

Farm-Garden

Inexpensive Brooder.

The value of a brooder for rearing chicks, even when hatched in small numbers, and by hens, is being recognized more and more each year. The brooder illustrated herewith can be made at home with trifling expense. It does not differ from the ordinary brooder in principle, and occupies only one-tenth as much floor space. The materials to be purchased are: A pound each of No. 6 and No. 8 nails, a low glass lamp, a piece of common sheet iron or galvanized iron two feet square, nine feet of tongued and grooved surface pine boards not less than six inches in width. A shoe box or two may be taken to pieces and used. A piece of fine wire screen and a few strips of hay cloth should



FIG. 1. WARM-BOX FIG. 2. BOTTOM OF BOX.

be provided. Make first a square frame, of six-inch boards, the inside measure being a trifle over two feet. Then to the upper edge of the frame nail cleats one inch square inside the box, flush with the top (Fig. 1). These cleats should join at the ends, so as to make a tight rim all round. Now bore two half-inch holes through the cleats and boards six inches from the ends, on two opposite sides of the box. Turn this warm-box over, lay the sheet iron in, and nail into the cleats. The side of the frame which is now up is next to be covered with inch boards (Fig. 2), an opening eight by sixteen inches between the extremities on one side, and a notch out in the side down to the sheet iron. Now make a small box (a, Fig. 3) with a bottom, two sides and one end, use-

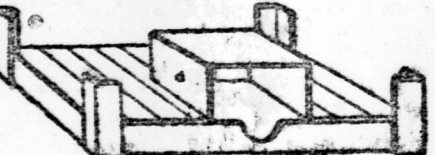


FIG. 3. WARM-BOX AND LAMP BOX UP-SIDE DOWN.

ing the shoe box material except for the bottom. This is eight inches wide and sixteen long. It is to be set in an eight-by-six-opening, just far enough to fasten, forming a lamp box, the chimney passing through the notch, with its top one inch below the sheet iron. Lay more of three to four inch boards, put together at the right angles, are now nailed at each corner. They extend upward about one and one-half inches further than the bottom of the lamp box (Fig. 3). Bore several inch holes in the sides of the lamp box near the bottom. Next make a floor for the brooder three feet square of matched boards (Fig. 4). Find the exact center of this floor and six inches from this in one direction cut a two-inch-square hole, b, and another similarly in the opposite direction. Reverse the floor from the position shown, lay it down and place the lower or warm-box part of the brooder (Fig. 3) upside down upon it, and nail two together in such a manner that the floor will project



FIG. 4. FLOOR OF BROODER WITH REGISTERS.

beyond the brooder warm-box six inches on every side (Fig. 5). Be sure that the cleats which hold the floor boards together do not interfere with pulling out the lamp. Three pieces of sheet iron are placed at the sides and back of the lamp box to protect the wood from the heat.

The lamp board (c, Fig. 5) is made of two boards; placed at right angles and braced. The upright board should be tight enough to close tightly the front of the lamp box, and of sufficient height to cover the notch. Bore two or three finger holes in this board. The bottom board is seven inches wide and fifteen long. The lamp may be held in place near the end of this board by cleats, or be set into a hole cut for this purpose. The two registers, b, which admit hot air under the brooder are two inches square inside measure, and one and one-half inches high. Tack a piece of wire netting over each. Odd pieces may be used in making the sides and the boards for the chicks to run up and down upon (Fig. 6). The latter is eighteen inches in

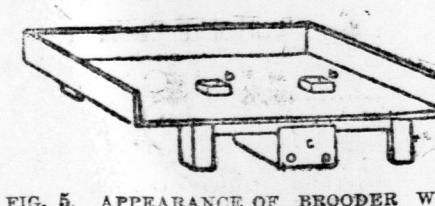


FIG. 5. APPEARANCE OF BROODER WITH-OUT THE COVER.

width, with small cleats nailed cross-wise three inches apart. The cover (Fig. 7) is two feet square. Bore an inch hole in each corner, and insert pieces of broomstick eight inches long for legs. Bore a series of holes one inch apart in each, beginning three inches from the lower end. The cover is held up by means of nails inserted

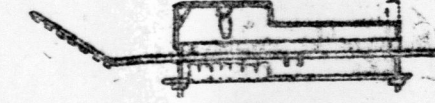


FIG. 6. SECTION OF COMPLETE BROODER.

ed in the holes and may be fastened at any desired height. Strips of cloth four inches wide are tacked on and pushed every one and one-half inches. It will be seen that the sheet iron is an inch below the floor of the brooder. No gas from the lamp enters where the chicks are. A gentle



FIG. 7. BROODER HEATER WITH SOME FLAPS REMOVED.

heat is furnished which induces the young birds to sit down instead of crowding and reaching to get their backs against the heater over them and sufficient heat enters at the register to prevent them from crowding together.

Stick to One Thing.

The American Cultivator says very truthfully that steady farming with a good rotation of crops persistently followed is the surest way to success for farmers. Abrupt changes in order to meet high prices of some farm product are dangerous practices. It is within the remembrance of every farmer when hay was so low that it

since then farmers have been making more profit off hay than almost any other crop. To suit the change, a great many dropped hay from their list of farm crops and tried to get along without it. The steady farmers continued to give grass a place in their crop rotation, turning it under when it would not pay to cut and sell it as hay, and when prices went up again for hay they were the only ones who had good crops to sell. Besides enriching their soil with the grass they found themselves prepared to reap a good harvest when prices came around again to their normal condition.

Just now sheep are at a discount, and thousands have been selling them off to raise something else more profitable. But sheep, both for wool and mutton will be profitable in the future. Several times in the past the sheep industry has been at its lowest ebb, but it revived in time. Steam and electricity are said to be driving horses out of the market, and it will no longer pay to raise fine colts. There never was a time and probably never will be, when it did not pay to raise good horses. Under-bred stock is too plentiful, and will be at a greater discount in the future than now; but fine driving road horses or heavy draught horses will never lose their value permanently. It is within the remembrance of the writer when many farmers paid \$5 and \$6 per head for ordinary sheep, because a boom in that line was sending everything upward. There are too many farmers engaged in this industry who wait for high prices, and then they rush into that particular line of work. If sheep are high priced they pay exorbitant prices for stock in order to raise others to sell. If corn is the leading farm product that pays well, they turn their farms into enormous corn fields, unmindful of the fact that they do not understand its culture, nor the expenses attached to it. Frequently they have to make an initial outlay to adapt themselves to the abrupt change, which alone will take away all the profits.

Just now more farmers are preparing for abrupt changes than ever before. It has been a disastrous year with most of us. Many have lost money, and are generally dissatisfied with their conditions. Each one is looking around at those who seem to be raising something more profitable. And it often happens that these profitable products are only temporarily so, and by the time the change is made they will no longer pay good prices. Good, steady farming, with a fair rotation of crops, is the only sure way for any farmer to make farming a sure thing. Grass, hay, oats, wheat, potatoes, corn, sheep, cows, and horses can always be unprofitable. A proper system of diversified farming will make profits a certainty on some of the crops. It is at any rate good farming. The land is kept up, not run down. Expenses are normal and outlays not increased by such violent changes. The pigs, chickens, cows and sheep will all yield some incidental profit, while the main farm crops may fluctuate from year to year, but not more so than manufactured articles. Fluctuation is characteristic of every business, and the farmers have no more than their share. The shoe manufacturer does not take up pin making because shoes happen to be unprofitable for a season or two.

Farm Notes.

If a man respects other people's rights and property, his dog will do the same.

The present year is likely to see a light hay crop, and for this reason many farmers will put in at once a few acres of ensilage corn. Hungarian rye makes a very easily grown crop on any fair quality soil, and furnish an abundance of feed that will help out the shortage of hay, and give cattle an agreeable change from steady hay diet.

All kinds of Indian corn stalks, at the time of the formation of the grain, especially when the starch is still in a milky state, contain large quantities of sugar, both sucrose and the reducing sugar known as glucose. The expressed juice of the stalks, taken at the time mentioned, is well suited to the manufacture of molasses, although it is somewhat difficult to obtain crystallized sugar therefrom. The process of manufacture is the same as that used for sorghum molasses. The possibility of making molasses in a small way from the stalks of sweet corn cannot be denied, but whether it would prove commercially profitable or not could only be determined by a practical trial.

Undoubtedly weeds once had their use to stimulate farmers to work the soil so as to destroy them. But nowadays the best farmers do not wait for weeds to appear before they set the cultivator going, and the time to kill a weed and have it do the greatest good to the soil is just after its seed has germinated. But cultivation does much more than destroy weeds. It mixes the soil, pulverizes the hard lumps, and enables the soil to hold a great amount of air in contact with its moist surfaces. This causes fermentation in the soil and develops carbonic acid gas which makes mineral fertilizers soluble.

Prof. E. S. Goff some years ago demonstrated that potatoes can be improved in productivity by the repeated or continued selection of the most productive hills for seed. There can be no doubt of it that this is the right way of maintaining the high standard of a good variety. We must select the plants and propagate them, rather than individual tubers. The hill that gives a larger yield, under the same conditions, than the rest of the field, and potatoes of generally better form and color, is the seed that I would wish to plant. The greater productivity or better shape etc., are characteristics of the strain or sport when this plant is propagated, while the good quality or fine shape of a single selected tuber may be simply accidental, and therefore not be transmitted to the progeny.

Miss Blanche Wilson, in an address at a Pennsylvania institute, after alluding to the opinion common to all young folks, but more common to girls, that the advantages of city life are greater than country life, says that this is a mistake. The farmer's daughter who imagines her city cousin avails herself of superior opportunities of self-improvement is laboring under a great delusion. The girl on the farm may study the same books, read the same papers, and usually has a chance to cultivate any usual accomplishment, and looking toward her refinement that the girl in the city has, in the same financial circumstances. Besides this, she is very much more likely to study well in school, and especially to excel in that most important branch of industry, housekeeping. She usually enjoys better health than the other girl, and a healthy body means a healthy mind. The girl on the farm is not apt to fall in any undertaking. Her thinking hours are longer and she very often enjoys more of real, sweet home life; or she can have so many hours for work, and the books and papers are never forgotten, and "tired nature's sweet restorer, balmy sleep," is never abused, and is imparted to her in sweetness and fragrance.

Ask for Minard's and take no other.

THE DAIRY

WINTER CARE OF DAIRY COWS.

Kindness is worth dollars in the dairy. The man who shows kindness to his stock will be a great many dollars better off than one who is harsh and rough with the cows, or even indifferent. This is not sentiment, but a practical fact, and the writer has seen it exemplified in dairy work many times over. Dairymen who conduct their business on a broad and thorough basis, raise their own heifers, from calves bred on their own farms. During the winter season, many of these heifers are approaching maturity for the first time. They will soon become milk cows, and it means a great deal to milk cows, whether they will become profitable property to him or not. Now kindness exercised toward these gentle dumb brutes will have a great influence in making them profitable the following summer, and for succeeding summers. This is written from the standpoint of experience in this matter, not theory. It is one thing to give a cow only a warm stable and plenty to eat and another to have her milk matter to cultivate her milk will be kind attention. Cows like to be curried, and will stop feeding any time to enjoy the agreeable sensation of a currycomb or card on their backs. An ordinary ox card is excellent to use for this purpose, and any one can soon make friends with a shy cow by using it gently on her back and flanks. A daily curry is a means, also, of keeping the cows in good health, besides adding to their sleek appearance.



A truly profitable cow must be a gentle cow, and the time to keep her so is when she is a calf or heifer. A cow will soon put confidence in a man who speaks to her gently, and puts her side of head in passing. Some dairymen tell a great deal about "breaking in" a heifer to milk, but the man who is already on good terms with his heifer knows no such ordeal. He has petted and caressed the creature daily in the stable, when feeding and caring for her, and when she sits down to milk her for the first time, she looks meekly around and submits to it as a matter of course. The winter time offers an opportunity for the dairyman to get thoroughly acquainted with his cows, study their characteristics, and bring out their good points. It really costs less labor, money and time to keep a cow stable in good condition from December to May than to let it go as a mere dirty cattle shed. By the latter is meant the long basement found under many a hay barn, with dilapidated wooden doors at either end, the cows standing or partly lying in the frozen litter of a day's accumulation. It is of no avail to pet a cow in such a place. The kindness would consist in first making the apartment tight and warm, cleaning out the stable daily, and bedding down the animals. This is not expensive treatment. In the matter of food, labor and money. Care and kindness are the two great things that go to make up the successful treatment of dairy stock at any time of the year, and in northern latitudes, especially in winter. Besides having pleasant relations established between these young animals and those who care for them, they should undergo training preparatory to their future milk giving. The time when for them should handle their teats in imitation of the real milking that they will soon learn to submit to. This will do away with that so-called "breaking-in-to-milk" period, which is such a trying ordeal to those dairymen with shy, wild heifers. Not only is it a matter of convenience at the stable, but a quiet beginning in milking a heifer, followed by continued mild treatment, means absence of trouble through future milkings. Animals cannot reason, but they are all amenable to kindness, and those dairymen who display this trait in the handling of their cows will receive the greatest pecuniary reward with the profitable milk and butter.

How Long to Milk Cows. One of the greatest mistakes which was ever made in the management of milk cows, was to milk them a little over half the year, and allow them to rug dry the other half. There is little profit in this. A good animal should be fed well and kept producing all, or nearly all, the time. It is probable that, in a state of nature, the cow would cease to give milk when the time came for the calf to cease to suck. But our domestic animals are not in a state of nature, and they are influenced by surroundings. The object in view would have something to do in this matter of protracted milking. If the aim is to raise the greatest amount of butter and cheese, then keep the cow milking nearly all the time. If the aim is to raise an extra calf, it would, of course, be well to free the cow from the milk-pail sooner. The farmer's common sense and observation and the stockman's sagacity must be used here, as everywhere else. Many farmers make a great mistake, not only in trying to milk cows too soon, but in the time of calving. The cows are usually timed to calve about the time the cheese factories open. The cows are allowed to dry up soon after the cheese factories close in the fall, except, perhaps, one or two of the best, which are milked once a day. This certainly is not the way to make much profit out of the cows.

The vitality of the cow will certainly afford greater results expended in lactation than when divided and distributed in both gestation and lactation. Dairymen will scarcely have failed to notice that even the new milk cow begins to fail in her milk soon after service. Of course one invariable rule will not do for all cows and all breeds. Some may not be milked to advantage more than six months after coming in before service. Others may be milked with advantage for a year, others longer. I knew a cow to be milked for six consecutive years, continuously, with profit.

Instead of having all the cows calve in the spring, they might be timed to come in at different seasons of the year, so that there may be a continuous supply of milk. The cheese factories will take the milk six months, and the creameries the other six. Get the right kind of cows and feed them well, and they will milk eleven months in the year, and sometimes longer, if the cow is well bred. The pearl tuberoses besides being a dwarf grower is earlier by a week or more than the old sort. It is a very desirable sort to grow on this account. The hardy hydrangea shows its flowers in partly good advantage when it is grown in partly tree form. A full view is had of the heads of flowers then, when they bend over by their own weight.

Nerves on Edge. I was nervous, irritable and cross. Karl's Clover Root Tea has made me well and happy. Mrs. E. B. Womack.

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A London, England, correspondent says: Being an Oddfellow myself, I naturally feel interested in the noble work our great order is doing all the world over, and I presume the Oddfellows of America will be delighted to learn something that is to the credit of the order and to the two great men whose names appear below. Sir Robert Peel, son of that illustrious man, who, after years of patient and persistent labor in behalf of the masses of England, carried the famous bill for the repeal of the corn laws through Parliament, is a worthy follower in the footsteps of his famous sire, and is a member of the Manchester Unity of Oddfellows. Speaking at a large and enthusiastic meeting of members recently at Frazzley, near Tamworth, he read a letter from Mr. Gladstone which elicited loud applause. It was as follows:

"My Dear Sir Robert Peel: I am very glad that you are in friendly relations with the Manchester Unity of Oddfellows. In our small community we have four separate lodges, and I have associated myself with all of them. Without looking into minute particulars, I regard these institutions, founded often in worse times, as signifying the brave determination of our worthy men to cultivate self-help as a sure and legitimate basis of independence. I warmly wish them all success. I therefore very cheerfully comply with your request and add to my few words the expression of my heartiest good wishes that you may long and honorably represent the great name you bear, a name associated with my own early and grateful recollections. Believe me, sincerely yours,

W. E. GLADSTONE.

Mr. Gladstone has always been a typical working man, and as such his name will go down to posterity, for he has always shrunk from titles, honors, or distinctions that might have been his in piles, had he willed, and he glories now, as ever, in being known by that noblest of all English titles, "Mr." Gladstone.

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