TEXAS AGRICULTURAL EXPERIMENT STATION

BULLETIN NO. 207 JANUARY, 1917

DIVISION OF POULTRY HUSBANDRY

Poultry Houses and Poultry Equipment for Texas

B. YOUNGBLOOD, DIRECTOR,
COLLEGE STATION, BRAZOS COUNTY, TEXAS.

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BY

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COLLEGE STATION, BRAZOS COUNTY, TEXAS.

AUSTIN, TEXAS:
VON BOECKMANN-JONES CO., PRINTERS,
1917

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*As of February 1, 1917.
**In cooperation with United States Department of Agriculture.

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POULTRY HOUSES AND POULTRY EQUIPMENT FOR TEXAS.

FOREWORD.

Due to the fact that many demands for poultry house plans have been received, the following suggestions have been made. It is to be distinctly understood that the plans as shown are not considered suitable for all parts of Texas. But this type of house, with modifications of structure to fulfill needs imposed by climatic conditions, may be used satisfactorily in almost any locality.

THE FARM POULTRY HOUSE.

OLD OR UNUSED BUILDINGS.

Many times it is possible to convert another building, which is no longer needed, into a poultry house. If such is the case, it is usually cheaper to alter the building and make it into a good poultry house. Frequently it is possible to secure a satisfactory house in this manner.

THE SHED ROOF TYPE.

The house, as shown by the accompanying drawings (Figures 1 to 8, inclusive), is designed to meet the needs of the general farm which keeps a flock of about 100 hens. It is a permanent structure sixteen feet wide and twenty long, with front and rear walls of seven and a half and four and a half feet, respectively. The front faces the south or southeast. The roof is covered with a good grade of roof paper. The whole structure is anchored to the concrete walls by bolts (Figure 1) embedded in the concrete and passing through the sills of the floor.

THE FLOOR.

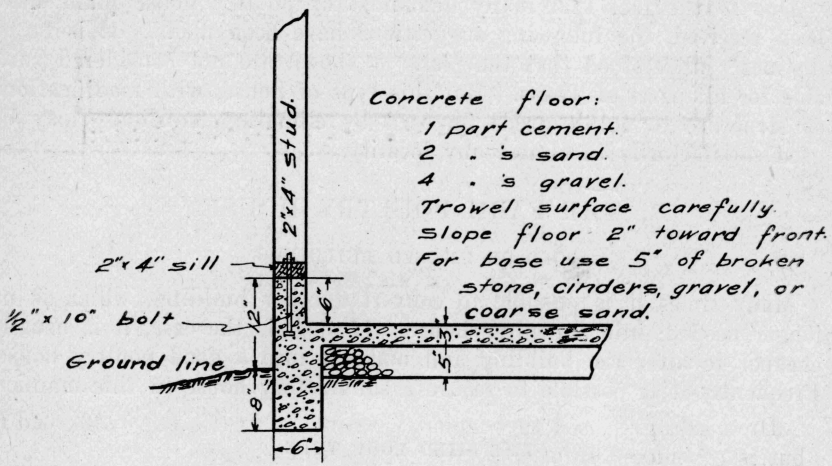
The floor may be made of sand, hard clay, wood, or concrete. Concrete is, of course, the most durable, easiest to clean and the most sanitary. In order to prevent moisture from coming up through the floor, it is raised a few inches above the ground line (Figure 1). This construction should be used for the floors of clay sand with a layer of old boards between the top of the fill and the bottom of the floor. In addition, the clay floor should be wetted and tamped, forming a hard surface.

The board floor should be raised a few inches above the ground by joists. It should be made without cracks if possible. Tongue and groove flooring is preferred. Shiplap, however, makes a satisfactory floor. It is recommended that the upper side of the flooring be dressed. It is easier to clean.

THE FOUNDATION WALLS.

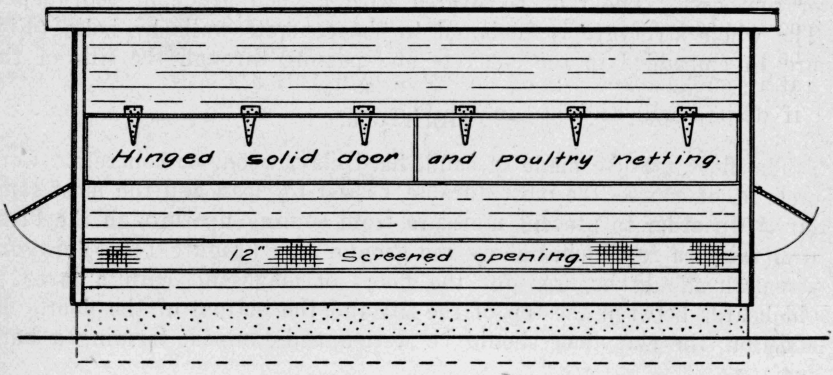
The foundation should be of concrete (Figure 1), as its use lends stability and permanence. Moreover, it prevents rats and other animals from getting under board, sand, and clay floors.

Concrete makes the best walls. The sills can then be firmly anchored by ½x10-inch bolts (Figure 1). These bolts coming below the floor serve not only as anchors, but as reinforcement.



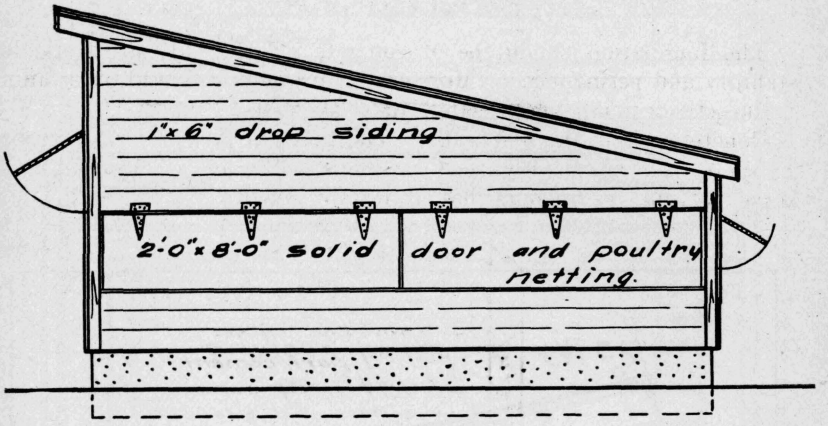
FOUNDATION WHERE CONCRETE FLOOR IS USED.

Figure 1.—Laying house, showing construction of footing and walls.



FRONT ELEVATION

Figure 2.—Laying house, showing finished front.



END ELEVATION

Figure 3.—Laying house, showing finished end.

THE SIDING AND VENTILATION.

Drop siding is used throughout. Shiplap makes a serviceable siding, but is considered inferior to the drop siding.

One of the hardest problems to solve is the lighting and ventilation problem. To keep out rain in winter, yet let in light, and during the summer keep the fowls cool and exclude the direct rays of the sun.

One foot above the floor on the front side (Figure 3) an opening one foot wide and covered with one-inch mesh poultry netting admits air at all times. Solid hinged doors on all four sides (Figure 2) may be modified to suit various conditions. Thus the front opening may be placed higher and the door removed, using one piece of siding placed at an angle to the side of the building to turn the rain. Other changes if desired will occur to the builder.

EQUIPMENT.

All appliances should be made movable, so that they can be taken out, cleaned and disinfected.

(A) Nests (Figure 8)—The nests are placed in a double tier at the end of the building. The nests are 12-14 inches, and open in the rear for the entrance of the fowls. The partitions between the nests are one foot high, or touch the nest cover.

(B) Dropping Boards and Perches (Figures 4 and 5).—The dropping boards are placed at the back of the house. They are supported on 2x6-inch stringers. They should fit tightly together.

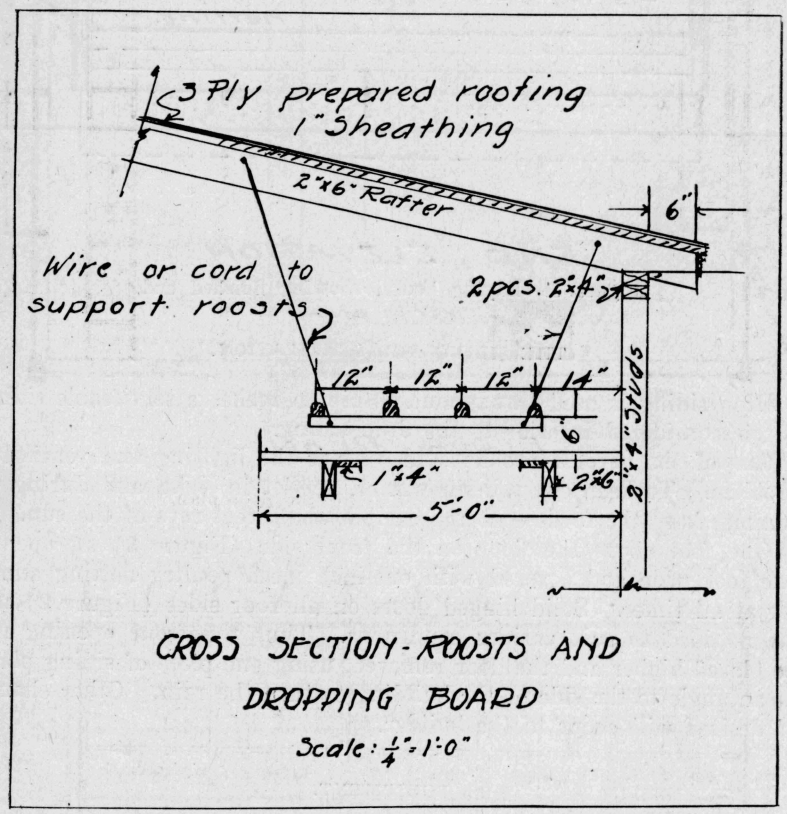
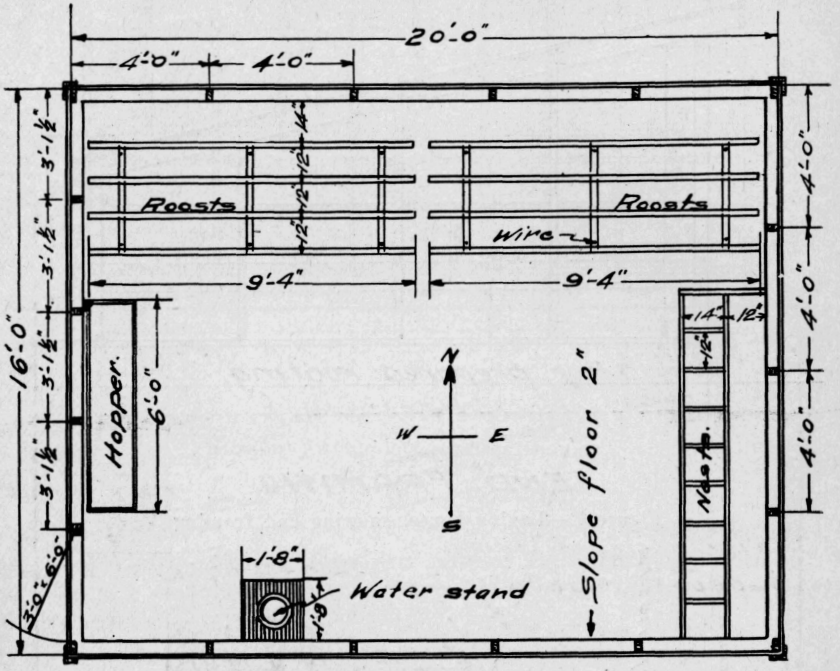
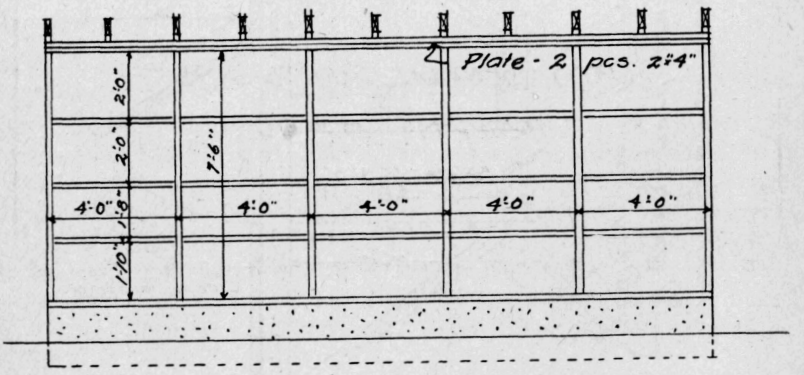


Figure 4.—Laying house, showing detailed construction of perches and dropping boards.



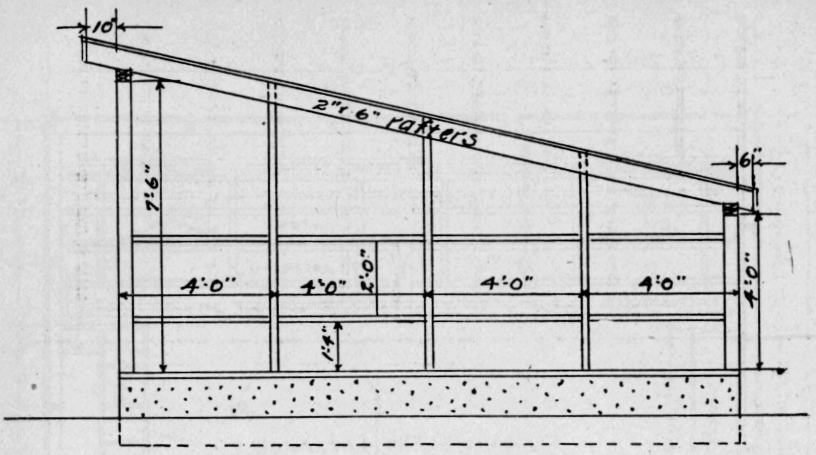
FLOOR PLAN.

Figure 5.—Laying house, showing floor plan.



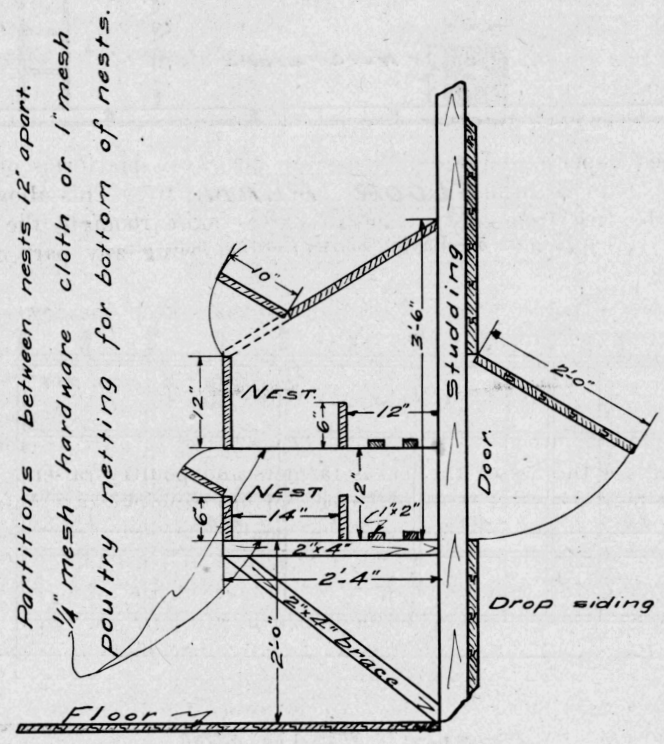
FRONT FRAMING

Figure 6.—Laying house, showing front framing.



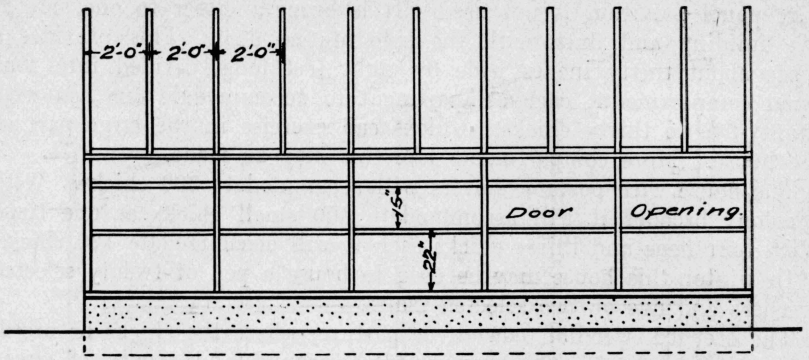
END FRAMING

Figure 7.—Laying house, showing end framing.



CROSS SECTION OF NESTS.

Figure 8.—Laying house. Detailed construction of nests.



REAR FRAMING

Figure 9.—Laying house. Rear framing.

The perches are swung by wires from the rafters (Figure 4). This arrangement makes it easy to hook them up out of the way when cleaning the dropping boards. They are built of 2x2-inch pieces with the upper corners smoothed and rounded to make them more comfortable for the birds.

FEED HOPPERS AND WATER CONTAINERS.

The feed hoppers and water dishes are placed on platforms of 1x2-inch slats 18 to 20 inches above the floor (Figure 5). This allows the floors to be free from obstruction and gives more room to the hens. It allows the floors to be cleaned without removing any part of the equipment.

The water dish is covered with tin, and slats keep the fowls from walking in or perching over the water

GABLE ROOF BROODER COLONY HOUSE.

The gable roof brooder colony house (Figures 10, 11, 12, 13 and 14) is designed for the use of the Texas farmers and poultry raisers. It is one of the most desirable types of houses for brooding chicks. A farmer who raises 200 chicks or more, and the poultryman who raises several thousand, will find this type of house practical and desirable. It is a portable house and may be used to advantage in the orchard. This house is eight feet square. The poultryman will find the same house built ten feet square more desirable. In all other respects it may be the same.

This house may be used in the artificial brooding of chicks by using portable hovers, as illustrated in Figure 14. When chicks can do without heat, the hovers may be removed, the roosts substituted, and the chicks grown to maturity in the house. This house may also be used to brood chicks by natural means. In this case (Figure 12), the center

wire panel partition is not used. It is brought closer to one side of the building and flush with the side of the door. This provides a space about thirty inches wide by eight feet long, divided into four equal compartments, each compartment to accommodate one hen with twenty-five to thirty chicks. Chicks can exercise in the large part of the house. More compartments like this may be made.

The house with portable hovers will accommodate 200 chicks. With a colony brooder it will accommodate 500 small chicks at one time. With four hens and thirty chicks each it will accommodate 120 chicks.

In winter this house may be used to house a pen of twenty selected breeders and one or two selected males.

The orchard, woodlot, cowlot, or pasture, where the chicks or breeding stock may enjoy free range, fresh ground and plenty of green succulent grass, furnish very good locations for this house.

This house has been in use for several years and found practical and satisfactory. It is the most economical type of construction. The floor may be built out of shiplap, regular flooring or matched material (Figure 10).

If desired, a window may be placed in the rear of the house and hinged at the top to swing out. Wooden shutters (Figure 11) hinged at the top to swing out are arranged to fit rear, sides, and front of house. This provides for a circulation of air when desired and keeps the house cool. The frame is made of 2x4-inch material and the sides may be of either drop siding, barn siding, or shiplap; and the roof may be covered with roofing paper, the three-ply being recommended. When the chicks are old enough to get along without artificial heat, roosts made of 1-inch by 2-inch material should be provided.

Circular chick runs (Figure 14) have been found the most practical from all viewpoints. Tin yards, 20 inches high, will furnish a shelter from the wind for the chicks, though poultry netting, 1-inch or $\frac{3}{4}$-inch mesh, will do very well.

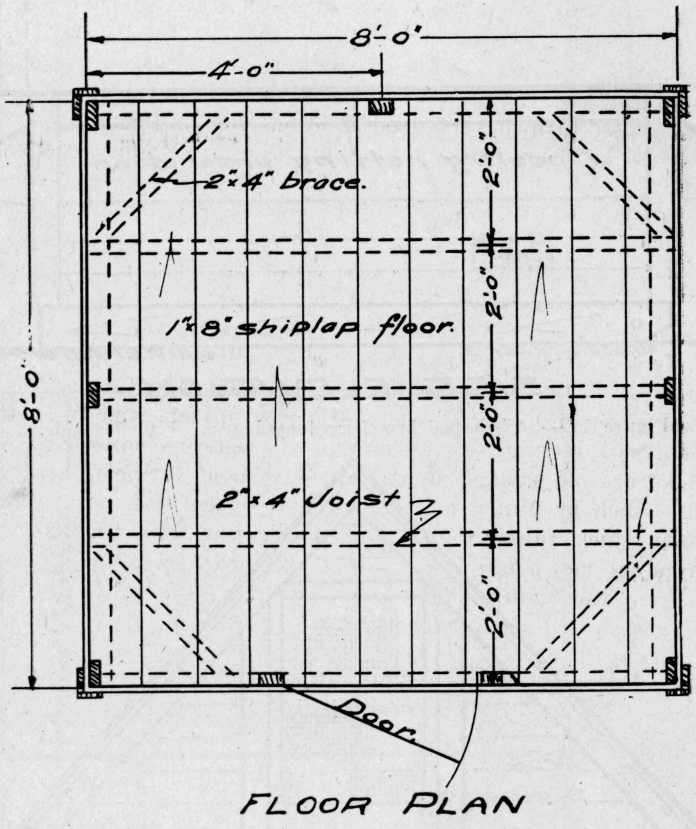


Figure 10.—Brooder-colony house. Showing floor construction.

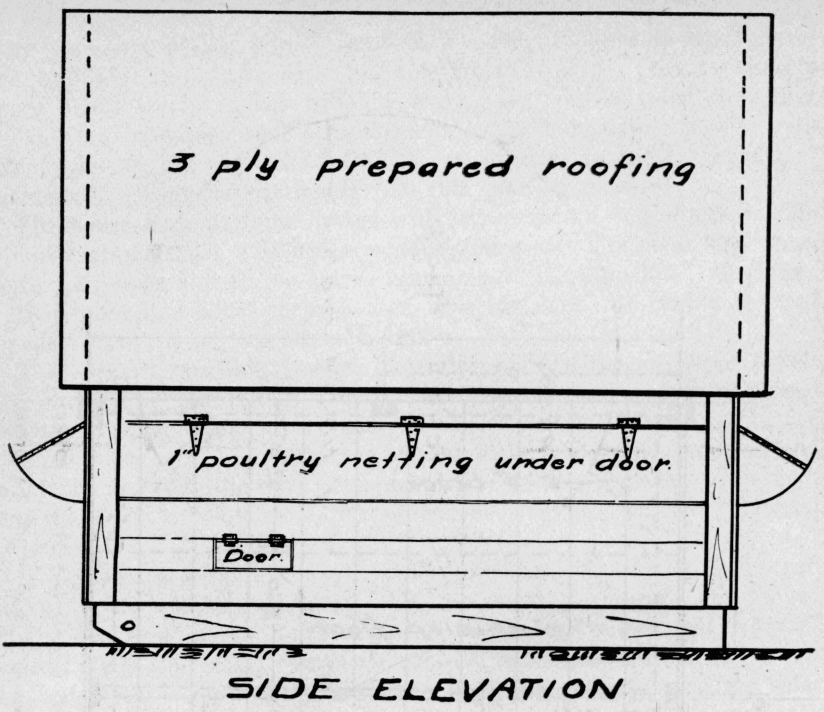


Figure 11.—"A"-shaped brooder-colony house. Finished side.

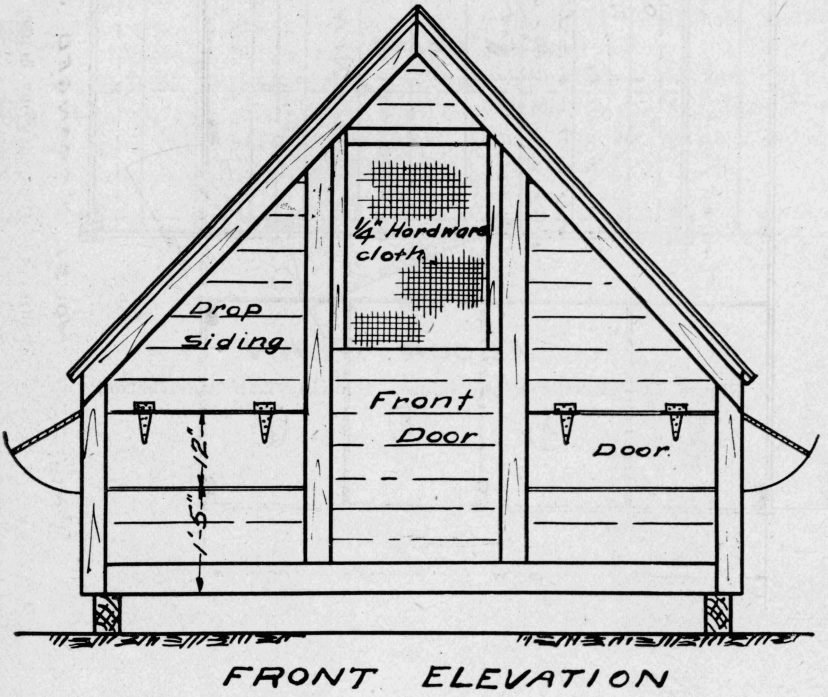
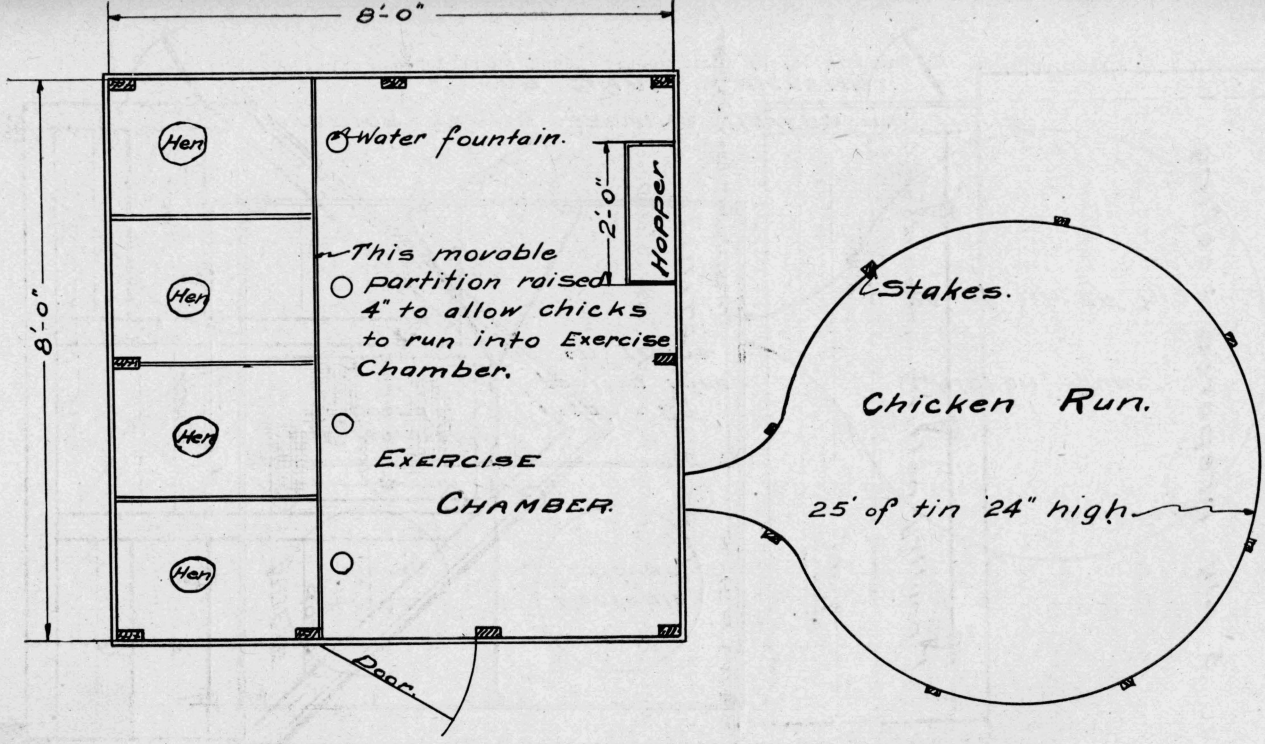


Figure 12.—"A"-shaped brooder-colony house. Finished front.



BROODER HOUSE ARRANGED FOR NATURAL BROODING.

Figure 13.—Brooder-colony house. Floor arranged for natural brooding.

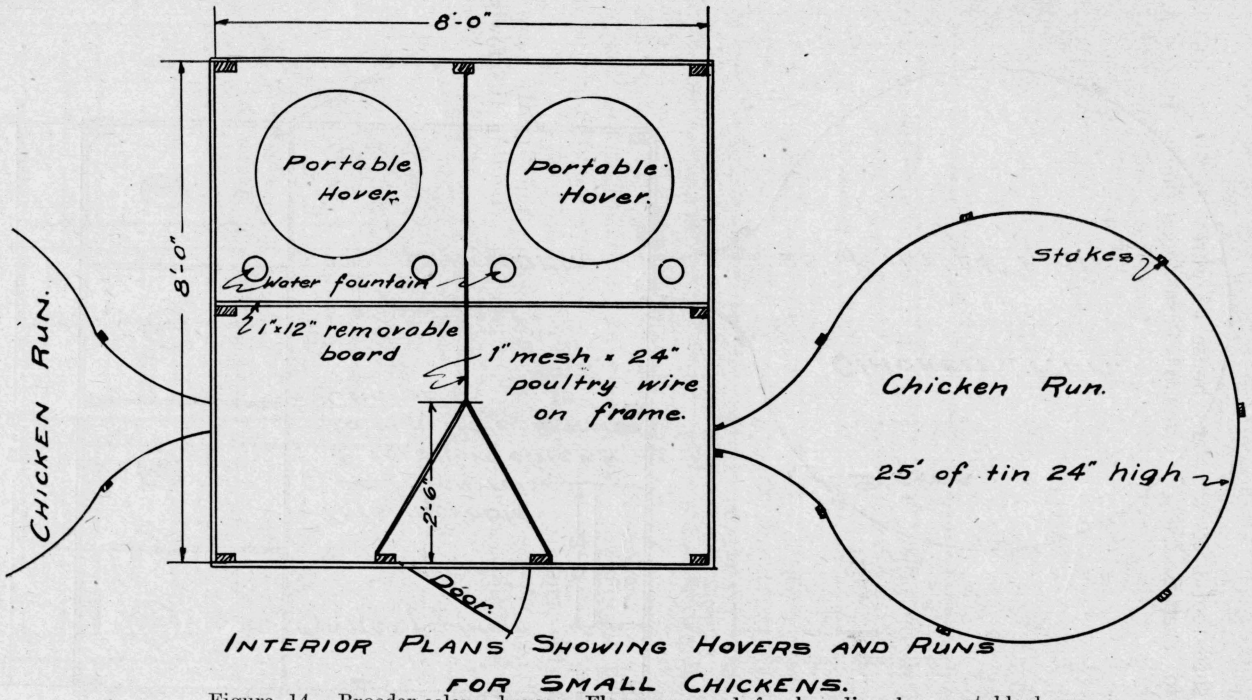


Figure 14.—Brooder-colony house. Floor arranged for brooding by portable hovers.

THE SHED ROOF BROODER COLONY HOUSE.

The shed roof brooder colony house (Figures 10, 15 and 16) is designed to meet the requirements of Texas conditions. It has proved satisfactory at the Texas Agricultural Experiment Station. This type of house may meet the conditions of many Texas farmers better than the A-shaped house. It is more open and gives better ventilation, as well as being easier to build.

As for uses, it is practically the same as the gable roof house, described in the preceding chapter. (See Figures 10, 13 and 14.) The capacity of the shed roofed house is the same as that of the gable roofed house of the same floor dimensions. All the fixtures used in the one can be used in the other. One or two features require special attention. This house gives a large air space. During summer the south front is open, and the sides and rear have openings which insures plenty of fresh air and keeps the house cool. During the winter it can be closed tightly by duck curtain panels in the front, and closing the shutters in the rear and sides of the house.

The removable boards at the door may be taken out and the hens may use this as a passage way. This feature also facilitates the cleaning of the house.

When used as a colony house, the nests may be placed on the side walls next to the front, and the feed hopper and grain cans on the other side. This arrangement makes it unnecessary to enter the house to gather the eggs, or to feed the fowls.

This type of house has a disadvantage of costing slightly more than the gable roof house, but the greater ease of attending the fowls offsets this.

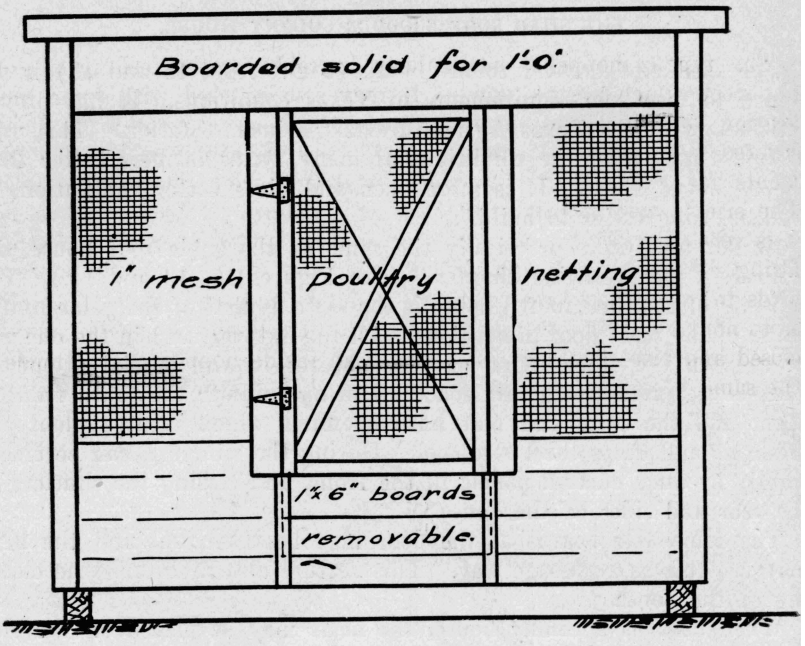


Figure 15.—Shed-roof brooder-colony house. Finished front.

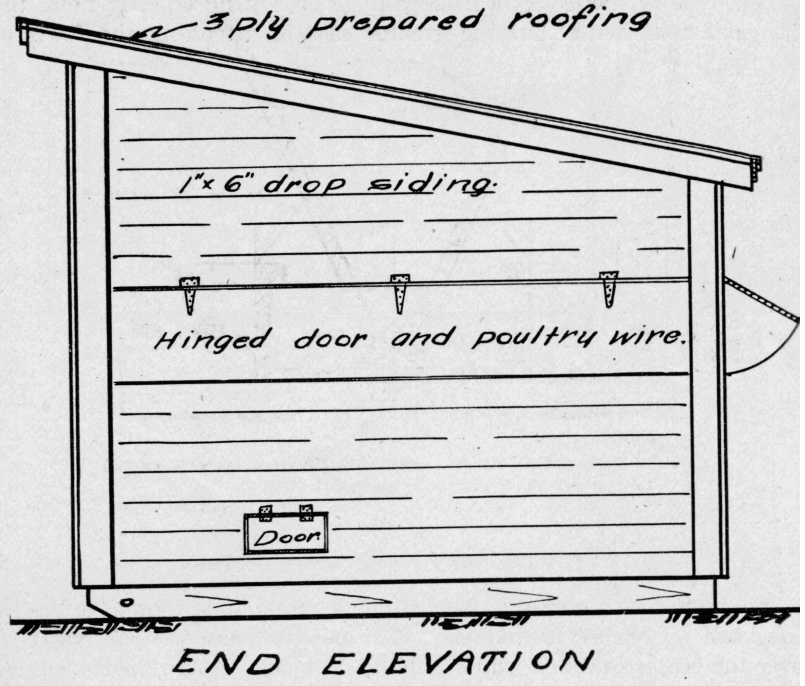


Figure 16.—Shed-roof brooder-colony house. Finished side.

OUTDOOR FEEDING HOPPER.

This type of hopper is particularly desirable for the feeding of growing stock which are on range. It may also be used with some modification for the laying flock. Figure 17 shows a home-made hopper covered with prepared roofing paper. It is divided into four compartments for whole grain, dry mash, grit or oyster shell and charcoal. The size is determined by the size of the flock to use it, but usually it is very desirable to make it large enough not to require too frequent filling. A capacity of 500 pounds is a good size. It should allow the birds to have free access to the food at all times and be so constructed as to not be wasteful of feed when open. It should be capable of being closed and also should be rat proof. An inside hopper can be made in the same way, only it is usually smaller than the outdoor hopper.

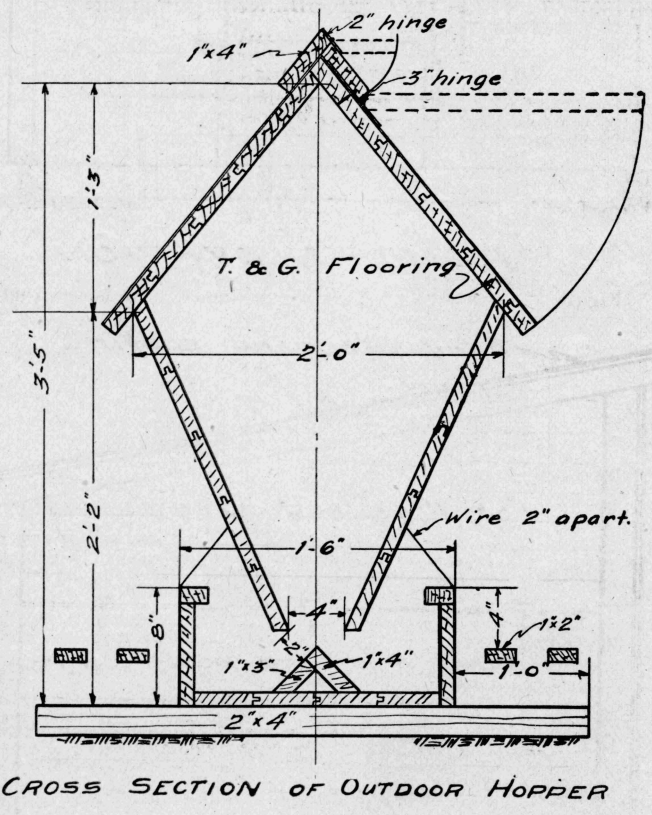


Figure 17.—Outdoor feed hopper for use with brooder-colony house.

ANOTHER INSIDE DRY MASH HOPPER.

It is built as follows: An ordinary piece of stovepipe, three feet long and six inches in diameter, is suspended from the roof by a wire over the center of a box which is fourteen inches square, inside measure.

The box is four inches high, outside measure. To keep the fowls from hooking the grain out of the box, a one and one-half-inch cleat is nailed on top of the box. The hopper is placed on a platform two feet above the floor. The stovepipe is placed in the center of the box and allowed to come within one or two inches of the bottom, depending on the coarseness of the feed in the hopper. The corners of the box may be rounded out with tin. A piece of galvanized hardware cloth of either one-half or one-inch mesh, a little smaller than the inside measurements of the box, with a six and three-fourths-inch hole in the center of it for the stovepipe may be used to prevent the mash from wasting. In filling this hopper, never tamp or press the mash down solidly.

BILL OF MATERIAL AND ESTIMATED COST OF POULTRY HOUSE FOR ONE HUNDRED CHICKENS.

(Gravel and Sand Floor.)

Cost based on local prices.

Size of House 16′ x 20′.

Foundation: Concrete 1: 2 1-2: 5. mixture.

Walls	11 sacks cement at		$ 0.65	$ 7.15
	1 cubic yard sand at		1.25	1.25
	2 cubic yards gravel at		1.25	2.50
Floor	6 cubic yards of sand and gravel at		1.25	7.50
Sills	2 pieces 2″ x 4″ x 20′ No. 2 Y. P.	27 feet		
	2 pieces 2″ x 4″ x 16′ No. 2 Y. P.	21 feet		
Studs	6 pieces 2″ x 4″ x 16′ No. 2 Y. P.	64 feet		
	2 pieces 2″ x 4″ x 14′ No. 2 Y. P.	19 feet		
Girts	10 pieces 2″ x 4″ x 16′ No. 2 Y. P.	107 feet		
Rafters	11 pieces 2″ x 6″ x 18′ No. 2 Y. P.	198 feet		
Plates	4 pieces 2″ x 4″ x 20′ No. 2 Y. P.	53 feet		
Sheathing		400 feet		
Floor	1″ x 8″ shiplap No. 2 Y. P.	384 feet		
		1275 feet at	$25.00	31.83
Siding	460 sq. feet 1″ x 6″ drop siding at		32.50	14.95
Finishing lumber	6 pieces 1″ x 4″ x 18′	36 feet		
	6 pieces 1″ x 4″ x 16′	32 feet		
		68 feet at	$40.00	2.72
For hinged doors	3 pieces 1″ x 4″ x 16′	16 feet at	35.00	.56
Dropping boards	5 pieces 1″ x 12″ x 20′	100 feet		
	2 pieces 1″ x 4″ x 20′	13 feet		
	2 pieces 2″ x 6″ x 20′	40 feet		
		153 feet at	35.00	5.36
Roosts	5 pieces 2″ x 2″ x 20′	33 feet at	30.00	.99
Large door	4 pieces 1″ x 6″ x 12′	24 feet		
	1 piece 1″ x 6″ x 16′	8 feet		
		32 feet at	$35.00	1.12
Nests	1 piece 2″ x 4″ x 16′	11 feet		
	2 pieces 1″ x 6″ x 20′	20 feet		
	4 pieces 1″ x 2″ x 10′	7 feet		
	1 piece 1″ x 12″ x 10′	10 feet		
	1 piece 1″ x 10″ x 10′	8 feet		
	3 pieces 1″ x 8″ x 10′	20 feet		
	2 pieces 1″ x 12″ x 12′	24 feet		
		100 feet at	$35.00	3.50
Prepared roofing, 4 squares 3-ply at			2.75	11.00
Paints				2.50
18 bolts 1-2″ x 10″ for sills				1.75
Poultry netting, 172 square feet of 1-inch mesh				2.25
Hinges, 13 1-2 pairs of 6-inch Tee hinges				2.00
Nails, 15 pounds 20d, 20 pounds 10d 20 pounds 8d			.05	2.75
Estimated cost of material				$ 101.68
Labor 20 per cent. of material				20.34
Total estimated cost				$ 122.02
Additional material if concrete floor is used:				
14 sacks cement at			$ .65	$ 9.10
1 1-2 cubic yards sand at			1.25	1.88
3 cubic yards gravel at			1.25	3.75
Labor of laying floor				3.00
Estimated cost of house if floor is of concrete				$ 139.75

BILL OF MATERIAL AND ESTIMATED COST FOR A GABLE ROOF BROODER COLONY HOUSE.

Cost based on local prices.

Size of house 8′ x 8′

Joist	5 pieces 2″ x 4″ x 8′ No. 2 Y. P.	27 feet		
Joist Brace	1 piece 2″ x 4″ x 10′ No. 2 Y. P.	7 feet		
Studs	2 pieces 2″ x 4″ x 18′ No. 2 Y. P.	24 feet		
Plates	1 piece 2″ x 4″ x 16′ No. 2 Y. P.	11 feet		
Rafters	3 pieces 2″ x 4″ x 12′ No. 2 Y. P.	24 feet		
Ridge board	1 piece 1″ x 6″ x 8′ No. 2 Y. P.	4 feet		
Sheathing	No. 2 Y. P.	108 feet		
		205 feet at	$25.00	$ 5.13
Skids	1 piece 4″ x 6″ x 16′ No. 1 Y. P.	32 feet		
Floor	7 pieces 1″ x 8″ x 16′ No. 1 S. L.	75 feet		
		107 feet at	30.00	3.21
Drop siding		120 feet		
Best grade Y P. board for doors	1 piece 1″ x 12″ x 16′	16 feet		
	1 piece 1″ x 12″ x 14′	14 feet		
		150 feet at	32.50	4.88
Finishing lumber	5 pieces 1″ x 4″ x 16′ S 4 S	27 feet		
Front door	2 pieces 1″ x 2″ x 14′ S 4 S	5 feet		
Roosts	7 pieces 1″ x 2″ x ′ 8′ S 4 S	9 feet		
		41 feet at	40.00	1.64
Prepared roofing	1 1-4 squares of 3-ply at		2.75	3.44
Hardware	8 pairs 4″ tee hinges		.10	.80
	3 pounds 16d nails, 4 pounds 10d, 6 pounds 8d		.05	.65
	30 sq. feet 1″ mesh poultry netting			.40
	9 sq. feet 1-4″ hardware cloth			.72
Paint				1.00
Total estimated cost of materials				$ 21.87
Labor 30 per cent of materials				6.56
Total estimated cost				$ 28.43

BILL OF MATERIAL FOR A SHED ROOF BROODER COLONY HOUSE.

Cost based on local prices.

Size of house 8 x 8 feet.

Joist	5 pieces 2″ x 4″ x 8′ No. 2 Y. P.	27 feet		
Joist braces	1 piece 2″ x 4″ x 10′ No. 2 Y. P.	7 feet		
Studs	3 pieces 2″ x 4″ x 18′ No. 2 Y. P.	36 feet		
Girts	3 pieces 2″ x 4″ x 18′ No. 2 Y. P.	36 feet		
Plates	1 piece 2″ x 4″ x 16′ No. 2 Y. P.	11 feet		
Rafters	3 pieces 2″ x 4″ x 10′ No. 2 Y. P.	20 feet		
Sheathing	No. 2 Y. P.	85 feet		
		222 feet at	$25.00	$ 5.55
Skids	1 piece 4″ x 6″ x 16′ No. 1 Y. P.	32 feet		
Flooring	7 pieces 1″ x 8″ x 16′ S. L. No. 1 Y. P. (No. 1 shiplap)	75 feet		
Bracing for side doors and removable boards	1 piece 1″ x 6″ x 18′	9 feet		
		116 feet at	30.00	3.48
Drop siding		200 feet at	32.50	6.50
Best grade Y. P. finishing lumber	3 pieces 1″ x 4″ x 18′ S 4 S.	18 feet		
	1 piece 1″ x 4″ x 16′ S 4 S.	5 feet		
	3 pieces 1″ x 4″ x 12′ S 4 S.	12 feet		
Front door	2 pieces 1″ x 2″ x 18′ S 4 S.	6 feet		
Roosts	7 pieces 1″ x 2″ x 8′ S 4 S.	9 feet		
		50 feet at	40.00	2.00
Prepared roofing	1 square, 3-ply			2.75
Hardware	5 1-2 pairs 4″ Tee hinges		.10	.55
	3 pounds 16d nails; 4 pounds 10d nails; 4 pounds 10d nails		.05	.65
	20 feet No. 12 wire for front door			.05
	72 sq. feet 1″ mesh poultry netting at		.12	.96
Paint				1.25
Total estimated cost of materials				$ 23.74
Labor 30 per cent of materials				7.11
Total estimated cost				$ 30.85