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K. W. DU BOIS

2,081,395

ELECTRIC CHICKEN BROODER

Filed May 14, 1936

Fig. 1.

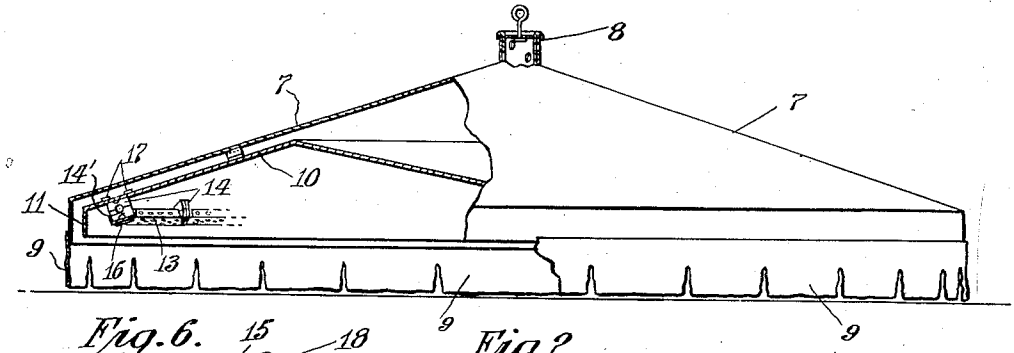


Fig. 6.

Fig. 2.

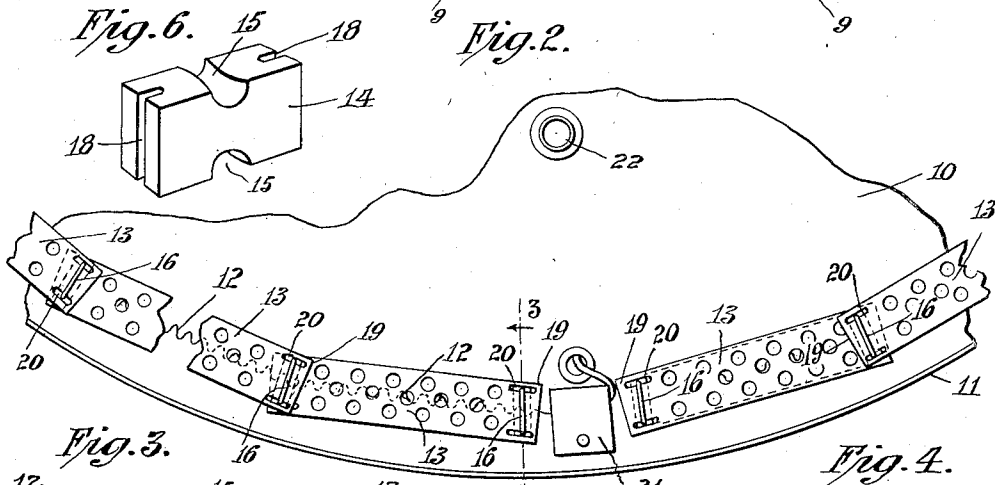


Fig. 3.

Fig. 4.

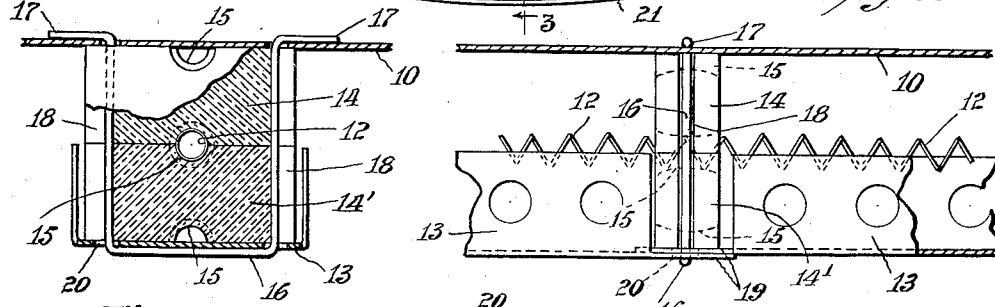


Fig. 5.

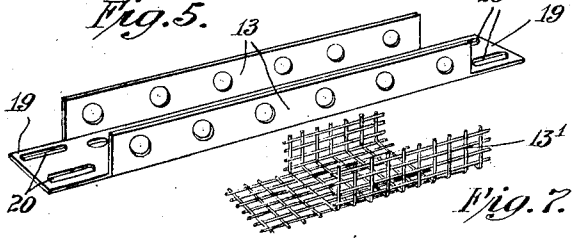


Fig. 7.

Kenneth W. Du Bois
INVENTOR

BY  ATTORNEY

UNITED STATES PATENT OFFICE

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ELECTRIC CHICKEN BROODER

Kenneth W. Du Bois, Plainville, Conn., assignor
to The Trumbull Electric Manufacturing Com-
pany, Plainville, Conn., a corporation of Con-
necticut

Application May 14, 1936, Serial No. 79,683

4 Claims. (Cl. 219—19)

The use of electricity as a source of heating for brooding small chickens has many advantages over the use of gas, oil and hot water heaters. By the use of electricity uniformity of temperature is more accurately and more easily attained, fire hazard is practically eliminated and the equipment required is much more convenient and involves a considerable saving of labor and cost.

The main object of my invention is to provide a simple and inexpensive type of construction which will be clean and safe to operate and which will eliminate cold floor drafts and provide a dry and adequately ventilated brooder. I have specifically sought to provide a construction, the parts of which may be assembled in various relations for different sizes of brooders and in which the parts may be readily installed, inspected, or replaced if necessary.

I have shown the invention as applied to a conical type housing but it should be understood that the exact shape of the housing is immaterial to the invention claimed.

In carrying out the invention the heat is provided by air radiation from associated parts of the heater wire, so constructed and arranged, however, that it is impossible for the chicks to be injured by contact with any part of the heating means or members.

Fig. 1 is a side view and partial section showing one form of the invention.

Fig. 2 is a fragmentary view of a number of heater sections, the view being taken looking upwardly in Fig. 1.

Fig. 3 is a detail sectional view of the support for the heater wire on the plane of the line 3—3 of Fig. 2.

Fig. 4 is a longitudinal sectional view showing the junction between two heater sections.

Fig. 5 is a perspective view of a sheet metal guard and radiator.

Fig. 6 is a perspective view of one of the insulating supports for the heater wire.

Fig. 7 is a detail view of a fragment of a wire mesh guard.

The outer casing or hood 7 is provided with a ventilating stack 8 and a fabric skirt 9.

Inside of the outer casing or hood is a hover 10 with a depending flange 11.

The heater per se has a resistance wire 12 which is guarded by a trough-shaped guard member 13 spaced apart from the hover 10 by the insulating blocks 14 and 14'. These two blocks are preferably identical one with the other for convenience in manufacture.

A channel 15 in each of the blocks serves as one-half of the passageway for the resistance wire. These insulating blocks are preferably secured to the hover by an easily removable U-shaped wire member 16 whose ends 17 are passed through the hover and bent over, as shown in Fig. 3.

The insulating blocks are provided with grooves 18 to position the securing wire. The guard 13 is provided with an extension 19 at each end and the extensions of adjacent guards overlap as shown in Figs. 2 and 4. The extensions may be slotted at 20 to permit of the passage of the fastening wires. These slots being elongated it is obvious that considerable flexibility is permitted to adapt the radiating guards to the curved surface of the hover so that although the guards are substantially straight, they may be arranged around the inner circumference of a conical surface of the hover. This flexibility also permits the guards to be flexed in case the hover is bent or distorted. In this way damage by breakage is avoided.

The electric conductor may be brought into the brooder in any convenient and usual manner and the conductor cord may be attached to a distribution or terminal box 21 from which the ends of the heater wire are led. It is also desirable to employ an indicator lamp in a socket 22 which will be connected in the circuit in any suitable manner.

It will be understood that the temperature of the brooder may be controlled thermostatically or in any other suitable manner.

The circulation of air in such a brooder ensures an even distribution of heat over all the area covered by the brooder and eliminates cold floor drafts within the brooder.

The openings in the shield or guard members permit considerable variation in the relative angular position of these parts. The openings also permit a limited amount of longitudinal adjustment of the guards.

The guard member is preferably provided with openings for the circulation of air and for this purpose the guard member may be made of perforated sheet metal as shown in Figs. 2, 4, and 5 or of other reticulated or openwork material such as wire mesh work 13' as shown in Fig. 7. This allows the heated air to pass through but prevents the birds from contacting the heated resistance wire.

I claim:

1. In an electrical heater for a brooder of the type having a hover, a resistance heating wire, 55

a support for said wire including spaced pairs of opposed insulating members each of which has a groove in one face thereof, said grooves of each pair being positioned adjacent each other with the wire passing through and supported within the space formed by said grooves in each of the spaced pairs, a shield for said wire partially surrounding said supporting members and said wire, and including a plurality of channel-shaped perforate metal members overlapping each other at their ends, said overlapping portions having elongated slots therein, and means passing through and occupying only a portion of said slots for holding said shield members, supporting members and wire together and against the hover.

2. A brooder having a hover, an electric heater beneath said hover, said heater including a resistance wire, a pair of opposed insulating members between which said resistance wire is held, a perforate shield beneath said resistance wire to keep birds from coming in contact with said resistance wire, and clamping means engaging one side of said hover, holding the shield against one of said insulating members, and holding the other one of said insulating members contiguous the other side of said hover from that engaged by said clamping means, and holding the first mentioned insulating member adjacent the

second with said resistance wire therebetween.

3. A brooder having a hover, an electric heater beneath said hover, said heater including a resistance wire, insulating supporting means for said resistance wire, a perforate metal shield shaped to keep birds from coming in contact with said resistance, and spaced from said wire by said insulated supporting means, said shield being constructed in substantially short lengths each provided with end portions adapted to overlap similar end portions of adjacent lengths and provided with a slotted portion in each length, whereby said lengths may be adjusted longitudinally and supported at different obtuse angles with respect to one another.

4. A brooder having a hover, an electric heater beneath said hover, said heater including a resistance wire, insulating supporting means for said resistance wire, a perforate metal shield constructed in lengths each of substantially channel shaped cross-section and formed of wire mesh through which air may circulate, the end portion of each channel shaped length being provided with an extension through which a clamping means for the shield length and insulating supporting means may pass.

KENNETH W. DU BOIS.