

Combination Brooder and Range Shelter For the Family Poultry Flock

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Fig. 1.—The combination brooder and range shelter.

This circular presents plans for equipment that solves the problem of raising a small brood of chicks to supply the average family with eggs and poultry meat. With this inexpensive equipment brooding may be done sufficiently early in the spring to insure egg production from the pullet flock during the early fall months, when the old flock is not laying enough eggs to provide the family—and particularly the children of the family—with the egg a day needed for proper nutrition, health, and growth.

This equipment is particularly suitable for use by boys and girls in 4-H club poultry projects. It may also be used as a means of increasing the brooding facilities on many farms where a single brooder house is not quite large enough to provide roomy quarters for the chicks raised each year. Since the cost is small, an increase in brooding

facilities can be made with a smaller investment than that involved in the construction of an additional brooder house and the accompanying equipment.

This unit is designed to brood from 50 to 75 chicks. Early in the season no more than 50 chicks should be brooded, while 75 can be accommodated later in the season, when the period of confinement will be reduced.

The brooder may be heated with kerosene lamps or by means of electricity. The cost of brooding with kerosene normally will not exceed 50 cents a brood. Electrical brooding with this unit is considerably more expensive, both as to original cost and in its operation. Insulation of the kerosene brooder is not required, but effective insulation must be provided when electricity is used. A 440-watt heating element is recommended for use early in the season, but for late or mid-season brooding a 300-watt unit will be adequate.

The material cost of the combination brooder house and range shelter equipped with a kerosene unit is less than \$10.00, while that of the brooder and shelter with the electric unit and the necessary insulation is about \$16.50.

The chicks are raised in confinement on the wire floor of the shelter until they are old enough no longer to need artificial heat. The shelter should then be detached from the brooding unit and moved to a clean ground location, for use as roosting quarters for the remainder of the growing period. Clean ground can be provided by selecting a place where poultry droppings have not been spread and chickens have not been raised for two years.

The provision of clean ground is most important. This fact adds value to this equipment because it may be located near the dwelling while the chicks require more attention, and later it provides cool, well ventilated quarters on range where the pullets may develop properly. Many failures in poultry production can be traced to the failure to provide clean range and a well ventilated roosting shelter for the developing pullets. On farms where these essentials are not provided, the principal reason for this failure is the lack of portable equipment. This combination brooder, sun porch and range shelter meets all of these problems at one time.

CONSTRUCTION DETAILS

The Brooding Unit.—The brooding unit consists of four sections, i. e., the base, floor, middle section, and roof.

The base (Figure 2) is made of 1x12-inch lumber, rough or smooth. When heating is to be done with one or two low type kitchen or incubator lamps, the floor is made of tin and framed with 1x4 material.

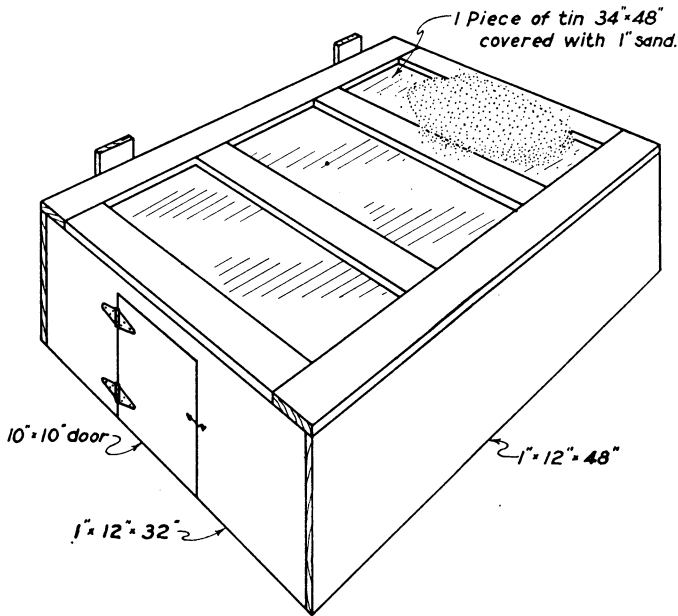


Fig. 2.—The base section of the brooder.

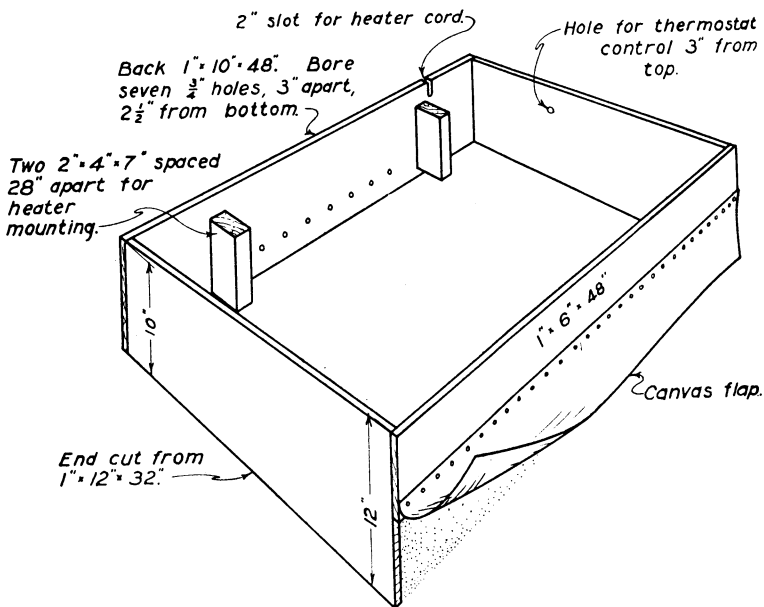


Fig. 3.—The middle section of the brooder.

Sand is placed on this tin to a depth of $\frac{1}{2}$ to $\frac{3}{4}$ inch and the brooder is started at least two days before the chicks are to be placed in it, so the sand may become warm and thoroughly dry. Six $\frac{1}{2}$ -inch holes should be bored in the end of the base opposite the door to permit the fumes from the lamp to escape.

If the brooder is to be electrically heated the construction of the base is changed only slightly, inasmuch as the door needed for placing kerosene lamps under the floor is eliminated and it is not necessary to drill the ventilator holes in the end opposite the door. The floor should be made of lumber instead of tin, and insulated from below.

The floor in either instance should not be permanently fastened to the base, since it is more easily cleaned when it can be removed separately.

The middle section (Figure 3) shows the details for installing an electric unit, which is fastened to the wooden blocks that are nailed to the back wall. A board 10 inches in width is used for the back of this section. The ends are made of 1x12 material and ripped to the width of the back (10 inches). In this way the slope for the roof is provided, since it fits directly on this middle section.

The bottom view of the roof is shown in Figure 4. The insulation indicated is not necessary when a kerosene unit is used. However, if the unit is to be electrically heated, the entire middle section should be insulated with $\frac{1}{2}$ -inch insulation board or with three thicknesses of

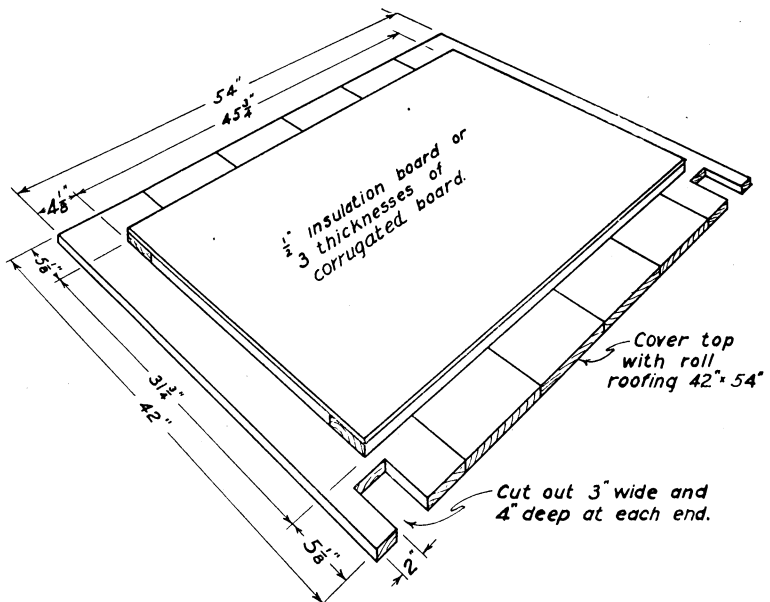


Fig. 4.—The under side of the brooder roof.

corrugated cardboard. The roof section also shows how it should be notched to permit the shelter to fit snugly to the brooder unit.

A piece of old canvas or similar material is tacked to the front of the brooder. If early season brooding is practiced, a piece of cardboard may also be placed over this opening for the first week. Under such conditions a kerosene lantern in the brooder will be necessary to provide light enough for the chicks to find feed and water. From the month of April on these precautions are usually not necessary. The canvas flap should not completely cover the opening at the bottom. Light must penetrate the brooder to attract the chicks to the sun porch for feed and water.

The Combination Sun Porch and Range Shelter.—A side view of the shelter is shown in Figure 5, the front and end views in Figures 6 and 7 respectively. These diagrams show 1-inch mesh poultry netting

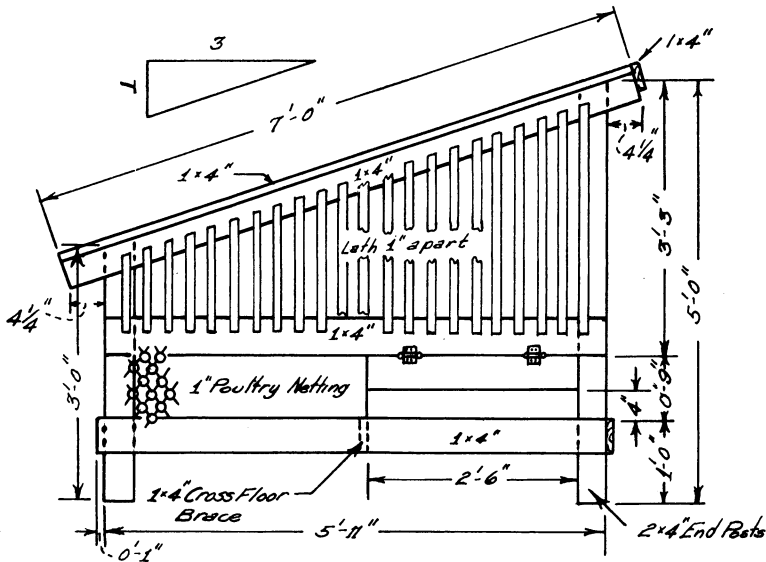


Fig. 5.—A side view of the shelter.

in use on sides and ends of the shelter to a height of 9 inches, in order to lessen the hazard of rats getting into the brooder. The remainder of the shelter is enclosed with lath as an economy measure and as a means of saving wire in the war emergency. Obviously 1-inch mesh poultry netting can be used for the entire shelter if it is available. However, as the plans are shown the amount of inch mesh poultry netting required is limited to one piece of 24-inch netting 12 feet in length, which is used for the floor of the shelter, and one piece of

netting 36 inches in width and 4 feet long, to be cut into 1 foot widths for the lower portion of the sides and end of the shelter.

In using the lath on the sides the first lath should be attached directly above the feeder at the end nearest the brooder. The pieces cut off in moving forward to the front of the shelter will then be of the right length for the other side without further sawing. All of the laths may be sawed at one time by tacking a guide strip along the tops of the laths at the proper angle.

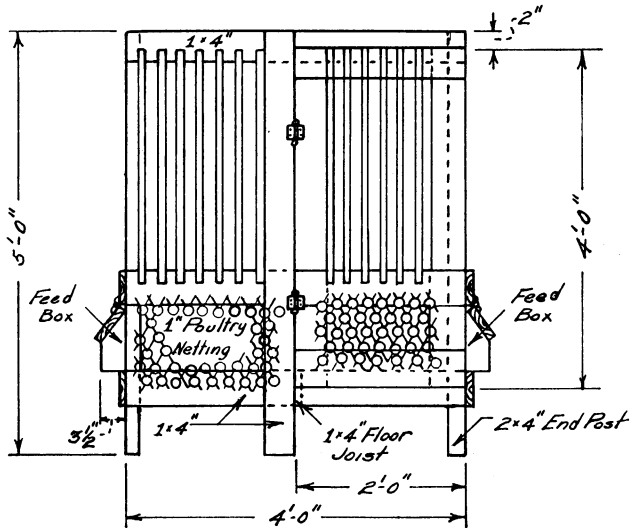


Fig. 6.—Front view of the range shelter, with details of framing.

One bundle of 50 laths is sufficient for the entire shelter, including the panel which is built to close the back end of the shelter (Figure 7) after the brooding unit is detached.

The plan for building the feeders is shown as Figure 8. These feeders should be supplemented with small chick feeders for the first 2 or 3 weeks. A range feeder, as shown in Circular 419, page 4, should be provided from 8 weeks to maturity. This range feeder should be divided in half so that growing mash can be kept in one end and grain in the other.

Inch mesh poultry netting is used for the floor of the shelter, in preference to 1/2-inch mesh hardware cloth, because it will not become clogged with droppings and is also less expensive. Papers may be spread over the floor for the first week or ten days, after which the chicks will have no difficulty walking on this coarser mesh wire.

The roof of the shelter can be made of three old burlap sacks painted with Portland cement and water mixed to about the same consistency of roofing paint. After the cement has hardened, a coat of roofing paint should be applied. Such a roof is not absolutely water-tight, but it is sufficiently so for summer growing conditions.

Other roofing materials could be used, including hard finished fiber board which should also be given a coat of roofing paint.

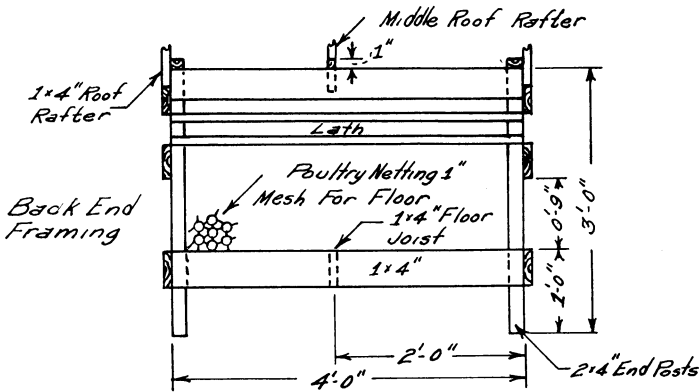


Fig. 7.—End view of range shelter, with details of framing.

Roosts should be installed in the shelter when the chicks are 4 weeks old. The side braces of the shelter are placed at the proper height to serve as roost supports. The amount of roosting space needed will be determined by the number of pullets kept on range in the shelter. If 50 sexed pullets were brooded, five poles spaced 12 inches apart would be needed, while three such poles would be adequate for 20-25 pullets.

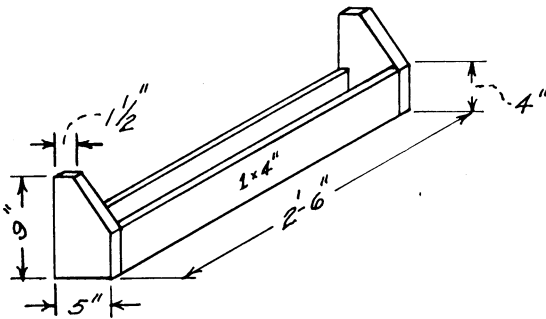


Fig. 8.—Details of feeder.

THE MATERIALS NEEDED

For the Brooder.—First are listed the number and lengths of lumber you will have to buy from lumber yard or sawmill, and then the pieces into which the lumber will have to be cut before starting to assemble the materials in the finished structure.

Bill of Materials to Buy

*2—1"x12"—12' (ft.) long	1—1"x6"—4' (feet) long
1—1"x12"—14'	1—1"x8"—4'
1—1"x12"—8'	1—1"x4"—8'
1—1"x10"—4'	Roll roofing 42"x54"
Two kerosene lamps	OR
	One 440-watt electric unit

Cut as Follows:

2—1"x12"—32".....	Ends of base
2—1"x12"—4'.....	Sides of base
2—1"x12"—32".....	Ends of middle section
1—1"x10"—4'.....	Back of middle section
1—1"x6"—4'.....	Front of middle section
4—1"x12"—42".....	Lid or roof
1—1"x8"—42".....	Lid or roof
2—1"x4"—45".....	Lid cleats
*3—1"x12"—4'.....	Floor of base

*For floor under which kerosene lamps are to be used, substitute 1 piece of tin 34"x48" in place of 1—1"x12"—12', and add 1—1"x4"—8' and 1—1"x4"—10' for framing. Cut: 2—1"x4"—4' and 4—1"x4"—2', 2 $\frac{3}{4}$ ".

For the front of brooder, also provide an old piece of canvas 5 inches wide by 4 feet long.

For the Range Shelter and Sun Porch.—First the materials to be bought and then the pieces into which the lumber is to be cut are listed as follows:

Bill of Materials to Buy

6—1"x4"—14'	1—1"x6"—8'	1 lb. Lath Nails
1—1"x4"—12'	1—2"x4"—16'	1 lb. 6 Penny Nails
2—1"x4"—10'	5 lbs. Portland Cement	1 lb. 8 Penny Nails
2—1"x4"—8'	3 Pair Hinges	1 Box Tacks.
12'—24" Poultry netting 1-inch mesh		
4'—36" Poultry netting 1-inch mesh		
3 Burlap sacks or roofing 4'x7'. (Sacks, cement and tacks for roof.)		

Cut as Follows:

5—1"x4"—6'	Bottom frame, roost supports, and floor joists
5—1"x4"—7'	Roof framing and rafters
4—1"x4"—4'	Ends of shelter, top and bottom (inside framing)
2—1"x4"—4'-1 $\frac{1}{2}$ "	Ends of roof
1—1"x4"—5'	Door support and brace (front of shelter)
1—1"x4"—12'	Door frame
6—1"x4"—2'-4 $\frac{1}{2}$ "	Sides and bottom of feeders
2—1"x4"—2'	Floor braces (cross members)
1—1"x4"—20 $\frac{1}{4}$ "	} Upper nailing pieces for wire on front of shelter
1—1"x4"—16 $\frac{1}{2}$ "	
2—1"x6"—2'-6"	Lids of feeders
4—1"x6"—9"	Ends of feeders
2—2"x4"—5'	} Legs of shelter
2—2"x4"—3'	

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