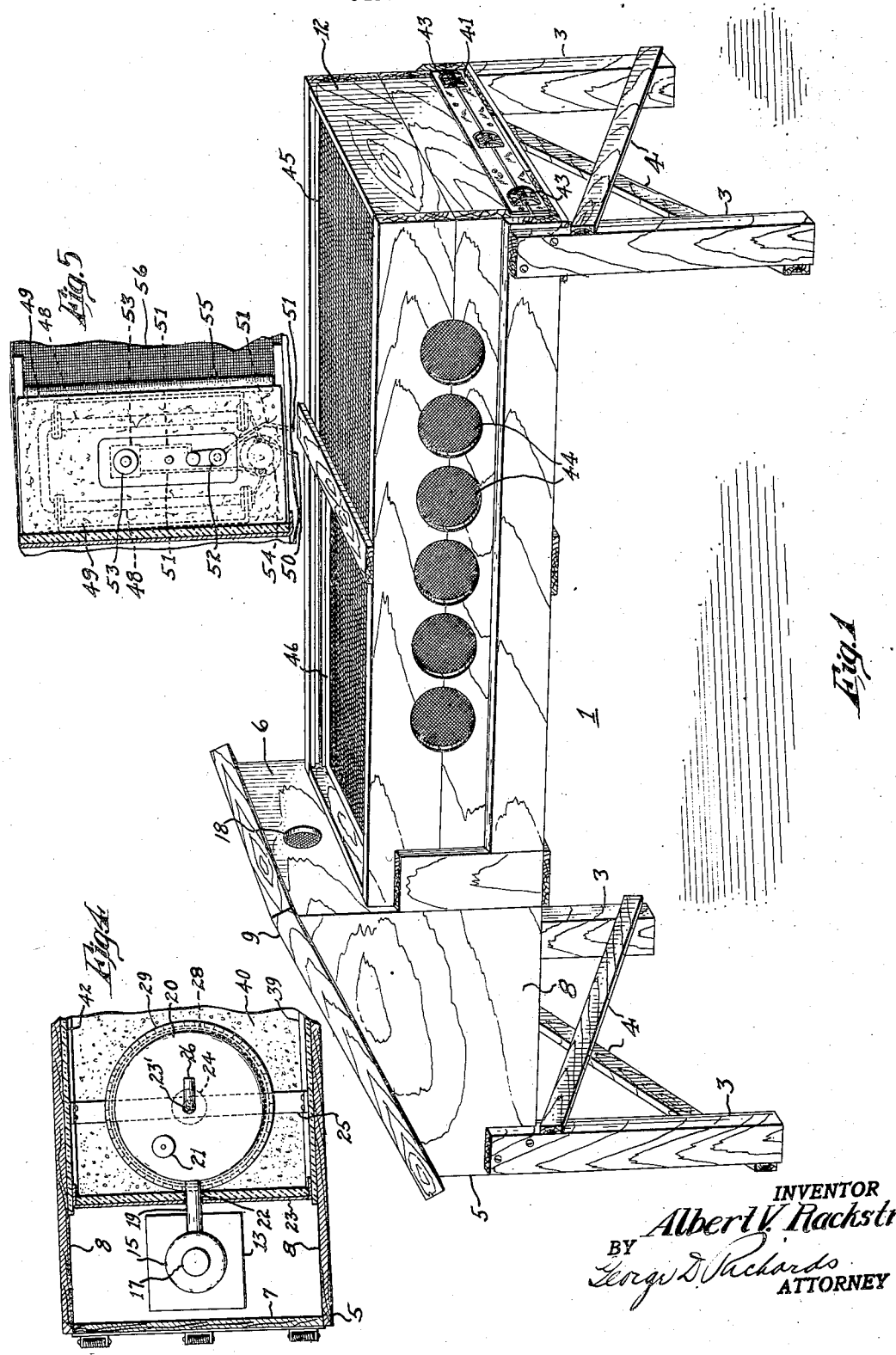
Oct. 9, 1934. A. V. RACKSTRAW 1,975,866

QUAIL BROODER

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Fig. 2

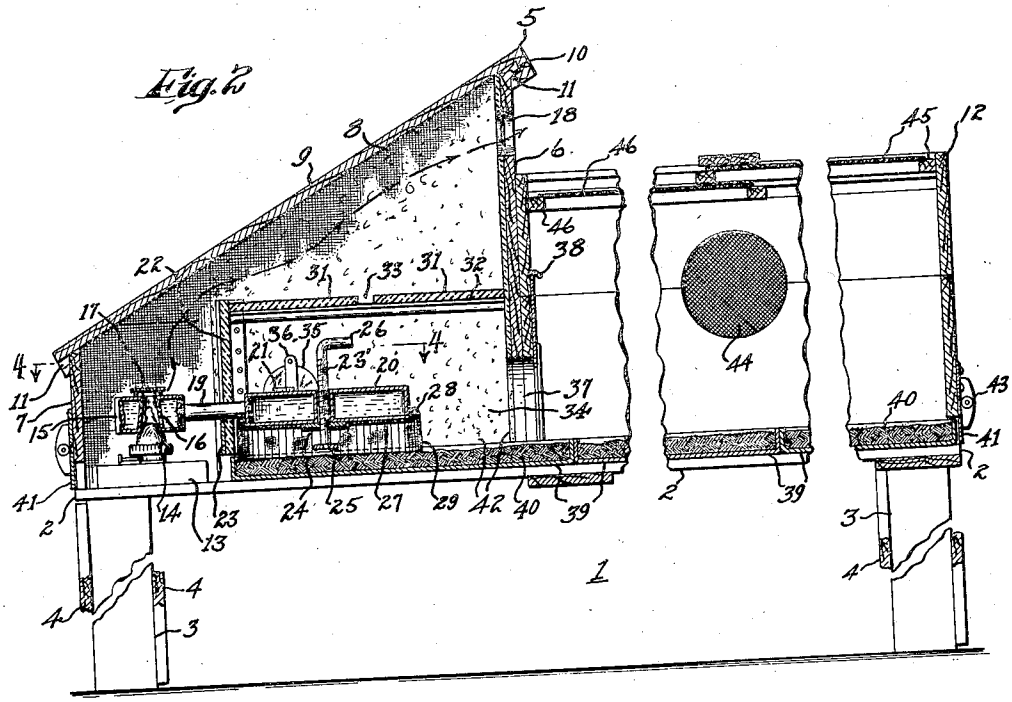


Fig. 6

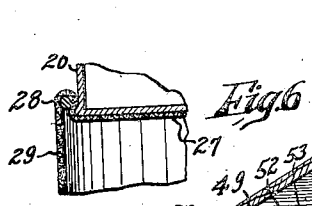


Fig. 3

INVENTOR
Albert V. Rackstraw,
BY George D. Richardson
ATTORNEY

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QUAIL BROODER

Albert V. Rackstraw, New Brunswick, N. J.

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3 Claims. (Cl. 119—33)

This invention relates, generally, to brooders; and the invention has reference, more particularly, to a novel quail brooder.

The principal object of the present invention is to provide a novel brooder that is especially adapted for raising quail.

Another object of the present invention lies in the provision of a novel brooder that closely simulates nature in raising quail, the said brooder providing a brooder compartment or house and a run communicating with such brooder compartment.

Still another object of the present invention is to provide a brooder having a novel hover which is vertically adjustable to conform to the height of the quail, whereby the upper portions of the bodies of the quail may be always kept warm when the same are within the hover.

A further object of the present invention lies in the provision of a novel brooder of the above character which is of simple, sturdy construction, is easily maintained in a clean, sanitary condition and eliminates drafts and other unhealthy conditions.

Other objects of this invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

The invention is clearly illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of the novel brooder of the present invention.

Fig. 2 is a longitudinal part sectional view in elevation with parts broken away of the novel quail brooder shown in Fig. 1.

Fig. 3 is a view similar to Fig. 2 of a modified form of construction.

Fig. 4 is a fragmentary sectional view taken along line 4—4 of Fig. 2 looking in the direction of the arrows.

Fig. 5 is a fragmentary sectional view taken along line 5 of Fig. 3 looking in the direction of the arrow; and Fig. 6 is a fragmentary detail view in section.

Similar characters of reference are employed in all of the above described views to indicate corresponding parts.

Referring now to Figs. 1, 2 and 4 of the said drawings, the reference numeral 1 designates the novel quail brooder of the present invention as a whole. Brooder 1 comprises a horizontal rectangular platform or base 2 which is mounted upon legs 3 located at the four corners of the platform 2. The two legs 3 at each end of the platform are illustrated as braced by cross braces 4. A brooder house 5 is mounted on one end portion of the platform 2 and a pen 12, providing a place for the quail to run, covers the remainder of this platform.

The brooder house 5 has front and rear walls 6 and 7, side walls 8 and a slanting top or roof 9 that is joined to the front and side walls by a tongue and groove connection. This connection consists of a tongue 10 formed on the upper edges of the front and side walls 6 and 8, which tongue projects into a groove 11 provided in the top 9. The tongue and groove connection 10—11 permits the top 9 to be readily slid upwardly and forwardly, thereby obtaining easy access to the interior of the brooder house.

Within the rear portion of the brooder house 5, there is provided a lamp heater consisting of a fuel reservoir 13 mounted on the base 2 and a burner 14 attached to the top of this reservoir. A hot water heater unit 15 of annular shape overlies the burner 14. This heater unit is hollow for receiving water therewithin and has a central, somewhat converging, aperture 16 within which the flame of the burner 14 burns. A ventilated hood 17 is provided upon the top of the heater unit 15 overlying aperture 16, which hood serves to conserve the heat given off by the flame of burner 14 so that this heat will be largely absorbed by the water within the heater unit 15. Fumes from the burner flame pass upwardly, as indicated by the arrows in Fig. 2, and are discharged through an opening or window 18 provided in the front wall 6 of the brooder house.

A pipe 19 extends forwardly from the heater unit 15, through a vertical slot 22 provided in a partition 23 and has its forward end connected to a brooder radiator 20 of annular shape. The brooder radiator 20 is also hollow and is provided with a filling plug 21 in its top. By removing plug 21, water may be poured into the hollow interior of the brooder radiator 20 and some of this water will flow through pipe 19 and into the heater unit 15. In use, water heated in the heater unit 15 flows by convection through pipe 19 and into the interior of the brooder radiator 20, thereby retaining the water within this radiator at a warm temperature. The relatively large diameter of pipe 19 enables heated water to flow from unit 15 through the upper portion of this pipe to radiator 20 while cooled water from this radiator flows through the lower portion of this pipe back to unit 15.

The brooder radiator 20 has a central vertical aperture through which a threaded rod 23' extends. Rod 23' is threaded through a nut mem-

ber 24 fixed to the under surface of radiator 20, and the lower end of this rod has a bearing upon a transversely extending bar 25 that has its end portions secured to the side walls 8 of the brooder house 5. The upper end portion of rod 23' is illustrated as provided with a handle 26. By turning handle 26, the rod 23' is turned with respect to nut 24, thereby effecting the raising or lowering of the brooder radiator 20, depending upon the direction in which the handle 26 is turned.

A disk shaped brooder curtain 27 underlies the brooder radiator 20 and extends upwardly for a short distance at the sides of this radiator where the same is secured to the radiator 20 by a wire 28 having the form of a hoop that extends snugly around the radiator 20 in overlying relation to the curtain 27. The hoop of wire 28 serves to bind the curtain 27 to the radiator 20 and after passing over this hoop the curtain extends downwardly providing a depending curtain portion 29, which depending portion is formed with a plurality of vertical slits to permit ready passage of the quail to and from the space below the radiator 20. Since the curtain 27 covers the bottom of the radiator 20, this curtain serves to prevent the backs of the quail from being burned by direct contact with the radiator (see also Fig. 6).

The brooder radiator 20 is contained within a compartment 34 provided in the brooder house 5, which compartment is formed by the vertical partition 23, portions of the side and front walls of the brooder house and a pair of panels 31 which extend transversely of the brooder house and are supported at their ends upon bars 32 fixed to the side walls 8. The interior of the compartment 34 thus formed is illustrated as lined with insulating material 42 to retain the heat therein. The panels 31 are preferably of heat insulating material and rest loosely on bars 32 so as to permit the ready removal of these panels, thereby permitting ready access into the interior of the brooder radiator compartment. The combined depth of these panels 31 i. e. measured in the direction of the length of the brooder is not as great as the total depth of the radiator compartment 34, thereby providing a space 33 between the panels 31 which permits a desired circulation of air upwardly from this compartment and out of the opening 18. Also, the space 33 provides a finger space, whereby easy access is had to the panels 31 as for removing the same.

One side wall of the compartment 34 is illustrated as provided with a window 35. A thermometer 36 adjacent the window 35 enables the user to know the temperature within the compartment 34 at all times by merely glancing in through the window 35. The front wall 6 of the brooder house is provided with a door opening 37 that is adapted to be closed by a vertically movable slide gate 38. The door opening 37 permits the passage of the quail between the pen 12 and the compartment 34 of the brooder house. A plurality of removable pans 39 rest upon the platform 2 and serve as a floor for the compartment 34 and for the pen 12. Three of these pans 39 are illustrated in Fig. 2 of the drawings, but a greater or lesser number of these pans may be used, if desired.

Pans 39 are adapted to be substantially filled with sand or earth 40 serving as a floor upon which the quail walk. The front wall of the pen 12 and the rear wall of the brooder house 5 are provided adjacent the platform 2 with transverse openings extending the full width of the platform 2. These transverse openings are of slightly greater height than the pans 39. Hinged gates 41 normally close these openings. Gates 41 are carried by spring actuated hinges 43, which hinges act to retain the gates 41 in closed position.

When it is desired to remove one or more of the pans 39, as for the purpose of renewing the sand or earth therein, it is merely necessary to manually turn either of the gates 41 upwardly and pull the pans 39 in succession outwardly through the gate opening. The use of the pans 39 with the earth 40 therein, not only provides the quail with a natural earth floor to walk upon, but also provides means for keeping the brooder house clean at all times, it being merely necessary to remove the earth from the pans from time to time in order to retain the floor of the brooder in a clean, healthy condition. When it is desired to remove the pans through the gate 41 provided in the rear wall of the brooder house, it is necessary to raise fuel reservoir 13 of the burner somewhat in order to permit such removal.

The rear wall of pen 12 and the front wall of the brooder house 5 are provided adjacent platform 2 with aligned transverse openings for permitting the passage of the pans 39. The side walls of the pen 12 are provided with screened circular openings 44 to enable air and light to reach the quail. Also, the top of the pen 12 is illustrated as provided with two sliding screens 45 and 46. Screens 45 and 46 are movable longitudinally of pen 12 in guideways provided on the side walls of the pen. Thus, screen 45 may be slid rearwardly into overlying relation to the screen 46, thereby permitting ready access to the forward half of the pen 12. Likewise, by sliding screen 46 forwardly and under the screen 45, ready access is had to the rear half of pen 12 and to slide gate 38.

In use, the quail may be inserted into the pen 12 by shifting one of the screens 45 or 46 aside, or the same may be put directly into the compartment 34 of the brooder house by merely sliding the top 9 upwardly and forwardly and removing one of the panels 31. With the quail within the compartment 34, they have ready access to the warm region below the brooder radiator 20. Preferably the threaded rod 23' is adjusted by means of handle 26 so that the disk shaped horizontal portion of curtain 27 will be level with the backs of the quail, whereby the quail, when under the radiator 20, may hold their backs in contact with the curtain 27, thereby receiving warmth directly from the heater 20 without being burned. Experience has shown that if the backs of the quail are kept warm, the remainder of their bodies will be warm. As the quail grow bigger, the handle 26 can be adjusted so as to raise the radiator 20 to accommodate such growth.

Owing to the presence of the opening 18 in the upper front wall of the brooder house, all fumes from the burner 14 pass upwardly and out through this opening without doing any harm. Likewise, foul air from the compartment 34 will pass upwardly through opening 33 and out through the window 18. Since the compartment 34 is substantially completely enclosed within the brooder house and has heat insulated walls, the same is readily maintained at any desired warm temperature by merely adjusting the wick of burner 14. By closing the gate 38, this compartment may be kept very warm during the night, as desired. Owing to the ready accessibility of all parts of the device, the same may be kept in

a sanitary condition with a minimum of effort. It will be noted that the use of the sand or earth 40, together with the vertically movable radiator 20, enables the user to closely approximate nature in raising the quail.

A somewhat modified form of invention is shown in Figs. 3 and 5. The parts of these figures that are similar to corresponding parts of the preceding figures, are similarly numbered. In this form of the invention, an electric heater is used for supplying the necessary heat instead of the hot water heater previously described. This electric heater comprises a heater coil 48 that is attached to the underside of a transversely extending panel 49. The ends of the panel 49 are removably supported upon brackets 62 provided on the side walls of brooder house 5. As especially shown in Fig. 5, the heater coil 48 is adapted to be supplied with electric energy by means of supply leads 50 and 51.

Lead 51 is illustrated as extending to a hand switch 52 and from thence this lead extends to a thermostatic relay 53 which serves to regulate the operation of coil 48. From the thermostatic relay the lead 51 extends to one side of a lamp 54 and from the lamp 54 to one end of the U-shaped heater coil 48. The other end of heater coil 48 is connected by lead 50 to the other side of lamp 54 and from thence to the source. When switch 52 is closed, as shown in Fig. 5, voltage will be supplied to thermostatic relay 53 and if the contacts of this relay are closed, current will be supplied by way of lead 51 to the lamp 54 and to the heater coil 48. When switch 52 is open, the heater coil 48 and lamp 54 will be deenergized. The lamp 54 is used to illuminate the region below the panel 49 which is found desirable at times. In the event that it is not desired to use this lamp, the same may be loosened or completely removed from its socket. The forward edge portion of the panel 49 is provided with a drop curtain 55 for retaining heat under the panel 49. Thermostatic relay 53 serves to maintain the desired temperature in the region under this panel.

In this form of the invention, the pans 39 containing the earth floor 40 are omitted and removable screens 56 are substituted therefor, the said screens serving as a floor for the quail and having rigid frames for supporting the floor screening. These screens 56 are slidable in guides 57 provided in the sides of pen 12 and brooder house 5, and by opening the gates 41, the screens 56 may be removed, when desired. Screens 56 are of course mesh (i. e. about a quarter of an inch) and allow the droppings to pass through and onto paper 58, which paper is adapted to be pulled off of a roll 59 that is mounted on a transverse supporting rod 60 within the brooder house. Rod 60 has its ends journaled in the side walls of the brooder house 5. The paper 58 rests upon a plurality of similar panels 63, which panels are arranged end to end and may be withdrawn from the device, when desired, by opening either of the gates 41. The panels 63 are illustrated as consisting of insulating material covered with sheet metal, although these panels may be made of other material, such as wood, if desired.

In use, the brooder shown in Figs. 3 and 5, is used in much the same manner as that of the other figures. The droppings pass through the screens 56 and onto the paper 58 and are removed from the machine by removing the portion of the paper underlying the compartment 34 and the pen. The paper thus removed may be torn off against the edge of the gate 41 mounted on the pen. In removing the used portion of the paper, a new portion is automatically drawn under the compartment 34 and pen 12. In the event the roll of paper 58 is exhausted or is not used, the panels 63 will serve to collect the droppings, and these panels can be readily removed, as for purposes of cleaning the same.

What is claimed is:

1. In a quail brooder of the character described, a base, a pen mounted on said base, said pen having a gate opening in the end thereof, a brooder house mounted on said base adjoining said pen, said pen and said brooder house having aligned communicating apertures, rigid means slidably mounted within said pen and brooder house, a floor for the quail supported by said rigid means, said rigid means being removable by sliding the same endwise through the gate opening of said pen to enable the cleaning thereof, and a brooder heat emitting member contained within said brooder house.

2. In a quail brooder of the character described, a base, a pen mounted on said base, said pen having an opening in the end wall thereof, a spring closed gate normally closing said opening, a brooder house mounted on said base adjoining said pen, the upper part of said brooder house having a ventilating opening in the wall thereof for permitting the escape of foul air, said brooder house providing a compartment therein arranged to communicate with said pen, said brooder house and said pen having aligned door openings for establishing such communication, slidable means extending throughout said pen and said compartment for providing a floor for the quail, said means being removable by sliding the same through the gate opening of said pen to enable the cleaning thereof.

3. In a quail brooder of the character described, a base, a pen mounted on said base, said pen having an opening in the end wall thereof, a gate normally closing said opening, a brooder house mounted on said base adjoining said pen, the upper part of said brooder house having a ventilating opening in the wall thereof for permitting the escape of foul air, said brooder house having a compartment therein arranged to communicate with said pen, means extending throughout said pen and said compartment for providing a floor for the quail, said means being removable through the gate opening of said pen to enable the cleaning thereof, a hot water heat radiator contained within said compartment, said radiator having a supply pipe extending outwardly of said compartment and into the remaining portion of said brooder house, and a burner contained within said brooder house remaining portion for heating water to be supplied through said pipe to said heat radiator, the fumes from said burner escaping through said ventilating opening.

ALBERT V. RACKSTRAW.