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Electric Lamp and Chick Brooder
Michigan State University Extension Service
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ELECTRIC LAMP CHICK BROODER*

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THE HOME-BUILT brooder described in this publication has been successfully used at the Michigan State College W. K. Kellogg Farm, Augusta, Michigan. Since June 1943, several thousand chicks have been brooded, with no greater losses—and in some cases lower losses—of baby chicks than when coal brooder stoves or commercial electric brooders were used.

This 4- by 4-foot brooder, equipped with eight low-wattage lamps will care for 250 chicks during normal brooding conditions. Three hundred and fifty chicks may be brooded in a 4- by 6-foot brooder of similar construction, using 12 low-wattage lamps. The cost of materials for building this brooder should be less than \$10, and two years' use of similar brooders indicate that a brooder built according to these specifications should have a life comparable with that of a good commercial brooder.



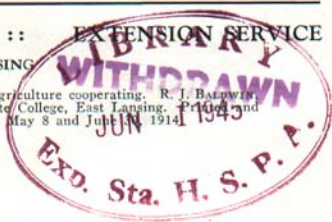
Fig. 1. Four-by-four-foot chick brooder in operation. Glass side is for demonstration purposes.

*Revised from Michigan Agricultural Experiment Station Quarterly Bulletin, February 1944, 26 (3): 191-193.

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CONSTRUCTION

The frame is 1- by 4-inch material. The top and sides are $\frac{1}{4}$ -inch building board of the hard type, such as plywood, fiber board, or studio board. The 4 inches of space on top of the brooder should be filled with litter similar to that used on the floor (Figs. 1 and 2).

WIRING THE BROODER

Two-piece porcelain standard receptacle sockets with concealed terminals are satisfactory. The eight sockets are arranged as shown in Fig. 4. A duplex outlet on the side of the hover aids in making connections and provides a simple way of turning lights on and off to control the temperature. The center circuit of two lamps is attached directly to one pair of terminal screws on the duplex outlet and will remain "on" as long as the cord from the brooder is plugged in. The two outside circuits of three lamps each are provided with attachment plugs, and are "on" only when plugged into the duplex outlet. Rubber-covered No. 16 cord is satisfactory.

An alternate method of wiring is to connect all the lights in one circuit. This method eliminates the duplex outlet, but it is necessary to loosen or tighten in the socket any lamp which is to be turned on or off.

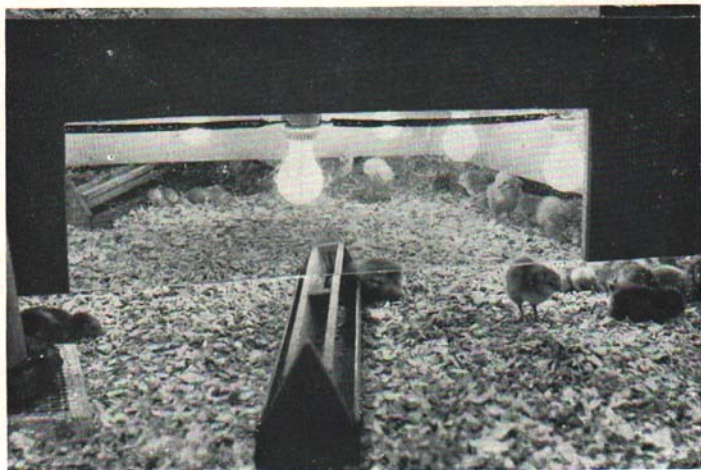


Fig. 2. View of brooder through special glass side to show lamps which furnish heat for the chicks. Glass side was for demonstration purposes only.

CONTROLLING THE TEMPERATURE

Use eight 60-watt standard lamps when starting the chicks. As they grow older, their bodies will furnish more heat, and the temperature may be lowered by using fewer or smaller lamps. *No thermostat or thermometers are provided for this brooder, nor are they necessary.* Watch the behavior of the chicks, as they are the best guide as to temperature.

SAFETY PRECAUTIONS

Always leave a lamp in every socket to prevent danger from electrical shocks. Mount the lamps as shown, on a 1- by 4-inch strip. *Lamps should not be closer to the floor than shown in the drawing. All wiring to the brooder house and within the house, and in the brooder itself, should be installed according to approved methods.* Your local electric power representative will be glad to assist you in planning the wiring. It is important that the wires leading to the house are of proper size since wires which are too small will greatly reduce the heat output of the lamps.

GOOD MANAGEMENT

For information on management practices, obtain Extension Bulletin E237, "Electric Chick Brooder Operation," from your county agricultural agent.

BILL OF MATERIALS

- 3 — 1" x 4" x 12' white pine recommended
- 1 — ¼" x 4' x 8' building board of hard type
- 8 — two-piece porcelain standard receptacle sockets with concealed terminals—such as Paulding 50721
- 20' — rubber-covered cord, No. 16
- 12 — 2" No. 8 screws (fasten mounting strips to brooder)
- ½ pound—6d cement-coated nails
- 16 — ¾" No. 6 screws (fasten receptacle to mounting strip)
- 1 — handy utility box with cover for duplex outlet
- 2 — ½" connectors
- 1 — duplex receptacle—flush
- 3 — connector caps (plugs)
- 8 — 60-watt standard lamps

Cut Building Materials into the Following Pieces:

PART NO.	REQ. NO.	SIZE	PIECE
A.....	4.....	1" x 4" x 16"	legs
B.....	2.....	1" x 4" x 48"	side supports
C.....	2.....	1" x 4" x 45½"	side supports (cut length to fit)
D.....	3.....	1" x 4" x 47"	mounting strips
E.....	1.....	¼" x 47" x 48"	top board
F.....	2.....	¼" x 12" x 48"	sides
G.....	2.....	¼" x 12" x 49"	sides

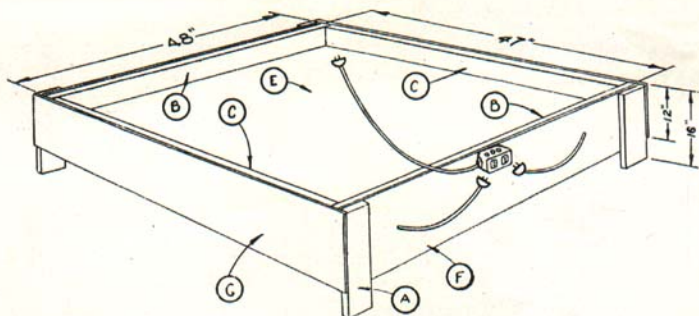


Fig. 3. Home-built brooder.

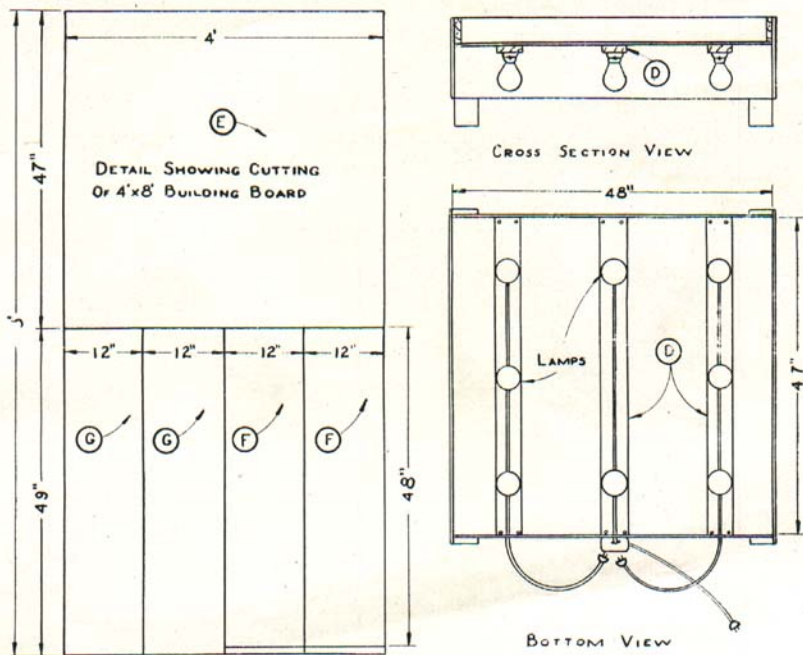


Fig. 4. Home-built brooder: details of plan. Lamps are located 8" from edge when measured from the inside of the brooder to the center of the lamp.