A. SLEEPER.

MOISTURE REGULATOR FOR EGG INCUBATORS.

APPLICATION FILED NOV. 25, 1910.

1,043,159. Patented Nov. 5, 1912.

FIG. 1.

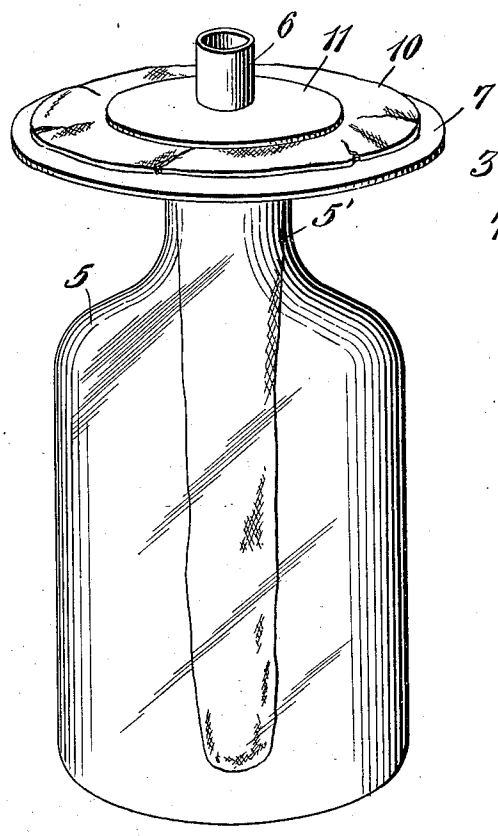


FIG. 2.

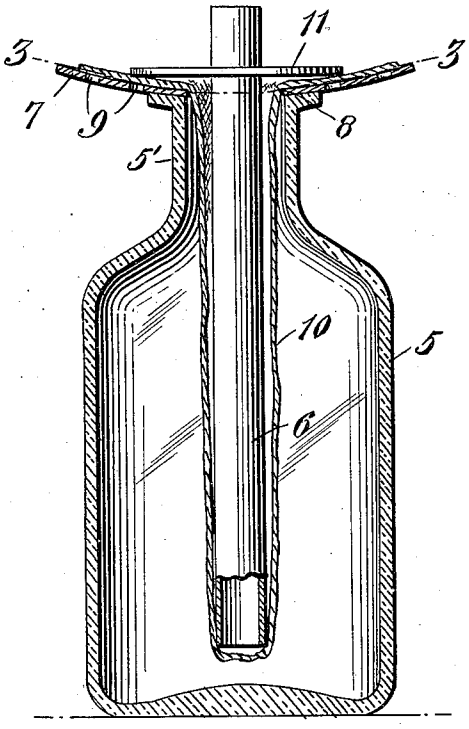


FIG. 3.

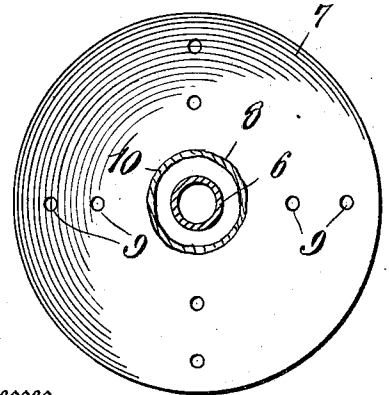
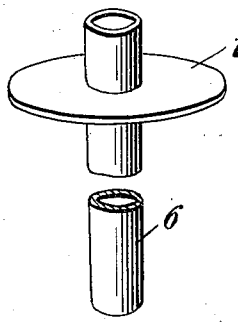


FIG. 4.



Witnesses

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MOISTURE-REGULATOR FOR EGG-INCUBATORS.

1,043,159. Specification of Letters Patent. Patented Nov. 5, 1912.

Application filed November 25, 1910. Serial No. 594,132.

To all whom it may concern:

Be it known that I, ANNETTA SLEEPER, a citizen of the United States, residing at Little Meadows, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Moisture-Regulators for Incubators, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to moisture regulators for egg incubators, and has for its object to provide an extremely simple and efficient device whereby the proper quantity of moisture is provided to the incubating chamber so that a normal and healthy production of chicks will be obtained.

A further object of the invention resides in the provision of a bottle or other suitable receptacle and means associated therewith for facilitating the evaporation of water placed within the receptacle.

Still another object of my invention is to provide a simple and inexpensive evaporating means which may be easily and quickly arranged in operative position with relation to the receptacle.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a moisture regulating device embodying my improvements; Fig. 2 is a vertical section of the same; Fig. 3 is a section taken on the line 3—3 of Fig. 2; and Fig. 4 is a detail perspective view of certain of the parts removed.

Referring specifically to the accompanying drawing 5 designates a bottle or other suitable receptacle having a contracted neck portion 5′. My improved evaporating means is adapted to be arranged upon and within the receptacle and comprises the tube 6 which is open at both ends and is of sufficient length to project slightly above the neck of the receptacle.

A metal disk 7 of concavo-convex form is provided with a central opening 8 of greater diameter than the tube 6, and this disk is adapted to be arranged upon the neck of the bottle or receptacle, the edge portion thereof surrounding the opening 8 resting upon the bottle neck 5′. The body of the disk 7 is further provided with a plurality of smaller openings 9 which facilitate the evaporation of the contents of the bottle as will more fully appear from the following description.

A cloth or other suitable absorbent 10 is utilized for the purpose of equally distributing the moisture laden air from a central point within the incubating chamber, and this cloth is adapted to be held in position by means of a flat metal plate 11 which fits closely around the upper end of the tube 6, said plate securely holding the central portion of the cloth between itself and the concavo-convex plate 7.

In use, the parts are assembled as shown in Fig. 1, the concavo-convex disk 7 being first arranged upon the neck of the bottle or receptacle, the concave face of said disk being uppermost. The cloth or other absorbent material 10 is then arranged upon the concave face of the disk 7 and the tube 6 is engaged with said cloth over the central opening 8 in the disk and the tube forced downwardly into the bottle or receptacle, the downward movement of the tube carrying the cloth into the water contained in the receptacle. The circular metal plate 11 is now inserted over the upper open end of the tube 6 and forced downwardly upon the central portion of the cloth 10, said cloth extending outwardly around the edge of the plate 11 as clearly shown in Fig. 1.

In the practical operation of the device, after the parts have been associated as above described, the water is soaked up or absorbed by the fabric 10 until the same becomes thoroughly saturated. This water is evaporated and carried off in the form of moisture by the surrounding air, this moisture being distributed through the eggs contained in the egg chamber of the incubator. The vessel 5 is set within the egg chamber centrally thereof among the eggs, the ab-

sorbent cloth 10 being disposed above the eggs. It will of course, be obvious that if the egg chamber is of such size as to require two or more of the moisture regulators to provide a proper amount of moisture, they will be so arranged as to best obtain the desired results. The small openings 9 which are provided in the concavo-convex plate 7 act to facilitate the evaporation of the water from the cloth, the air being permitted to enter freely between the concave face of the plate and the under side of the absorbent fabric. In the event that an excess of moisture occurs, the superfluous water settles upon the concave face of the plate 7 and is drained back into the receptacle 5 through the large central opening 8 in said plate. It will furthermore be appreciated that by providing the laterally extended portion of the material at the upper end of the container, the amount of moisture given off into the air may be varied as circumstances may require by simply moving the cloth into the neck of the container or pulling the same outwardly therefrom.

It is a well known fact, that in the incubation of eggs, a certain amount of moisture is absolutely essential to the production of normal and healthy chicks, and it will be readily seen that by means of my improved regulator constructed in the manner above set forth, a thorough distribution of the moisture laden air throughout the area of the egg chamber may be obtained. The regulator is placed in the incubation chamber on the sixth day after the eggs have been placed therein and is removed on the fifteenth day, the receptacle being daily replenished. From the fifteenth to the nineteenth day, the moisture regulator is only allowed to remain in the incubation chamber at night, the process of incubation being advanced to such a stage that a large quantity of moisture is no longer necessary. By means of my improved device I aim to materially reduce the death rate among chicks hatched by incubation, and I have found that by providing a device of the above character wherein the moisture laden air radiates from a central point, the distribution of the same over an extensive area is secured, whereby very satisfactory results are obtained, the death rate being negligible.

From the foregoing it is thought that the construction and many advantages pertaining to my improved moisture regulator will be apparent. The device may be produced at an extremely low cost, the parts thereof may be easily and quickly assembled and owing to the peculiar construction of the device, the same is rendered extremely efficient, continuous evaporation being practically assured.

While I have shown and described the preferred form of the various elements of construction, it will be understood that the device is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:—

1. The combination with a water container having a contracted neck, a disk to be arranged upon the neck of the container, said disk having a central opening, a piece of absorbent material arranged upon said disk and extending over the opening therein, a tube adapted to be engaged with said material and inserted through the opening of said disk, said tube and material being forced into the container, said material extending outwardly upon said disk, said disk being provided with a plurality of openings, and means to retain said disk upon the neck of the container.

2. The combination with a bottle having a contracted neck, of a disk arranged upon the upper end of said bottle neck and having a central opening, a piece of absorbent material adapted to be disposed upon the disk and extend over the opening thereof, a tube open at both ends adapted to be engaged with said material and forced through the opening of the disk into the bottle, said material extending upon the disk, means adapted to be arranged upon the upper end of said tube and engage the absorbent material to retain the same and said disk in position, said disk being provided with a plurality of openings, substantially as and for the purpose specified.

3. The combination with a bottle having a contracted neck, of a concavo-convex disk adapted to be arranged upon the bottle neck and having a central opening, the concave face of said disk being arranged uppermost and provided with a plurality of openings, a piece of absorbent material adapted to be arranged upon the concave face of the disk, a tube open at each end adapted to be engaged with said material and forced through the openings in said disk to dispose said tube and the material within the bottle, and a circular plate arranged on said tube and engaging the absorbent material around the central opening in said disk to retain the material and the disk in position upon the neck of the bottle.

4. The combination with a water container, of a tube open at each end adapted to be inserted into said container, a supporting element arranged upon the open end of the container, and a piece of absorbent material loosely surrounding said tube within the container and extending laterally from the tube at its upper end and resting upon said supporting element.

5. The combination with a water container, of a disk arranged upon the open end of the container and having a central opening, a piece of absorbent material extending into said container and upon the upper surface of the disk surrounding the edges of the opening, and means for holding said material in position.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ANNETTA SLEEPER.

Witnesses:
Mrs. J. C. TRIPP,
MARY JONES.