

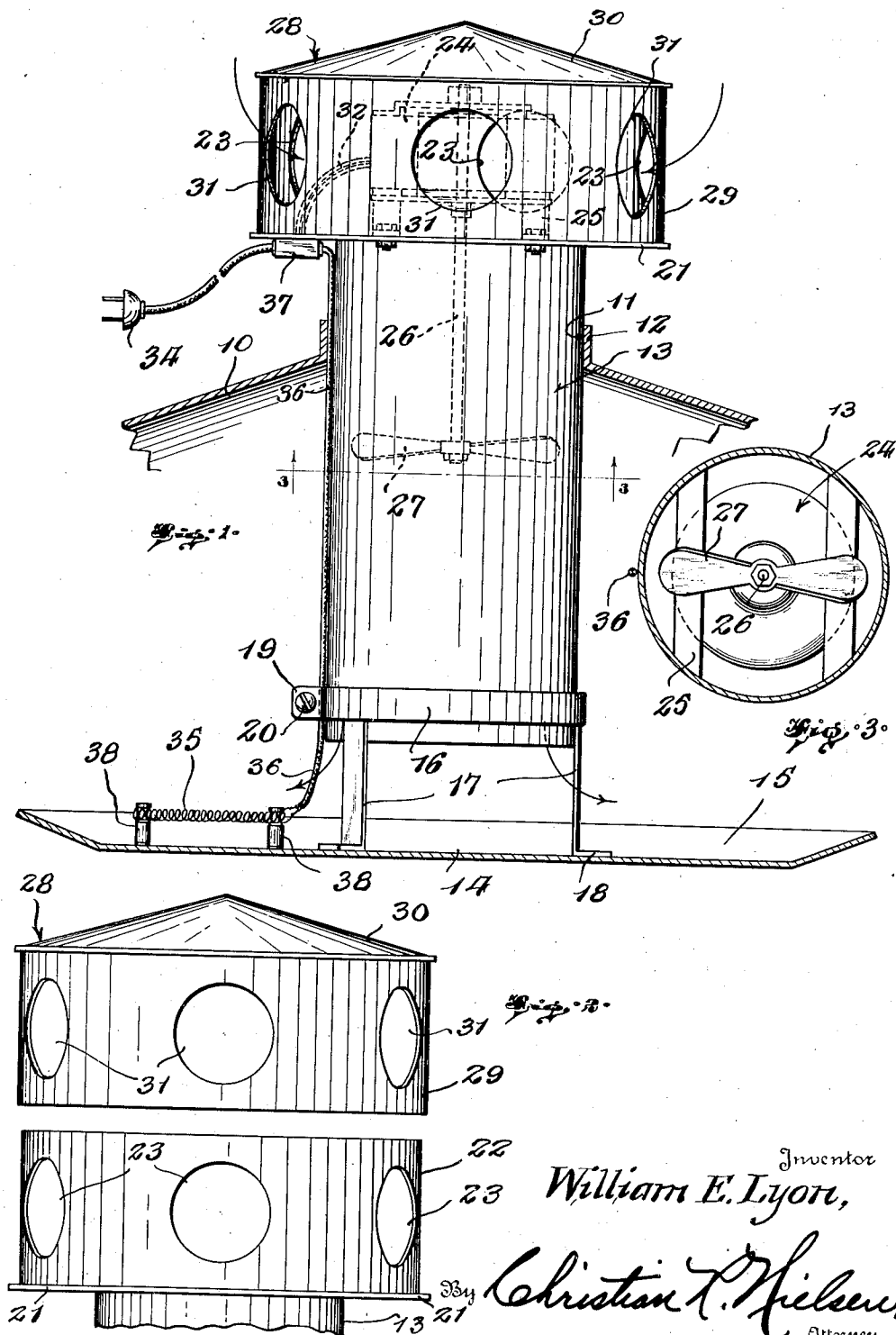
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AIR CONDITIONING AND VENTILATING MEANS FOR BROODERS

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AIR CONDITIONING AND VENTILATING
MEANS FOR BROODERS

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4 Claims. (Cl. 98—39)

This invention relates to air conditioning and ventilating means for brooders, and it consists in the constructions, arrangements and combinations herein described and claimed.

It is an object of the invention to provide an apparatus which will effectively and economically force foul air and high humidity out of the brooder space and insure a positive supply of fresh air to the fowls under the brooder.

It is a still further object of the invention to provide a construction which will function to uniformly distribute fresh air throughout the brooder.

It is also an object of the invention to provide an air conditioner which may be readily installed in old as well as new brooders, regardless of the mode of heating means employed.

Additional objects, advantages and features of invention will be apparent from the following description considered in conjunction with the accompanying drawing forming a part of this application, wherein

Figure 1 is an elevation of my invention, partly in section.

Figure 2 is a side elevation of the air regulating means, the parts being shown in separate position.

Figure 3 is a cross section on the line 3—3 of Fig. 1.

There is illustrated in Figure 1, the upper portion 10 of a brooder which may be of any conventional construction, embodying a vent 11, which in the present instance is defined by an annular collar 12.

A tube 13, which may be of any suitable length is frictionally or otherwise fitted within the vent 11, and upon the lower end of the tube which is disposed within the brooder there is secured an annular baffle plate 14. The plate 14 is substantially dish-shaped, the annular flange 15 being presented in an upwardly direction, so that air issuing from the tube 13 will be diverted upwardly and toward the sides of the brooder, thereby insuring a thorough circulation of air through all parts of the brooder, yet preventing a direct blast of air upon fowl housed within the brooder.

Various means may be employed for securing the baffle plate to the tube, and in the present construction, there is shown a clamp collar 16 of a size to loosely receive the tube 13, and from the collar 16 downwardly extended legs 17 are provided, each leg terminating in a foot portion 18 which flatly abut the plate 14. The plate may be secured to the foot portions in any approved manner, as by riveting, welding, soldering, or otherwise.

The ring 16 is preferably of an expansible nature, the right angularly disposed ears 19 of which are secured by a clamping screw 20.

From the construction described it will be obvious that the plate 14 may be adjusted toward or away from the end of the tube, by merely loosening the screw 20 and moving the collar 16 to the desired position upon the tube 13, and such adjustment of the plate will vary the deflection of the air currents issuing from the tube.

The upper end of the tube, which is disposed outward of the brooder, terminates in an annular flange 21 upon which there is secured a drum 22. The drum 22 has an open upper end and at suitable points in the side wall thereof, a plurality of apertures 23 are formed, which function to admit air into the tube 13 as will be more fully explained hereinafter.

An electric motor 24 is mounted upon the flange 21 by means of brackets 25, the shaft 26 of which is centrally disposed within the tube 13, and is of a length to extend a substantial distance thereto, and has fixed thereto a fan 27, which is of a size to freely revolve within the tube 13.

A cover 28 is provided for the drum 22, and comprises an annular wall 29 of a diameter to telescopically receive the wall defining the drum 22, the flange 21 which extends slightly beyond the drum serving as a supporting means for the cover by virtue of the contacting relation between the flange 21 and the lower edge of the cover. As shown, the roof portion 30 may have a conical shape.

The annular wall 29 has formed therein a plurality of apertures 31, so positioned as to align with the apertures 23. The cover 28 is revoluble within the drum, and therefore the degree of opening between the apertures 23—31 may be varied, and as shown in Figure 1, the cover 28 has been rotated to such an extent that approximately but one-third of the openings 31 are uncovered. It will be seen therefore that the amount of air admitted into the tube 13 may be readily regulated.

Electromotive force may be supplied to the motor 24 through the leads 32 connected to a line 33 having an attaching plug 34 for insertion in the usual house line, not shown.

In order that the air discharged into the brooder may be heated, a heater coil 35 is mounted upon the upper side of the baffle plate 14, and is electrically connected to the line 33, through the lead 36. As shown, a junction box 37 may be employed for housing the splices of the

leads to the motor and heater. The heater coil 35 is preferably mounted in spaced relation to the plate 14, in order to permit ready circulation of air, and in the present instance, this is accomplished by insulated studs 38. While a single heating coil 35 is shown, it will be obvious that a number of coils may be employed, and that the heating coil and motor may be so connected as to function simultaneously or separately, as desired.

The operation

The operation will be readily understood from the following description.

Upon insertion of the plug 34 in a suitable socket of a power line, the motor 24 will be energized, as will the heating coil 35. With energization of the motor, the fan 27 will be caused to rotate, and by such rotation will force air downwardly through the tube 13, the air being deflected by the baffle plate 14, into and across the heating coil 35, thereby suitably tempering the air. The air which is drawn into and discharged through the lower end of the tube must enter the tube by way of the drum 22 and cover 29, through the apertures 23-31. The amount of air admitted to the drum is controlled by the degree of setting of the apertures 31 with respect to the apertures 23, and this setting is accomplished by rotation of the cover 28.

The cover 28 is also removable, permitting ready access to the motor for repair or other attention.

From the foregoing, it will be apparent that I have provided an air conditioning means embodying a forced circulation of air within a brooder, which is of extremely simple construction and requiring minimum of attention in use.

If for any reason, the fan should cease to function, the tube and drum will then act as an outlet for the air within the brooder, in which event the air will travel upwardly through the tube and outwardly through the apertures 23-31 to the atmosphere.

While I have shown and described a preferred embodiment of the invention, I am aware that various changes in construction may be made, and I reserve as my own, all such modifications as fairly fall within the scope of the appended claims.

I claim:—

1. In a brooder, a tube having a horizontal flange and an apertured drum, a cover member for seating engagement with the horizontal flange and having an annular flange telescopically and rotatably positioned about the drum, said flange having apertures adapted to register with the apertures of the drum defining air inlet openings, a deflector plate at the discharge end of the tube, fan means within the tube for drawing air therinto, and heating means carried by the deflector plate.

2. In a brooder, a tube having a horizontal flange and an apertured drum, a cover member having an annular flange for seating engagement with the horizontal flange and telescopically and rotatably positioned about the drum, said flange having apertures adapted to register with the apertures of the drum defining air inlet openings, a deflector plate at the discharge end of the tube, and air heating means carried by the deflector plate.

3. In a brooder, a tube having a drum at one end thereof, said drum including a vertically extended apertured wall and a horizontally extended flange, a cover member having an annular flange rotatably positioned about the drum, said flange having apertures adapted to register with the apertures of the drum defining adjustable air inlet openings, a deflector plate adjustably mounted upon the discharge end of the tube, an electric motor mounted within the drum and having a shaft extending into the tube, a fan fixed to the shaft for drawing air through the apertures of the drum and flanges and into the tube upon energization of the motor, and heater means carried by the deflector plate in the path of discharge of air from the tube.

4. In a brooder, a tube having a drum, said drum including a vertically extended apertured wall and a horizontally extended flange, a cover member having an annular flange rotatably positioned about the drum, said flange having apertures adapted to register with the apertures of the drum defining adjustable air inlet openings, a deflector plate mounted upon the discharge end of the tube, a driven fan within the tube for drawing air through the apertures of the drum and flange into the tube, and heater means in the path of discharge of air from the tube.

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