Jan. 2, 1923. 1,440,958

M. C. BARON.
BROODER.
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Fig. 1

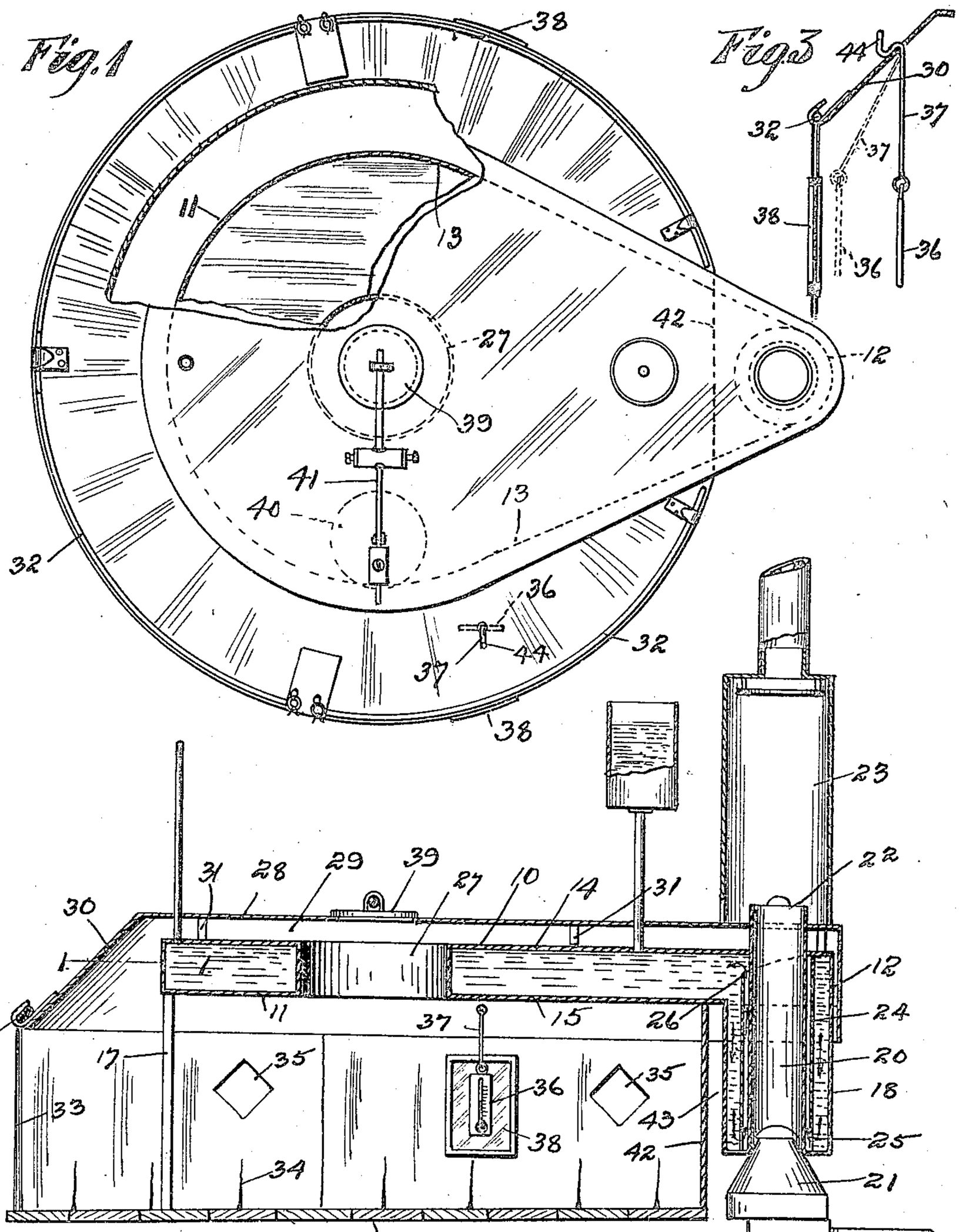

Fig. 3

Fig. 2

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MARY CHASE BARON, OF HAMPDEN MEADOWS, RHODE ISLAND.

BROODER.

Application filed August 26, 1920. Serial No. 406,184.

To all whom it may concern:

Be it known that I, MARY CHASE BARON, a citizen of the United States, residing at Hampden Meadows, in the county of Bristol and State of Rhode Island, have invented certain new and useful Improvements in Brooders, of which the following is a specification.

This invention relates to certain new and useful Improvements in a brooder or artificial mother for chickens, the same being adapted to be heated by a circulation of hot water in an over-head tank; and is an improvement on my prior Patent No. 1,329,494, dated February 3, 1920.

The invention further consists in the arrangement of a window through which a thermometer inclosed within the brooding space may be readily observed for the purpose of determining the internal temperature of the brooder without withdrawing the curtains.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings:

Figure 1 is a plan view of my improved brooder, partly broken away to better illustrate the position and shape of the heating tank within.

Figure 2 is a central sectional elevation of my improved brooder.

Figure 3 is a detail illustrating the means for suspending the thermometer in the brooding chamber whereby it may be readily moved up to the window to be better observed.

Referring particularly to the drawings, it will be observed that the brooder is shown as being substantially circular, that is, covering a circular area. 10 indicates a relatively flat horizontal water tank or radiator for the brooder and is preferably formed substantially in the shape of a lengthwise middle section through a pear, that is, it is provided with an enlarged circular body portion 11 having a lateral extension 11ª, the side walls 13 of which extension extend tangentially of the body portion 11 and meet at their outer ends, as indicated at 12. The upper and lower body plates 14 and 15 of this tank are spaced apart a short distance providing a tank adapted to carry a comparatively thin body of water and extending the same over a relatively large area, the tank being disposed in a horizontal position.

This tank is supported a suitable distance from the floor 16 on legs 17.

In order to facilitate the heating of the water in this tank, I have provided a drop-leg 18 which is preferably in cylindrical form projecting downwardly from the laterally-extending portion of the tank and through the center of this leg, I have provided a heat-conducting flue 20 at the lower end of which the burner 21 is placed. The upper end 22 of this flue is arranged to open into the air super-heating drum 23. The burner 21 may be either a lamp, oil gas or any other heat-producing device.

In order to facilitate the circulation of the heated water through the body portion of the heating tank, I have provided a jacket 24 about this heat flue which has openings 25 at its lower end to admit the water and is opened at its upper end to permit the heated column of water to flow outwardly near the top of the tank and so cause a circulation of the heated water through the body of the tank.

It is found in practice in a plain tank that the large body of water about the center of the largest diameter of the tank, serves to over heat the middle portion of the brooder, which is detrimental, and to obviate this difficulty, I have provided an opening 27, at this point through the body portion of this tank, which opening is of a substantial size, in some instances approximately that of one-third the greatest diameter of the body of the tank, but I do not wish to be restricted to this exact size as the diameter of this opening may be varied with the conditions under which the device is operated.

In order to receive and deflect the heat from the tank, downwardly into the brooding space below, I have provided a hood member 28 which has a top plate spaced a short distance above that of the heating tank providing an upper air space 29 between them. The periphery 30 of this hood is preferably beveled or set on an incline to better deflect the heat downwardly into the space below. This hood may be supported from the tank by means of spacers 31.

About the edge of this hood I have positioned curtain rods 32 on which are supported curtains 33 which may be made of any suitable material such as thin oilcloth or the like, which curtains drop down like a

skirt from the outer edge of the hood inclosing the brooding space and retaining the heat within. The lower edge of this curtain is slashed as at 34 to permit the chicks to readily pass therethrough either into or out of the brooding space.

When this curtain or skirt is dropped down about the brooding space, it is naturally quite dark inside as the light and air are thus excluded. As it is found advisable to provide some light for the chicks and also some fresh air from the outside to facilitate proper circulation of both fresh and heated air for the little ones, I have provided one or more openings 35 of any convenient shape through these curtains to supply this light and needed air, and I have preferably placed these openings in the curtains at a point above the heads of the chicks so that the inward draft therethrough will not be detrimental to them.

In order that the temperature of the interior of the inclosed brooding space may be readily ascertained without withdrawing the curtains, I have suspended a thermometer 36 by a wire 37 from the hood in this space. Two windows 38 are formed in the curtains one on each opposite side of the brooding space and I have positioned a thermometer which is preferably of the transparent type, at a point intermediate these two opposite windows whereby by looking into either of these windows the thermometer may be readily observed by the light which is admitted through both. To further facilitate the reading of the thermometer I have formed a handle 44 on the outer end of the suspension wire 37 whereby the instrument may be swung laterally up close to the window for better observation.

The operation of my improved brooder may be more fully described as follows: The circulation of the heated water through the body of the tank is facilitated by the use of a jacket 24 about the heating flue, and the opening at the middle or center portion of the brooder avoids the over-heating of the air at this middle portion, and this opening through the tank also cooperates with the opening 35 in the curtain to draw in fresh air and create a constant circulation of fresh heated air through the brooding chamber.

After the air within the brooder has been raised to a predetermined temperature the usual regulating damper 39 is raised, by means of the usual thermostat 40, located within the brooding chamber, through the pivot arm 41 to uncover an opening in the hood aligned with the opening 27 of tank 10.

As the heat from the drop leg 18 is more or less intense I have positioned a wall 42 between it and the brooding chamber to prevent local overheating of the brooding space and this wall is positioned a short distance inwardly from the wall of the drop leg providing an air space 43 between them for further modifying the local heat within the brooder.

My improved brooder is extremely simple and practical in construction and effective in its operation and by its use a very even temperature may be maintained throughout the brooding space and a constant circulation of air created therein.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claim.

I claim:

In a brooder, a brooding chamber, a thermometer of the transparent type within said brooding chamber, oppositely arranged light openings in said chamber, said thermometer being positioned between said openings whereby it may be readily observed through one opening and the light admitted through the other opening permitting a reading thereof.

In testimony whereof I affix my signature.

MARY CHASE BARON.