thursday Morning, Nov. 19, 1863.

The tables below, carefully prepared specially for the American Agriculturist, from original and official sources, present a very comprehensive and clear view of the transactions in breadstuffs, during the past month and year, and a comparison with similar periods last year. A study of the tables will afford much general information.... Prices of most agricultural products have advanced, as shown in the tables of current rates. This has mainly resulted from the advance in gold, as was fully detailed on page 328, November Agriculturist. The Breadstuff markets are at present in a very unhealthy condition, owing to the rage for speculation, and most of the reported sales are from one to another of this class. Buyers for the home trade and for shipment hold off, expecting a collapse which will be produced by military suc-

cesses followed by a fall in gold, or by a tighter money market.... Bale Hay has been very scarce and in lively request at higher rates.... Hops have been more sought after and quite firm.... Seeds, Hemp, and Tobacco, have been in less request, but without important changes in prices.... Wool has been in very brisk request, chiefly for manufacturing purposes, and heavy sales of both domestic and foreign have been effected, (including an extensive catalogue of California and foreign Wools at auction, Nov. 12,) at decidedly firmer prices, the market closing with less animation, owing to the extreme firmness of holders. Stocks have been much reduced, and the finer grades are now becoming scarce.... In most agricultural products, transactions have been moderate. The Price table shows present prices, and changes since our last quotations.

Table with multiple columns: RECEIPTS, SALES, EXPORTS, and Receipts of Breadstuffs at Albany. Columns include Flour, Wheat, Corn, Rye, Barley, Oats, and various grades and quantities.

Table of CURRENT WHOLESALE PRICES for October 17 and Nov. 18. Lists various commodities like FLOUR, WHEAT, CORN, etc. with prices per bushel or barrel.

The N. Y. Live Stock Markets during the past 5 weeks have been largely supplied, the average weekly receipts being 6,225 beef cattle; 16,888 sheep, and 43,000 live hogs. The short winter forage hastens the marketing of animals. The demand is good, and even under the large receipts, prices are well maintained, the present rates being: for cattle, 11c. 1/2 lb. estimated dressed weight for the best, and down to 6c for scrawls—average of all sales 8 1/2c. Good full grown Sheep bring 5 1/2 @ 5 3/4c. 1/2 lb. live weight; Lanbs 6 @ 7c. Good corn-fed hogs, 6 @ 6 1/4c. 1/2 lb. live weight; still-fed, 5 1/2 @ 5 3/4c.

Business Notices. 80 Cts. per Line of Space.

Patents for New Inventions, are procured in this Country and Europe, by MUNN & CO., Editors Scientific American, No. 37 Park Row, N. Y. Pamphlets of advice sent free.

Lands—To All Wanting Farms.

Large and thriving settlement of Vineland, mild climate, 30 miles south of Philadelphia, by railroad; rich soil; fine crops; twenty-acre tracts, at from \$15 to \$20 per acre; payable within four years. Good business openings; good society. Hundreds are settling and making improvements. Apply to CHAS. K. LANDIS, Postmaster, Vineland, Cumberland County, N. J. Letters answered. Papers containing full information sent free.

THE CRAIG MICROSCOPE.

If, as a Holiday Gift, you would combine instruction with amusement, the useful with the entertaining, remember the Craig Microscope and Mounted Objects, for they are an endless source of amusement and instruction. Over 200 dozen Microscopes and 700 dozen Objects have been sold within a year by the Boston Agent alone. This Microscope, in brass, is mailed, postage paid, for \$2 25; or with six beautiful mounted objects for \$3; or with 24 objects for \$5. In hard rubber, for 50 cents, in addition to above prices. A liberal discount to the trade. Address, HENRY CRAIG, 335 Broadway, New-York.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month. TERMS—(invariably cash before insertion): FOR THE ENGLISH EDITION ONLY. Fifty cents per line of space for each insertion. One whole column (145 lines), or more, \$60 per column. In both English and German, Fifty-five cents per line. German Edition alone, Ten cents per line of space.

Valuable Farm for Sale.

To those desiring to purchase land, we would call their attention to this valuable farm, situated in Hunterdon Co., New-Jersey, 2 miles from the Delaware River, and Delaware and Belvidere R.R. Very convenient to Church, Mill, Stores, School, etc., being a splendid situation for a country residence, having a splendid view of the surrounding country, not excelled by any in the state. The soil is loamy with clay bottom, and in a high state of cultivation. Good buildings. Young apple orchard, and peach orchard just in its prime. The Farm contains about 110 acres. Terms easy. For further particulars apply to, or address WILLIAMSON & ALLEN; Stockton, Hunterdon Co., N. J.

FISK & HATCH,

No. 38 Wall-st., New-York City.

BANKERS AND DEALERS IN

All kinds of Government and other Securities. Orders from the Country for purchase of Government Bonds, etc., attended to WITH CARE and Promptness.

Also Agents for the sale of U. S. FIVE-TWENTY YEAR SIX PER CENT. BONDS.

PEAR SEED, &c.

J. M. THORBURN & CO.

Table listing various seed products and their prices, including Prime Pear Seed, Apple Seed, Mahaleb Cherry Pits, etc.

J. M. THORBURN & CO., Seed Warehouse, 15 Jolin-st., New-York.

Parties ordering the above to come by mail must enclose in addition 2 cents for every 4 ounces ordered.

MOTHERS AND WIVES!

THE MOTHER'S JOURNAL and FAMILY VISITANT is a practical Monthly Magazine for Mothers and the Household, substantial in matter, attractive in style. One Dollar a year; specimen copies, ten cents. Be sure and have it. Send by mail, directed to Mothers' Journal, 335 Broadway, New York.

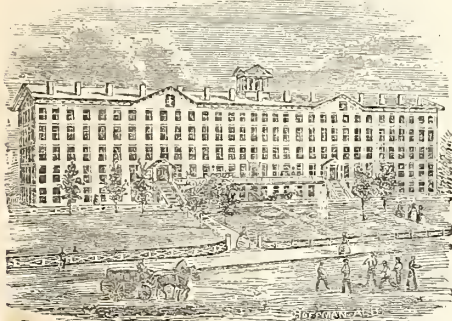
BLACK SPANISH FOWLS.

A few pair of Pure Blood young black Spanish, from imported stock. Apply to D. H. WILLETS, Flushing, L. I.

WANTED A SITUATION by an American man and his Wife, to take charge of a Farm, one that *thoroughly* understands his business, and can furnish the best of Testimonials. A situation near Providence, R. I., would be preferred. Address H. C. WHEELER, North Stonington, Conn.

WANTED A SITUATION AS FARMER and Gardener, understands the general management of farming, draining and reclaiming of waste lands, growing of root crops by special and artificial manures, the working and applying of all agricultural machinery, the erecting of farm buildings, raising, selling and buying of stock, is a judge of blood stock and their management, buying and selling of all farm products, keeping working and farm accounts, the erecting of horticultural buildings, growing and forcing of grapes, peaches, &c., growing and propagating of Orchidea, Stove and Green-house plants, the routine of Flower and Kitchen gardening, laying out of new grounds, the planting of orchards and selecting of sorts to suit soil, growing of hardy grapes in vineyard and making wine. Having had the general management of Gentlemen's estates as manager in the above capacity for a number of years, would like to engage to a Gentleman or Company wishing to make a new place. Address GERALD HOWATT, Newburgh, N. Y.

WANTED FROM THE FIRST OF APRIL next, a good practicable Farmer, one capable of taking charge of a Vegetable Farm. An Englishman, Scotchman or German preferred. Address F. A. STOW, Troy, N. Y.



FORT EDWARD INSTITUTE.

Colossal brick buildings. Best sustained Boarding Seminary in the State. The accumulated fortune of nine years under the same management. A Graduates Course for both ladies and gentlemen. A thorough BUSINESS COLLEGE for young men EQUAL TO THE BEST. Expenses for 14 weeks board, washing, fuel, furnished room and common English branches, \$12. Winter term, Dec. 3d. Good students received at any time. Address for catalogues REV. JOSEPH E. KING, D.D., Fort Edward, N. Y.

TRIPLE FEMALE COLLEGE opens for pupils, February 3d, 1864. Superior facilities for Education; Splendid buildings, elegant furniture, highly ornamental grounds; Preparatory, Academic and Collegiate Departments. An able corps of Teachers and Lecturers; Bathing, Horsemanship, and Gymnastics prominent; numbers limited; charges reasonable; Send for prospectus. Address Rev. JOHN NEWMAN, D.D., Poultney, Vt.

S. B. CONOVER,
Commission Dealer,
260, 261 & 262 West Washington Market,
FOOT OF FULTON-ST.
Particular attention paid to selling all kinds of Fruit and other Farm Produce.
Refers to the Editor of the American Agriculturist.

STAMMERING.
And Stuttering, cured by Bates's Patent Appliances.
For (new edition of) Pamphlets and Drawings describing the same, address H. C. L. MEARS, 217 West 23d Street, N. Y. P. O. Box 5976.

Wanted! Scrap Iron, Old Boilers and Old Iron Machinery.
The subscribers will pay cash for any quantity of wrought or cast scrap iron, old boilers and old iron machinery, delivered at their Warehouse 28, 30 and 32 Terrace-st., Buffalo, or at their Rolling Mill and Nail Factory, Black Rock, N. Y. Buffalo, N. Y., July 1863. PRATT & CO.

RUSSIA OR BASS MATS, SELECTED EXPRESSLY for budding and tying; GUNNY BAGS, TWINES, HAY ROPES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer, 248 Front-st., New-York.

WHITE CAMELIA FLOWERS WANTED during the Winter season, in quantities from 10 to 1000. Also other choice cut flowers will be received at market prices by J. S. BARNES, Florist, 710 Broadway, New-York.

BRINCE & CO., FLUSHING, N. Y.—LINNÆAN NURSERY. Founded 1832. New Priced Catalogues of Trees and Shrubs, of Grapes, of Strawberries, of Bulbs, of Peonies, &c., &c., just issued, sent to applicants.

APPLE SEED OF THE GROWTH of 1833, at \$4 per bushel. JAMES A. ROOT, Skaneateles, N. Y.

OSIERS OR BASKET WILLOWS.—34 KINDS. The largest collection in America. Of all colors and degrees of fineness. Cuttings at low rates. Send for Catalogue. PRINCE & CO., Flushing, N. Y.

**TO FARMERS,
TO DAIRYMEN,
TO COUNTRY MERCHANTS.**

- ALL who have for Sale:**
Sorghum Sugar and Syrup,
Furs and Skins,
Fruits, dry and green,
Flax, Tobacco,
Hops, Tallow,
Cotton, Wool,
Butter, Cheese,
Lard, Beef,
Pork, Hams,
Eggs, Poultry,
Game, Vegetables,
Flour, Grain,
Seeds, Petroleum,
&c., &c.

Can have them *well* sold at the highest prices in New-York, with full cash returns promptly after their reaching the City, by forwarding them to the Commission House for Country Produce, of **JOSIAH CARPENTER,** 32 Jay-street, New-York.

Sheppard, Seward & Co.,
Wholesale Dealers in
AMERICAN & FOREIGN SEEDS.
214 Pearl-Street, New-York.
Catalogues on application.

PURE-BRED AND FANCY STOCK FOR SALE.
Spanish Merino Bucks, from \$25 to \$500 each.
Spanish Merino Ewes, from \$25 to \$200.
Yorkshire Pigs at 6 weeks old, \$14 per pair.
White-Faced Black Spanish \$4 per pair, \$6 per trio. White Dorkins, \$4 per pair, \$6 per trio. White-Legged Earl Derby games, \$4 per pair, \$6 per trio. Champion Clipper Games, \$4 per pair, \$6 per trio. Black-Breasted Red Games, \$4 per pair, \$6 per trio. Malacca Games, \$4 per pair, \$6 per trio. Silver-Laced Sebright Bantams, \$5 per pair, \$7 per trio. Black Poland, \$3 per pair, \$4 per trio. Silver Poland, \$3 per pair, \$4 per trio. Silver Hamburg or Bolton Grays, \$3 per pair, \$4 per trio. Dominiques, \$3 per pair, \$4 per trio. Brahma Foots, \$4 per pair, \$5 per trio. Bronze Turkeys, \$4 to \$6 per pair, (according to size.) African or Hong Kong Geese, \$6 per pair. White Aylesbury Ducks, \$3 per pair. Rouen Ducks, \$3 per pair. White Fan-Tail Shaker Pigeons, \$3 per pair. Jacobine, or Ruff Neck, \$3 per pair. Trumpeters, \$3 per pair. Pouter, \$3 per pair. Stars, \$3 per pair. All orders should be accompanied with the amount in cash or Draft, with full particulars as to what route to send them by. Direct all letters to E. N. BISSELL, Shoreham, Vt.

WHITE AYLESBURY DUCKS, almost as large as geese; also a Cotswold Buck from imported stock, for sale by E. C. ARMSTRONG, Florida, Orange Co., N. Y.

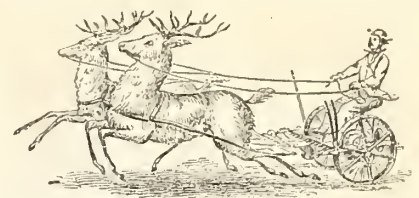
BETT'S SELF-OPENING ROCKSHAFT GATE.

Orders, inquiries, etc., may be addressed to F. B. BETTS, either at Wilmington, Del., or at 151 Nassau-st., New-York City, where a model can be seen, or to R. LODGE, Cleveland, Ohio.

INGERSOLL'S PATENT HAY PRESS.

The best in use. Sold by GRIFFING BROTHER & CO., 60 Courtland-st., New-York.

HORSE POWERS, THRESHERS HAND SEPARATORS, CLOVER HULLERS AND FAN MILLS.—ROOT CUTTERS of several patterns. HAY and STALK CUTTERS, CORN SHELLERS, HAND and POWER HAY and COTTON PRESSES, SAUSAGE CUTTERS and STUFFERS, LAIRD PRESSES. For sale by R. H. ALLEN & CO., 129 and 131 Water-street, New-York.



BUCKEYE MOWER AND REAPER.

For the Season of 1864.

The scarcity and high prices of labor during the past season, caused a demand for Harvesting Machinery, much greater than manufacturers could supply. The fresh calls of the Government for troops will take many thousand more laborers from the country before the next harvest, and the farmer will have to rely almost entirely upon machinery in gathering his hay and grain crop.

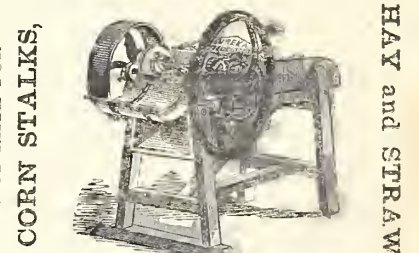
Farmers who were disappointed in procuring BUCKEYES, can avoid a similar disappointment by purchasing Machines this Winter.

We are now prepared to take orders for Machines of the various sizes.

Circulars with terms and prices forwarded by mail.

ADRIANCE, PLATT & CO.,
Manufacturers and Proprietors.
Manufactory, Poughkeepsie,
Warehouse 165 Greenwich-St., New-York.

THE EUREKA FEED CUTTER.
A Cutter adapted to the wants of Farmers.



This machine has important improvements. It **CRUSHES** and **CUTS** the heaviest corn stalks, and hay and straw with great rapidity, by either hand or horse power. It has four cylindrical knives, ground on the inside; they cut with the **SHEAR CUT**, and can be **EASILY** ground and kept in complete cutting order by ordinary farm help. It is well made, easily operated, simple, durable, and effective. Hundreds are in actual operation to the perfect satisfaction of the purchasers. Orders solicited—promptly attended to. Send for a circular, furnished **FREE**. Manufactured only by H. K. PARSONS, Agent, **Novelty Works, HARRISBURG, PA.**

ANTI-FRICTION LEVER HORSE POWERS, AND BURR STONE MILLS,

which may be driven by **HORSE, WATER, or STEAM POWER.**
Send for Circular to E. H. BENNET, 42 and 44 Greene-st., New-York.

HORSE POWERS, CLOVER HULLERS, CORN STALK CUTTERS & GRINDERS, HAY AND STRAW CUTTERS, VEGETABLE CUTTERS, CORN SHELLERS, SAUSAGE CUTTERS, and STUFFERS, LAIRD PRESSES. Sold at lowest wholesale and retail prices, by GRIFFING BROTHER & CO., 60 Courtland-st., New-York.

HIGHEST PREMIUMS, 1863.



WERE AWARDED THE HIGHEST PREMIUMS AT THE LATE STATE FAIRS OF

VERMONT, ILLINOIS, KENTUCKY, IOWA, NEW-YORK, INDIANA, MICHIGAN. OFFICE, 495 BROADWAY, NEW-YORK. "Grover & Baker's are the best."—Am. Agriculturist.

WHEELER & WILSON'S



SEWING-MACHINES

Have won the HIGHEST PREMIUMS at all the important State and Mechanical Fairs where exhibited this season.

FOOTE'S PATENT UMBRELLA STANDS, No. 503 Broadway, New-York.

AGENTS

WANTED EVERYWHERE to SELL WOODRUFF'S PATENT PORTABLE BAROMETERS.

CHARLES WILDER, Peterboro', N. H.

BROWN'S BRONCHIAL TROCHES FOR COUGHS AND COLDS.

A NEGLECTED COUGH, COLD, AN IRRITATED OR SORE THROAT if allowed to progress, result in serious Pulmonary Bronchial and Asthmatic Diseases, often times incurable. BROWN'S BRONCHIAL TROCHES reach directly the affected parts, and give almost immediate relief. FOR BRONCHITIS, ASTHMA, CATARRH, and COUGHS, BROWN'S TROCHES are useful. PUBLIC SPEAKERS and SINGERS should have the Troches to clear and strengthen the voice. MILITARY OFFICERS and SOLDIERS who overtax the voice, and are exposed to sudden changes should use them. OBTAIN only the genuine. "Brown's Bronchial Troches" having proved their efficacy by a test of many years, are highly recommended and prescribed by Physicians and Surgeons in the Army, and have received testimonials from many eminent men.

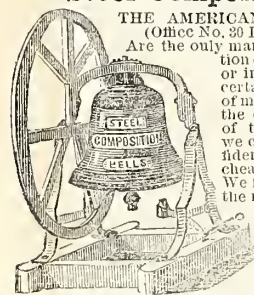
Sold by all Druggists and Dealers in Medicine in the United States and most Foreign countries at 25 cts. per box.

Steel Composition Bells.

THE AMERICAN BELL COMPANY.

(Office No. 39 Liberty-street, New-York.)

Are the only manufacturers of this description of Bell, either in this country or in Europe—the combining of certain metals, and the process of manufacturing the same being the discovery of the President of the Company. These Bells we can guarantee with great confidence to the public, for their cheapness and quality of tone. We furnish a 500 lb. bell with all the necessary appointments—including Harrison's patented Self-acting Rotary, for \$23, and one of 1000 lbs. with like appointments, for \$250. The price for the Bells being 20c. per pound, and that of the hangings of the first, \$25, and those of the latter \$42. Our circulars, containing full details, will be forwarded free of charge to all parties desiring the same.



At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canada for the past six years has proven them to combine most valuable qualities, among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufacture. Sizes from 50 to 5000 lbs., costing two-thirds less than other metal, or 15 cents per pound, at which price, we warrant them twelve months. Old bell metal taken in exchange, or bought for cash. Send for a Circular to the Manufacturer.

JOHN E. ROBINSON, No. 159 William-street, New-York.

Amalgam Bells,

At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canada for the past six years has proven them to combine most valuable qualities, among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufacture. Sizes from 50 to 5000 lbs., costing two-thirds less than other metal, or 15 cents per pound, at which price, we warrant them twelve months. Old bell metal taken in exchange, or bought for cash. Send for a Circular to the Manufacturer.

JOHN E. ROBINSON, No. 159 William-street, New-York.

Life Insurance.

THE MANHATTAN LIFE INS. Co. OF NEW-YORK, No. 31 NASSAU-ST.

Accumulation \$1,500,000.
Gains paid 820,000.
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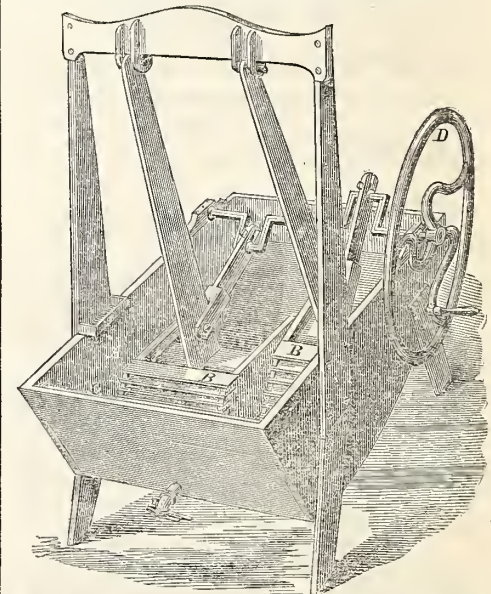
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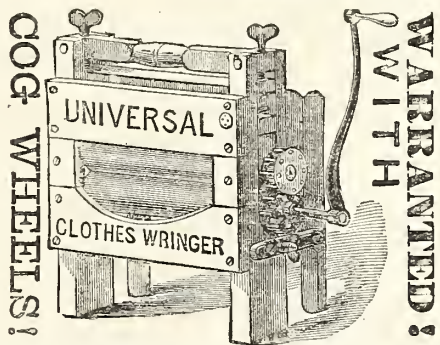
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A Few Special Words to All our Readers, and Particularly to those whose Term of Subscription expires with this Number.

I. The usual Circular Notice of Expiration will not be sent out this year. We are retrenching all outside expenses for circulars, show-bills, etc., in order to be able to increase the intrinsic value of the journal itself, and yet keep to the old terms. Many have renewed already, and those whose time expires at other seasons of the year will doubtless remember the fact.

II. We have confidence that all our present readers will deem it a pleasure to continue to receive the *Agriculturist*. We can well promise that the next volume will be far more valuable than any previous one. Our working force is now larger than ever before. At least five thoroughly competent, earnest, practical men, will devote their whole time and energy to collecting and condensing into these pages the greatest possible amount of really useful, reliable information. Each one of these men is abundantly able to issue a good paper alone, and some of them have done so. But it saves time and expense to the reader, to thus have all the labor and energies of so many men concentrated upon one Journal. The greater subscription list, and the larger working force, give greater facilities for more careful investigation of facts, principles, and modes of practice. Single items of but a few lines often contain the result of several hours of examination, sometimes requiring many miles of travel. (For example, the single article on Willow Feuces, on page 362, required a journey of between 2000 and 3000 miles, involving much time and expense.) The *Agriculturist* must and shall be a constant treasury of knowledge, a reliable source of good information upon all matters pertaining to the FARM and its adjuncts, to the GARDEN, and to the HOUSEHOLD—not omitting the rising generation. Well executed ENGRAVINGS, of a pleasing and instructive character, those which convey more information than words could do, will continue to be a prominent feature. We have the facilities for carrying out these plans, and shall do so. We do not intend to be excelled nor equalled, either in the amount of practical, useful, reliable information given, or in the low price at which it is afforded to the public.

III. We therefore respectfully and cordially invite every one whose time now expires, to renew for another year; and we further solicit the kind words of all our readers in making this journal known to those who are as yet unacquainted with it. A word from a reader is far more effective with strangers, than anything the publisher can say. There are over three million Farmers in our country, not more than one in twenty of whom read any journal devoted to their own important calling. There are at least a million Mechanics, Merchants and Professional men, many of them having garden plots, and all of them households, who would doubtless be benefited by the hints and suggestions given from month to month in the *Agriculturist*. We believe we are not entirely selfish in desiring to place this journal in as many of these families as possible. Will the reader not take pleasure in aiding in this work? Let us reach at least a full hundred thousand of the four million families referred to—about one in forty! The multitude are not aware of the advantage of receiving the hints and suggestions derived from the experience of others, until they have tried it. It is a good work to induce them to take and read a journal devoted to their calling, and designed to promote their interests. On another page we have offered some remuneration to those devoting time to collecting larger clubs. We will earnestly labor to do our part in making the paper worthy of a place in every family in the land. Will the reader aid the enterprise by returning the form below, or a similar one, with his own, and one, two, three, or more other names—or with other names, if his own is already forwarded for 1864? We look for the response with confidence.

IV. Printing paper now costs about double the price of two years ago, and all other expenses are much greater; but thanks to the kind aid of our readers in enlarging the list of subscribers, we have gone through the year without the loss we looked for when, twelve months ago, we decided not to follow the general course of "raising prices." Printing paper has recently gone up at least one third, but having secured a considerable supply ahead, we hope to be able to go through another year with no increase in the price to subscribers. It can be done if our readers continue their liberal efforts to keep up and increase the list. In reality we are furnishing the paper at about half the former price, taking into account the rise in materials and labor, the heavy government tax paid on printing paper, on advertisements, license, etc.

V. We ask, as a SPECIAL FAVOR, to have renewals and new names sent in at once, that our experienced clerks may have all the month to get the names properly entered and arranged upon the mail books—a work of no small magnitude, where, as in this office, every name is recorded, and written on the wrappers. This will save a world of hurry toward the close of the month, and the employment of clerks inexperienced in this department. Please favor us in this respect.

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