

UNIVERSITY OF MISSOURI

COLLEGE OF AGRICULTURE

Agricultural Experiment Station

COLUMBIA, MISSOURI, JULY, 1915

CIRCULAR NO. 75

THE FARMER'S POULTRY HOUSE

H. L. KEMPSTER

The object of this circular is to show the types of poultry houses used by the department of poultry husbandry of the University of Missouri. These buildings have been in use for several years and are satisfactory. It is to be hoped that from the different types of construction represented any Missouri farmer will be able to find one suitable for his conditions.

LOCATION OF THE HOUSE

In selecting a location for a poultry house the farmer usually chooses the one which is nearest to his home in order that the housewife may conveniently care for the poultry flock. This accounts for the usual location of the poultry house half way between the house and the barn where it is convenient for the hens to overrun not only the farm buildings, but also the kitchen porch. This habit is also encouraged by the indiscriminate scattering of feed, often closer to the farm buildings than to the poultry house. If the farm poultry house is located so as to make it natural for the hens not to run in the yards, there will be very little trouble with them overrunning the farm buildings.

In the care of poultry one should aim as far as possible to feed all the feed in and around the poultry house. Frequently poultry can be encouraged to run into the orchard by a simple arrangement of the fences. Grain crops can often be grown upon the same ground upon which the poultry flock is running with very little

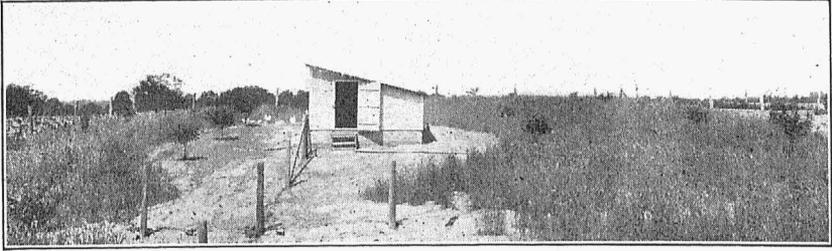


Fig. 1. Grain crops on same ground with poultry house

injury to the crop. Corn is especially adapted to such a practice. This practice furnishes an abundance of shade during the summer when it is most needed. The yards are plowed occasionally, exposing the soil to the sun, destroying many disease germs and intestinal parasites, and the droppings which are generally wasted are utilized. In addition to making conditions more healthful, this growing of crops on the poultry runs also reduces the feed cost. Under Missouri conditions it is more desirable for chickens to be kept upon cultivated soil than it is to attempt to have a permanent sod run. Often the garden can be alternated with the poultry pasture. Under farm conditions this kind of yarding can be easily arranged with practically no fencing. While the location of the farm poultry house is generally determined by the convenience with which it can be reached from the house, a little forethought will enable the poultry keeper to make the above arrangements without sacrificing convenience.

TYPES OF HOUSES

The Open Front Poultry House. The open front or fresh air house is exceedingly popular. This house is generally 14 feet to 24 feet square. The open front type is best adapted where the house is to be nearly square and should in no case be used on a house less than 14 feet deep. Houses 18 to 20 feet deep are better.

This house is $3\frac{1}{2}$ feet high in front and 5 feet high in the rear. The roof is of unequal spans, the longer being twice the length of the shorter. Such a type is known as the combination roof. In open front houses the long span is on the south side. The pitch of the roof is one-sixth, i. e. having a one foot rise to every three feet horizontal run. The south side is covered with wire screen. Two 12-light, 9 by 12-inch pane windows are placed in the west end.

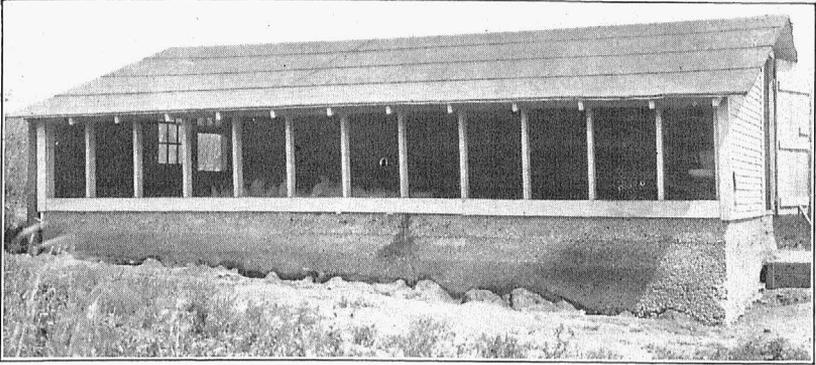


Fig. 2. *The open-front type of poultry house*

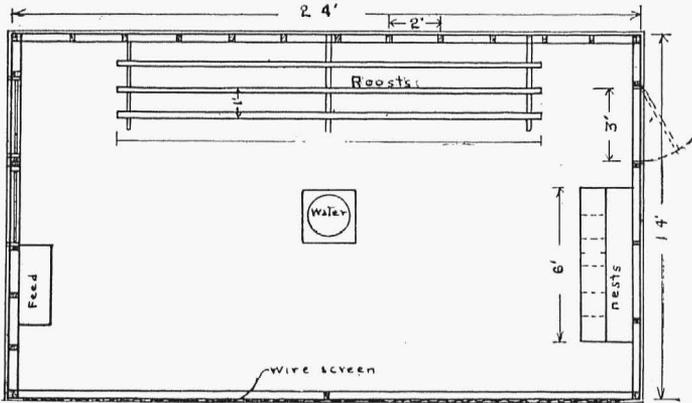


Fig. 3. *Floor plan of open-front poultry house*

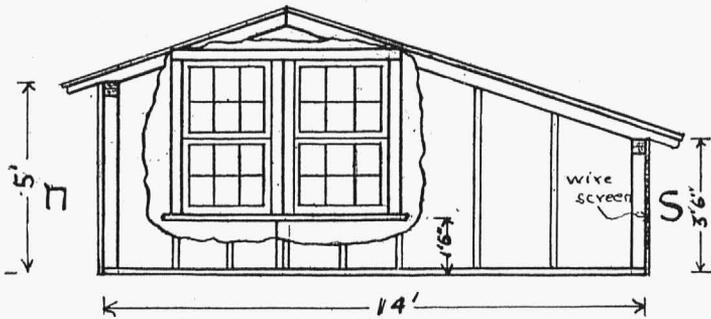


Fig. 4. *End view of house shown above.*

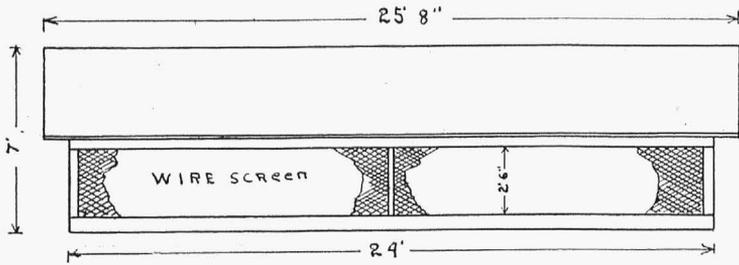


Fig. 5. Shows screen covering for front of poultry house

There is a door in the east end. The north side, the ends, and roof are absolutely tight. This is essential for the success of the open front house. The roosts are placed at the back of the house where they are away from draughts, as air currents will extend in only about half of the width of the house. Snows or rains will drive in but a short distance.

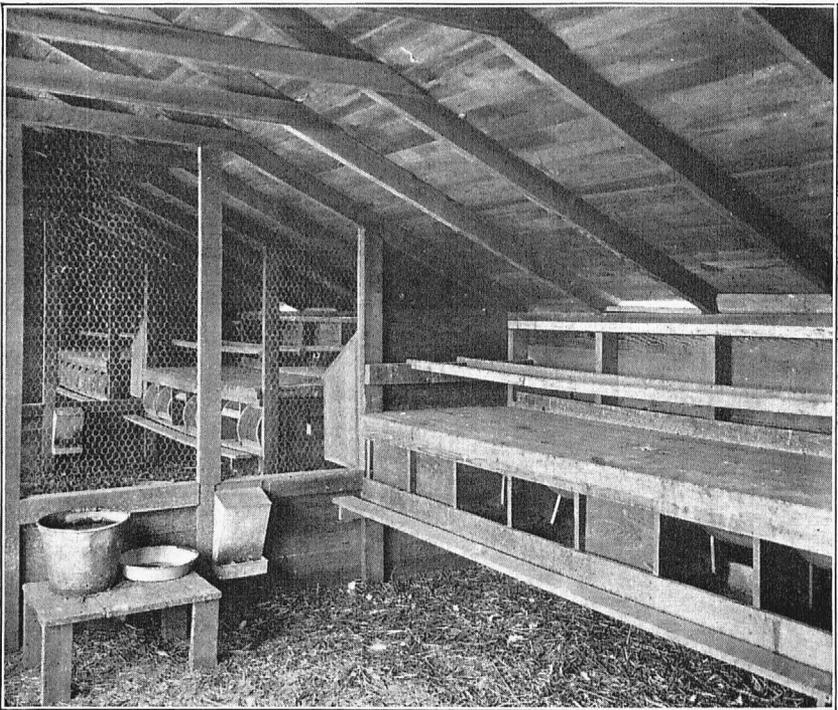


Fig. 6. This arrangement of interior is convenient and sanitary

This house is very satisfactory for farm use. It requires practically no labor to care for the ventilation. It adjusts itself to temperature changes without constant attention. The low front necessitates windows in the west end. These windows make the house very light, and enable the sun to touch practically all portions. In summer the windows may be removed, and by opening the door at the east end there is a perfect circulation of air. This feature makes the house equally good for summer use. For farm use a house 20 feet square with the same measurement for front and back as given above, is very satisfactory. A house of this size will accommodate about one hundred laying hens.

Figure 6 shows the arrangement of the interior. The nests are one foot square and are placed underneath the droppings plat-

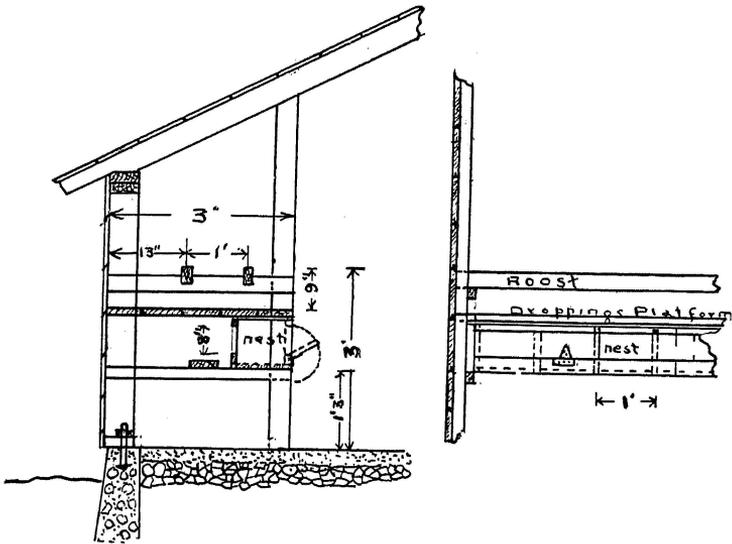


Fig. 7. This illustration shows construction of nests, etc.

form. They are comparatively easy to construct: 12-inch boards are cut into 14-inch lengths; these are set on end every 13 inches, and 1 by 4-inch strips are nailed along the lower edges. 1 by 2-inch strips are nailed along the upper edges. Between these strips on the outside an eight inch door is placed. The bottom is covered with wire screening which causes all the dirt and dust to drop to the floor. A board is placed along the back for the hen to run along to find her nest. As many nests as desired can be built to a section. They are easy to clean and furnish seclusion, which lessens the amount of egg eating.

The roosts should be at least 2 inches in diameter, and should be placed level and firm. Their height from the floor can vary all the way from 3 to 5 feet. They should be placed at least 14 inches from the wall, 12 inches apart, and low enough that the heads of the birds are 14 inches from the roof. From 8 inches to 14 inches of roosting space should be allowed for each bird.

The house is placed upon a concrete foundation. The manner in which the sill is bolted to the foundation is illustrated in Figure 7. In this house a dirt floor is used. It is dry at all times, the

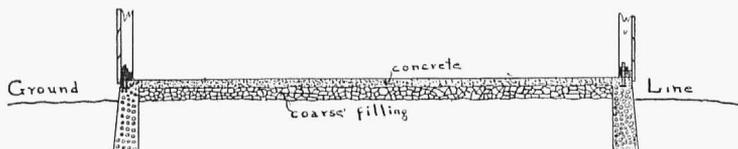


Fig. 8. *Concrete in best floor for a poultry house*

dryness being afforded by having the floor higher than the ground level, and by making a 3-inch fill of cinders or gravel which is covered with clay so that the loose soil will not work down between the coarse material. The clay is covered with 2 or 3 inches of soil. The chief disadvantage of a dirt floor comes from the possibility of rat invasions, and from the necessity once a year to remove the foul dirt and replace with fresh. On a dirt floor the straw which is used on the floor for scratching litter becomes dirty much quicker than when a concrete floor is used.



Fig. 9. *Shutters—a new type of ventilation—is proving successful*

Farmers' Shutter Front Poultry House. This house is 14 by 24 feet; it is $4\frac{1}{2}$ feet high in the back and 8 feet high in front. The greater height in front is required by the shed type of roof which is used. This type of roof is most economical when the house is not more than 14 feet deep. Other types of roof construction would be more satisfactory on deeper houses.

Four 12-light windows with 8 by 10-inch panes are placed in the front of the house which is supposed to face south. Two shutters similar to those used in the cupolas of barns, each $2\frac{1}{2}$ feet wide and 3 feet high, are placed on the south side to afford ventilation. The shutter front type of ventilation has an advantage over the open front in that it can be used on houses with their high side to the south and no rain can beat into the house. (A rule for the introduction of the shutter front type of ventilation will be given at the conclusion of this circular). This house has a partition so that two flocks can be separated, an excellent convenience during the breeding season when one wishes to select the best birds to use as breeders. The remainder of the equipment is the same as that described for the open front house.



Fig 10. *Top half of windows shows muslin removed in summer*

The Muslin Front Poultry House. Figures 11, 12, and 13 show another type of house adapted to farm conditions. This is known as the muslin front house. It is 14 feet deep, 24 feet long, $4\frac{1}{2}$ feet high at the back and $6\frac{1}{2}$ feet high in front. It has a combination type roof which is adapted to the construction of wide houses.

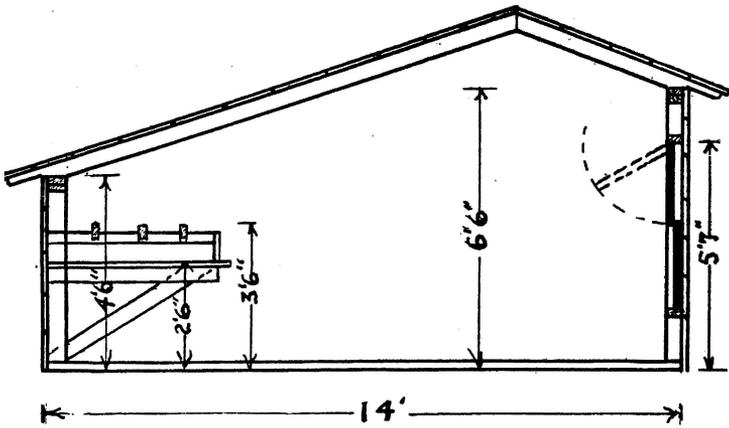


Fig. 11. Outline plan of house shown on preceding page.

Ventilation is secured by the use of muslin frames. The muslin front house permits the air to work thru the cloth and yet keep the chickens out of the draft. Muslin for ventilation is efficient as long as it remains dry. If it becomes wet it retards the movement of the air. Even when muslin frames are used they should be opened daily so as to air out the house. Four 6-light windows with 8 by 10-inch panes are also used on the south side, the glass forming the lower half of the window and the muslin frames the upper.

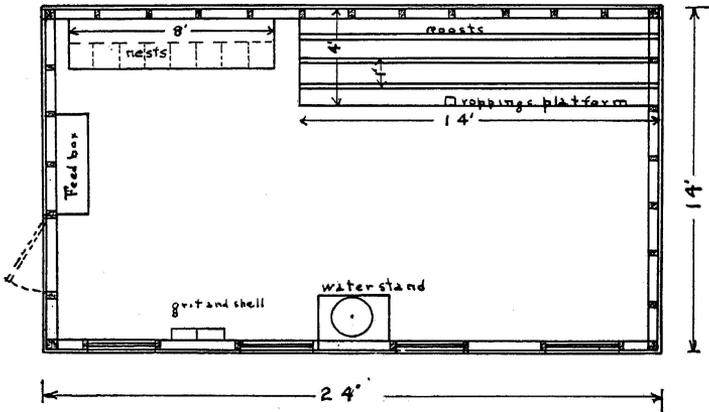


Fig. 12. Floor plan of muslin front house.

Poor ventilation is indicated by damp floor, tough litter, moisture on the windows and walls and a characteristic close odor. Where these conditions exist not enough ventilation is provided.

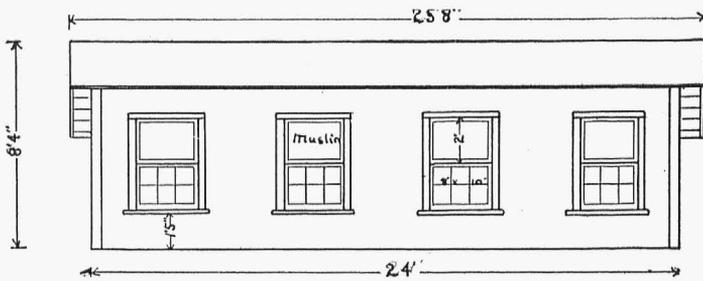


Fig. 13. Front view of "muslin front" poultry house

Either the house must be kept open more, or more muslin must be used. Dampness must be avoided. Frozen combs are usually caused by a damp poultry house or a quick change in temperature. A low temperature with dry air is not so disastrous as a higher temperature with the air moist. A large portion of the liquid excreta of fowls is given off thru the lungs. This emphasizes the importance of ventilation.

Portable Colony House. Figures 14 and 15 show a portable colony house which can be used for brooding little chicks in the

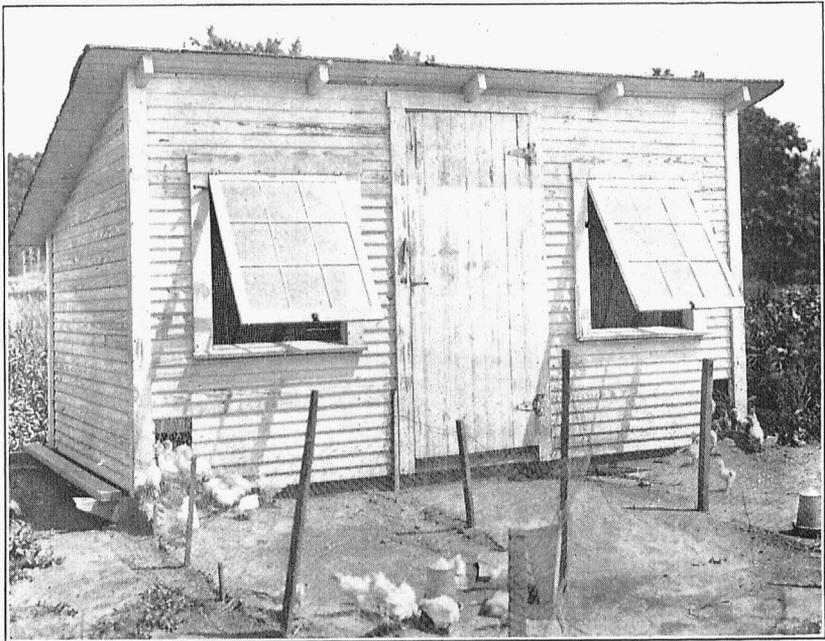


Fig. 14. Every farm should have a portable poultry house

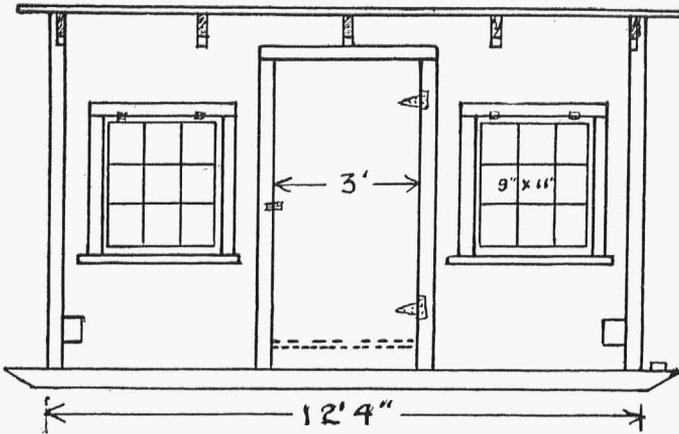


Fig. 15. Front plan of portable house shown on preceding page.

spring, for housing growing stock in the summer, and for mature stock during the winter. This house is 8 feet deep by 12 feet long. By placing it on runners it can be moved. Every farmer ought to raise his chickens by means of portable houses. This enables him to change his brooding yard from season to season and also permits him to move his chickens to the edge of a corn field as soon as they are large enough to roost. Where chickens are range-raised in this way the farm lanes, corn fields, wheat fields after the grain has been



Fig. 16. The portable house may be placed anywhere

removed, etc., can be utilized. Here the shade, green food, bugs, worms, grasshoppers, etc., furnish conditions conducive to a rapid healthful growth. A house of this kind enables the farmer to separate his young stock from the old, for, when the two are raised in the same yard, conditions are unsanitary and the young stock suffers because of being overrun.

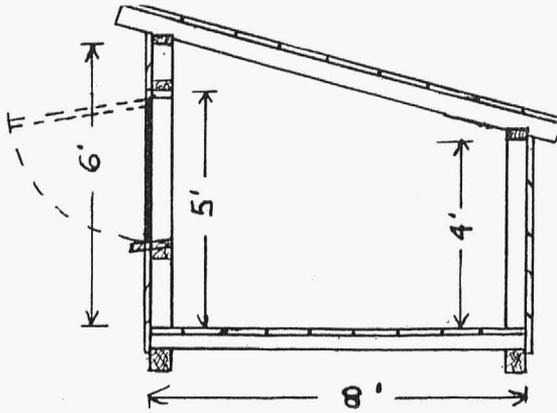


Fig. 17. *End plan of portable poultry house*

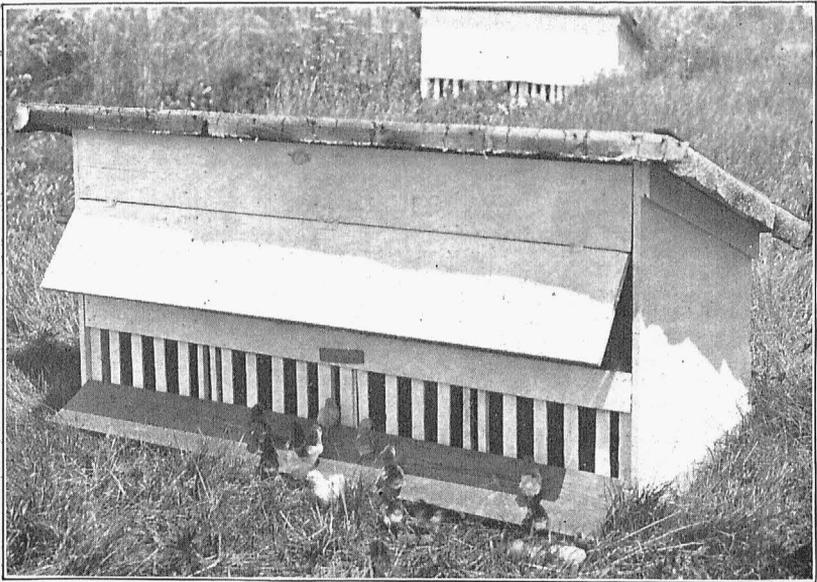


Fig. 18. *This is the famous combination hatching and brooding house*

At the University of Missouri chicks are brooded in these houses by means of portable hovers. Heat is removed as soon as possible and the chicks are kept in the same house until they are put into winter quarters.

Combination Hatching and Brooding House. The combined hatching, brooding, and housing coop shown below is large enough to accommodate four hens and is as good as a 60-egg incubator. Farmers who have used this coop have pronounced it a success. This coop does away with the little "A" shaped coops which are commonly given to hens after they have hatched their broods and which are soon outgrown by what chicks remain after the spring rains and rats have taken their toll.

This coop is 3 feet wide, 6 feet long, 2 feet high in the rear and 3 feet high in front. A door 8 inches wide runs the entire length of the back so as to permit easy access to the hen. In the front are four openings which are covered with slats. It is possible to close the openings by placing an 8-inch door along the entire front. This makes the coop rat-proof at night and by hinging it at the bottom the door provides a runway for the chicks to enter. Just beneath the eaves along the front is a door a foot wide. The opening made by this door is covered with wire screen. When open this door lights the coop and protects it from rains.

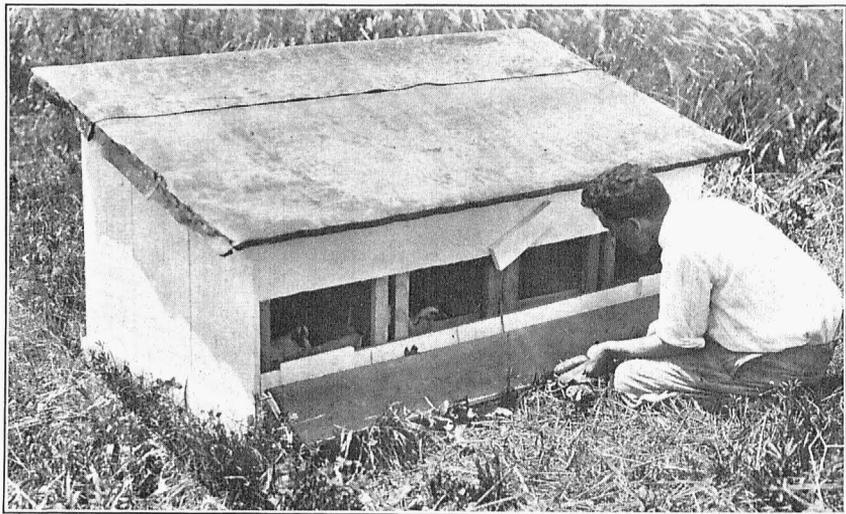


Fig. 19. *Rear view of combination hatching and brooding house*

The coop can be used for hatching and brooding. It is divided by burlap frames into four compartments. The aim is to set four hens in the back part of the coop and keep food and water in the runways in front. After hatching, the chicks from two hens are given to one for brooding. Later when the hen weans her chicks the remaining partition can be removed and the coop can be used to house the young stock for the remainder of the season. It makes hen hatching easier, and more efficient brooding possible. It can be made rat-proof very easily and can be moved from place to place with little trouble.

HINTS ON HOUSE CONSTRUCTION

Four square feet of floor space should be allowed for each hen.

Have from eight to fifteen inches of roosting space to each hen.

Allow one nest to every four or five hens.

Where muslin is used for ventilation purposes, one square foot of muslin should be placed on the south side for every fifteen square feet of floor space, if the house is 15 feet wide. If the house is 10 feet wide, on the south side use one square foot of muslin to every 20 square feet of floor space and if the house is 20 feet wide, on the south side use one square foot of muslin to every 10 square feet of floor space.

The foregoing rules will also apply in the use of the shutter front method of ventilation.

The height of the tops of the windows if placed on the south side, should be a little less than one-half as high as the house is wide.

Glass should be placed in the house at the rate of one square foot to every 15 square feet of floor space.

If the chickens are yarded, 150 square feet of yard space should be allowed for each bird.

The square house is the most economical to construct.