Farm--Garden

HOME-MADE BROODER.

Its Designer Claims That It is Practical in Every Respect.

Some time ago I promised a description of my homemade brooder. I wish to say on the start that while not costly it is thoroughly practical for all ordinary purposes, for it has been tested and does its work well.

The size I shall give is large enough to accomodate 95 or 100 chickens, which is as many as ought to be in one flock. To warm the brooder, I use a common tin wash-boiler with cover. In the center of the bottom I insert a 2¼-inch pipe, open at the lower end but closed at the top, and long enough to reach within two inches of

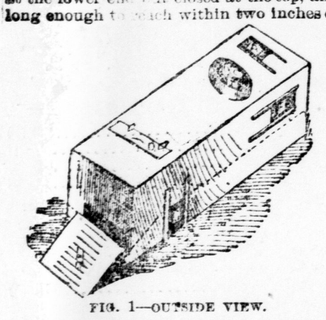


FIG. 1—OUTSIDE VIEW.

A glass slide for ventilation, 9x12 inch. B, top of boiler. T, tube running down through boiler. C, cover over top of tube. D, hinged trap door, to ventilate and clean. F. G, glass silde, 9x12. E, entrance for chicks to brooder chamber. H, inclined platform for chicks to reach brooder chamber. Dotted line shows where floor of brooder is.

top of the boiler. The hot air going into this tube from the lamp underneath heats the water that surrounds it.

The brooder box should be 4½ feet long and 2 feet 8 inches wide, and as deep as the boiler is high, with room under the floor for an ordinary hand lamp with chimney; use lamp with wide wick, and let it come within an inch of the mouth of the tube. The boiler can be placed lengthwise or across the floor as one may wish, yet there must be plenty of room to let the chickens come around the boiler without being crowded.

The floor should be high enough to allow the boiler to come to the top of the brooder, so as not to let the steam into the chamber where the chickens are. Cut a hole in the floor one foot square, over which set the boiler and under it place the lamp with the chimney under the mouth of the tube. Fill the boiler about two-thirds full of hot water, light the lamp, shut up the brooder, and in a few moments it will be warm, ready for the little chicks.

Cut a hole in top, forward of the boiler, cover nicely with a 9x12 glass, also two in the side the same size. These should be so they can slide back and forth. The top one is for light and ventilation; the side holes are for light, and through them the brooder can be easily cleaned. Another hole should be cut in the side below the floor, in order to place the lamp under the boiler and to remove it for filling and trimming. We use glass here also, as we can more readily see how the lamp is burning.

In front is another glass door, so the chicken can come out upon the platform to eat. Never feed in the chamber. Cover the floor with sand or sawdust so that it

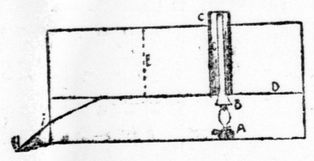


FIG. 2—SECTIONAL SIDE VIEW.

A, lamp. B, tube running up through boiler. C, D, floor of brooder. F, entrance to brooder for chicks. H, inclined platform. E, is a movable partition, to make brooder chamber smaller when desiring to increase the warmth, in cold weather.

can be cleaned easily The platform can be attached to the brooder with hinges so it can be lowered or raised as needed.

When the room is warm enough for the chickens they will keep away from the boiler, but when they want to be brooded they will gather around the boiler. The lamp should not be allowed to go out until warm weather. If the brooder stands outdoor, place something over the top of the box to protect it during a hard rain. Make the brooder of matched lumber. The expense will be nearly as follws:

Lumber	$1 25
Boiler	1 25
Tube and fitting	30
Lamp	50
Labor	2 00
Glass	20
Total	$5 50

If used out of doors, keep thoroughly painted. We raised a larger number of ducks and chickt with one of these brooders last year, and have it in use this year. The room beneath the brooder can be used as a sleeping apartment for chicks after they get old enough not to need a heated room. I use the lower part for ducks. It is a cheap, practical brooder in all respects.

Farm Notes.

Don't trust the hired man or boy to look after the chickens. They will neglect them. Ifyou want the poultry attended to properly do it yourself.

Do not let the chicks roost on small roosts while they are young. If they roost before their breasts become firm and hardened, they will be sure to have crooked breastbones.

Experience is a great school in poultry raising, and the mistakes are guide posts to keep everyone in line. Get all the experience you can and avoid making the same mistakes twice, and then you will be on the road to a profitable success.

At this season of the year, when there is an unlimited range, care will be necessary to observe, by liberal feeders, not to overfeed the fowls. There will be little or no danger of overfeeding the chicks, as it takes all they can get to furnish them bone, muscle, feathers and flesh.

The success of many a man in the poultry business, both commercially and from a fancier's standpoint in show records, is due to women, who get no credit. They have been the power behind the throne many a time when men have received the honors.—Prairie Farmer.

CARE OF HORSES.

How to Feed, Water and Groom Them—Other Interesting Points.

The best feed for horses of whatever class, is oats, corn, bran and hay. When the horse is off his feed, or slightly ailing from any cause not indicative of violent disease, bran mashes with good nursing will bring him out all right in nine cases out of ten. Nothing is better than an occasional feed of roots—carrot, potatoes or turnips. If a half peck of these could be given at a morning or evening meal, the effect would be quicky shown. The foal should be taught to eat roots as soon as possible.

For young colts, oats alone with grass or hay, according to the season, should be allowed. In winter, half oats and corn, ground or whole, may be fed with benefit, unless the young things are intended for racing and are in warm stables, when the corn would be too heating. All fast-working horses should have three meals daily. The hours of feeding are of great importance. These should be, if possible, the same daily.

Watering is of fully as much importance as the feeding. A horse is particular as to the water he drinks, yet he may be accustomed to any water, if fit for human use. Running water is best; that of ponds without outlet or inlet is the worst, and should never be used. Well water may be given without fear. Water should always be given, if the horse will drink, before feeding, and immediately after feeding. In hot weather, water frequently; only a few quarts should be given at a time, for a heated horse will take more than is good for him. Upon stopping, let the horse have two or there light sips, just enough to moisten his throat, and when starting give him six quarts or more as the occasion seems to demand. Under no circumstances, allow a heated horse to drink heartily.

The importance of steadiness and care in the management of a stable, and in the groom of horses, cannot be over-estimated. Always be kind to a horse, and not have him in constant fear, as this has made many ugly horses. Many stablemen imagine that the currycomb is an instrument for cleaning the legs and body of the horse; its only use should be to clean the brush, and to loosen the scurf on the fleshy —not bony parts of the body. Clean when the horse is dirty, always once a day when the horse is kept in the stable. Horses that run in pastures in summer, require no grooming. Always clean the horses legs when brought in from the mud or snow; if this is neglected, it will cause scracthes, stocked legs, etc.

Blanketing is always necessary when the horse is standing in the stable in winter; a light sheet is about as necessary in summer. A horse should always be blanketed when standing in a darft or in rain; use a cloth or a rubber blanket as the case may be. In blanketing a horse, see that the blanket is sufficiently large to cover the animal from the neck to the tail; see also that the breast flaps protect this sensitive part, and that the blanket is large enough to cover sides and flanks fully.

The feet are half the horse; in fact, a horse with bad feet is as nearly a worthless animal as is possible. When the horse is brought in from the road, each foot should be examined with a pick to see that no gravel or hard substance has found lodgment between the frog and shoe. If the hoof is inclined to be hard and brittle, oil it. In all respects, kindness and attention to a horse are both satisfactory and remunerative.

Summer Shelter for Cows.

Governor Hoard in his address before New Jersey farmers claimed that cows need shelter in summer more than is generally supposed; a long rain even in hot weather decreases the butter fat in milk. The Babcock tester showed a marked decresase in fat after a cold storm in summer. He charged his Irishman with leaving his cows out in the rain. Pat was curious to know how he became aware of the fact. The tester was shown him and explained, which simply overawed Pat to think it would tell what a man was doing behind his back.

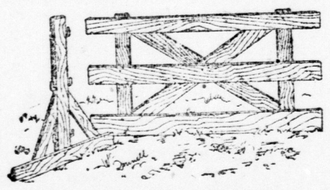
Keeping cows in the stable in summer did not protect them from flies, as the hornfly works as well by night by as day.

The summer silo should be deep and narrow, because it will ferment when opened quicker in the summer than in winter, and for this reason the space should be as limited as can be admitted with economy Summer stabling should be accompanied with methods to neutralize the odors. This was done by sprinkling the floor with land plaster to absorb the ammoniacal gas. Acid phosphate or kainit would do this. Governor Hoard might have remarked that the hot months of the summer are not the most favorable for animal growth or for the products of animals. Evaporation is very heavy from their bodies, which necessitates heavy drinking. This in turn makes a heavy tax on the system It is well known that during hot days in summer cows do not graze as well, seeking some shady spot where they may be protected from the sun's rays. Just what dairymen shall do to overcome the tax of heat on the system in July and August has not been so well determined because not very much thought about and discussed.

The problem of the cold of winter has been met by warm barns. To keep them cold in the summer and protect them well from their foes now demands as much attention as the problem of winter protection Dry basements, stables partly darkened would in part solve the questions of temperature and flies, but whether soiling will meet the full problem on an economic basis one not yet determined. Probably the partial soiling and partial pasture system will be adopted in part.

A Portable Fence.

It is often more economical to pasture off a piece of rich fodder than to cut it and wheel it away to the sheep, or other stock. The lack of a tence often prevents this. A portable fence can be made after the suggestions given in the sketch.



SOMETHING NEW IN FENCING.

A few panels of this will enclose sufficient feed for a day's cropping, and can be shifted to new ground the next day. If sheep are to be thus folded, an extra board will be needed in each panel. These panels may be 12 or 14 feet in length, well braced to keep the fence firm as to lengthwise motion. The crosspiece at the bottom of the upright should be long enough to keep the fence firm the other way. The construction is plainly shown in the illustration.

Horticulture.

MUSHROOMS FOR MARKET.

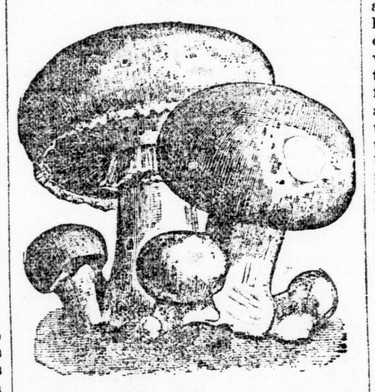
Some Practical Suggestions for Their Cultivation.

It is a mystery why mushrooms are not more widely appreciated in this country as an article of food, for it is a well-known fact that the economic value of mushroom diet is placed second to meat alone. Were the people of Russia and parts of Germany to see our woods and clearings during the autumn rains, they would feast on the rich food which in most places here goes to waste. Indeed, it is the epicures who appreciate this food, and are not slow to pay fancy prices for it in the market.

During the season when mushrooms can be gathered, people neglect the butcher to a considerable extent. Mushrooms, as has been stated by Prof. Palmer in one of his works, make the same use of the air we breathe as is made by animals; when cooked they resemble no other form of vegetable food, and in decay their odor in some cases cannot be distinguished from putrid meat. Certain it is the parasol-like growth used for food, and which springs up in a night, is not a plant in any sense. It more nearly resembles a flower, bearing, as it does, the pores that are analogous to seeds. The true plant which feeds, grows and finally prepares to flower, is the network of whitish threads which form what is commonly known as the "spawn," or, botanically, the mycelium, of the mushroom.

It is to the garden, or indoor culture of the common mushroom, agaricus campestris, that we desire here to call attention.

There is an ease and novelty about this business which should make it attactive, not only to all amateurs for home use, but to commercial gardeners near all large towns. The profits are large in comparison with the outlay of material and labor necessary. Fifty to sixty cents a pound wholesale can be obtained without the least difficulty. It is necessary to success that they be grown in very rich soil, the indispensable ingredient of which is horse manure, and in a steady temperature. Any place, such as a cellar, shed, greenhouse, pit, space under greenhouse benches, etc., where either naturally or by the use of artificial means, a temperature of from 50 degrees to 60 degrees may be had, will answer. Good drainage must be provided; hence a shelf or a series of shelves or benches may



readily be employed to make beds on. The manure should not be allowed to get saturated with rains, but should be kept fairly dry until it is ready to form a bed, and all the long straw or other litter should be shook out of it. Manure can be used to grow them in only by turning it over repeatedly to get rid of its greatest heat. Usually, it is preferable to mix from one-fourth its bulk to equal its bulk with fresh loam or good garden soil. Of course, sufficient material should be ready before commencing to make the beds. The latter may be of almost any size or shape desired, but experience proves that to have them from two to four feet wide and about eighteen to twenty inches deep answers the best. Where there is plenty of room it is a good plan to make the beds more or less sloping at the sides. Beds might also be made in old tubs, or in casks sawed in two. By adopting this latter plan the vessels could, after being filled, be carried into the cellars or other parts of dwelling houses where one would not like to bring in the manure in its rough form. In forming the beds the manure and soil should be packed firmly together, layer by layer, with a mallet, or something similar. A thermometer should then be placed at some central point of the bed, its bulb being kept some three or four inches below the surface. The probability is that the temperature in the bed will rise for a few days and then begin to lower. When it reaches about 80 degrees the bed is ready to spawn. Spawn can be purchased in bricks of all seedsmen to make a start with, but when mushroom culture is once commenced plenty of spawn can be had at all times for planting new beds. The bricks or pieces of spawn should be broken to half the size of the hand lengthwise, or less, before inserting in the bed. These pieces should be placed three to four inches deep and ten to twelve inches apart. About ten days after spawning spread over the surface of the bed some two to three inches of nice, fresh loam, and then wait for your crop This should begin to show a few weeks later, varying somewhat according to the temperature.

Sometimes it is possible to dispense with watering the beds, this being only necessary when the surface gets quite dry. Then water carefully, using water heated to about 10 degrees.

By making up beds at intervals of eight to ten weeks throughout the year, a continuous supply of mushrooms may be secured. As a rule, however, mushrooms grown in greenhouses or other buildings are liable during the hottest part of summer or earl, fall to get spoiled by the maggots of various flies, so that it may be as well to have an "off" season, say the months of July and August. It is to be hoped that the consumption of this valuable food-article will greatly increase in the near future.

Can This be True.

Sister Sando—How do you suppose Brother Pounder gets so many wheel-men in to hear him preach?

Sister Newsy—I hard that he told the deacons to carry tacks in their pockets and sprinkle them as they came along the road.

A woman's wit is sharper than it is sweet.

FRUIT TREES.

Bringing Them Into Bearing—Some Good Suggestions.

Joseph Meehan, of Pennsylvania, discussed the subject of bringing fruit trees into bearing in the following common-sense way:

"It is a provoking thing to have a fruit tree of large size which does not bear fruit. It sometimes happens this way when a tree is growing in exceedingly fertile soil. It rejoices in the enrichment it finds, and makes a prodigious wood growth, but sets no flower buds. There is a time for this growth to stop, and if it does not do so man is justified in interfering and using his kowledge to bring about the desired object. It is not at all uncommon to find persons surprised when told that their fruit trees are growing too freely to fruit well. They cannot understand that a young tree growing freely has not at its command the wherewithal to make both strong growth and bear fruit. Young trees set in rich soil will be longer coming into bearing than similar trees in poor soil.. The general impression is that trees are better conditioned and longer lived when in soil of moderate fertility, and this impression is probably correct. The growth is then moderate and fruit-bearing comes at the proper time, neither too early nor too late.

"When it happens that fruit trees are certainly beyond the age and size at which fruit might reasonably be looked for, and no signs of it are visible, it is as well to take them in hand to bring about fruitfulness. As too rapid a growth is the cause of the trouble, to check this growth must be the object, and this is done by root-pruning. I have seen the Seckel pear, a notoriously slow sort to come into bearing, made to flower profusely. by root-pruning. If we take a Bartlett pear tree as an illustration, a tree growing fairly well should commence to bear in four years. A few pears are generally borne by that time. After this a few more appear every year, until at eight to ten years we get trees bearing perhaps a bushel of pears each. If this kind of tree should grow strongly for eight years with no signs of blossoms, I should be much inclined to give it a hint to commence. This is done in this way: A trench is commenced to be dug around the tree and continued until two or three strong roots are met with. These are cut in two. It would be better to cut one on opposite sides of the tree if pacticable, but it is not important. This cutting of the roots lessens the supply of sap, and following the regular law the checking of the growing force throws the tree into the production of flowers. In my younger days I have seen gardeners recognize the rule and apply it the othr way. My first year in the garden was when a boy of twelve years of age. The gardener was an enthusiastic grower of fuchsias for exhibition. Left to themselves, after a certain amount of growth was made, they would form and expand flower buds. If these buds appeared before the time set for exhibition, they were pinched out as fast as seen. As the plants are thus thwarted in flowering, they set to work to make more growth, to produce more buds. In this way my old preceptor got larger plants than he would have done had he not pinched off the flower buds. When once the principle is understood, it is not impossible to have the flowering and fruiting of plants and trees somewhat under control.

"I do not know that it matters much at which season of the year we cut the roots, spring or fall. I would not do it in the midst of its growth.

"While on the topic of the fruiting of trees, let me add that I have seen many trees ruined by bearing too early. Many a time have I seen apple trees which perhaps were set in poor soil, and which, as a consequence, bore early, killed outright by being permitted to bear large crops of fruit. It it evidence of starvation in some form when a very small tree is loaded down with fruit. Sometimes it is poor soil, sometimes some injury to them by being barked, or it may be infested by borers. Any of these causes checks growth and brings about flowering and fruiting. What should be done in this case is to pick off the fruit, all or nearly all of it, and set to work to remedy the poor growth. If it seems to be the soil which is to blame, enrich it. Heap on manure. Fork it in about the roots and let some lie on top as a mulch. Should the bark have been knocked off, paint the wound that rot of the wood may not set in.

"Borers often cause early fruiting, they so weaken the tree by their work. Hunt for them until they are found and killed, and afterwards, twice a year, in June and September, go over the trees and see that no more have found lodgment.

"What has been said so far in this article must be understood as applying to standard trees. Dwarf trees are, of course dwarfed in order to get fruit earlier, and in this part of the country, at least, the dwarf is planted to give fruit until the standards comes on a little later. Hence the dwarf is generally let bear as soon as it will. Both the dwarf apple and the dwarf pear need great watching. The borer is their great enemy and very soon makes an end of their lives if not closely watched."

Horticultural Notes.

During the month of February 21 steamers arrived at Atlantic ports, containing 378,000 boxes of oranges and lemons.

The remedy for apple failures is to cut down many of the orchards. For the remainder the treatment is cultivation, fertilizing, spraying—the trinity of apple growing.

In Paris the practice of doctoring fruit by coloring is quite common. The latest development of this business is in connection with pears, which are dyed red over a third of their area and blue below, thus representing the national colors when peeled.

The following method of preserving the colors of dried flowers, applicable to even the most delicate poppies, has been discovered by Herr Nienhaus. Ammonia in the air is the main cause of flowers losing their tints; so Herr Nienhaus presses his specimens between paper which has been previously saturated with a solution of one per cent. of oxalic acid in water.

The market gardeners of Maryland have brought the growing of tomatoes to a nearly perfect science, and their methods of planting and fertilizing are, therefore, worthy of attention by tomato growers elsewhere. They recommend applying 400 to 500 pounds of nitrogenous fertilizer broadcast, doing this early in the season so that frequent stirring of the soil will thoroughly mix the fertilizer with it. When the plants are set out they apply a small handful of the fertilizer to each hill.