J. A. HOWARD, Sr.

ELECTRIC INCUBATOR.

APPLICATION FILED JULY 3, 1920.

1,393,531. Patented Oct. 11, 1921.

Fig. 1.

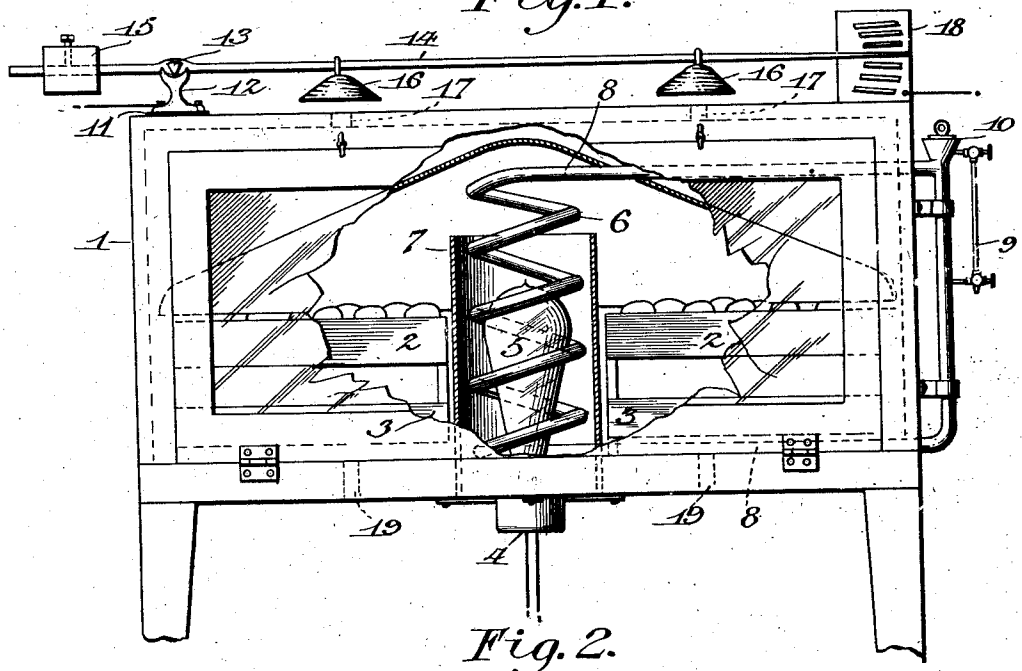


Fig. 2.

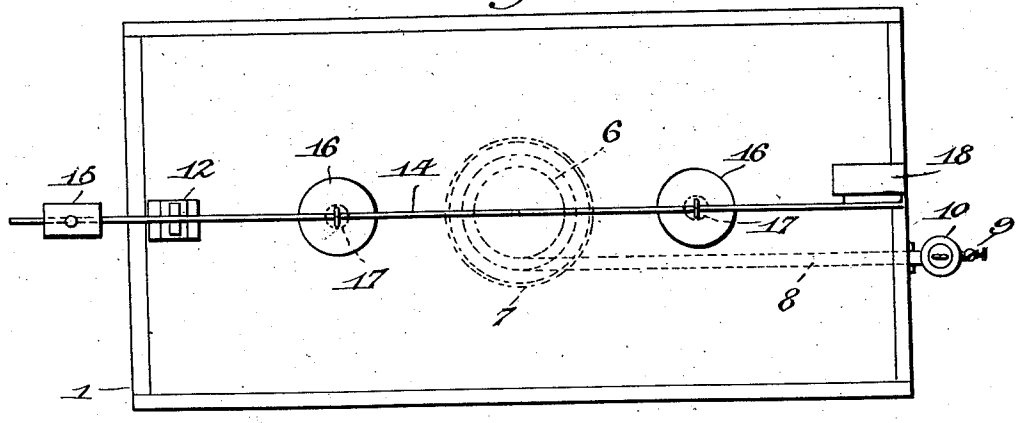
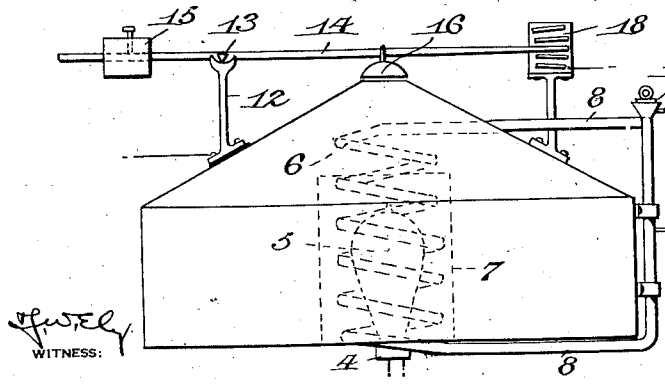


Fig. 3.



John A. Howard, Sr.
INVENTOR

By Victor J. Evans
ATTORNEY

WITNESS:

UNITED STATES PATENT OFFICE.

JOHN A. HOWARD, SR., OF WEST NEW BRIGHTON, NEW YORK, ASSIGNOR TO CAMWARD ENGINEERING CO., INC., A CORPORATION OF NEW YORK.

ELECTRIC INCUBATOR.

1,393,531. Specification of Letters Patent. Patented Oct. 11, 1921.

Application filed July 3, 1920. Serial No. 393,845.

To all whom it may concern:

Be it known that I, JOHN A. HOWARD, Sr., a citizen of the United States, residing at West New Brighton, S. I., in the county of Richmond and State of New York, have invented new and useful Improvements in Electric Incubators, of which the following is a specification.

This invention relates to incubators and more particularly to electric means for heating them and for controlling the heat to be delivered to the same.

One of the objects of this invention is to provide electric heating means for incubators.

Another object is to provide automatic means for controlling the amount of current delivered to the heating element.

Other objects will appear from the following description and claims.

One embodiment of the invention is shown in the accompanying drawings consisting of one sheet in which:—

Figure 1 is a front elevational view of my improved device, parts being broken away for the sake of clearness.

Fig. 2 is a top plan view of the same.

Fig. 3 is a side elevation of a brooder equipped with my improvement.

Like characters of reference refer to like parts throughout the several views.

This invention contemplates the providing of an incubator with an electrically heated hot water oil and with automatic safety outlets which permit escape of the air when it becomes too hot, the escape of air being utilized for the purpose of effecting operation of a rheostat to decrease the current delivered to the heating element.

Referring more particularly to the drawing, 1 represents the frame work of an incubator provided with the usual egg trays 2, and sand trays 3, the latter carrying the moisture necessary for the proper incubation of the eggs.

Secured to the under side of the machine is an electric socket 4 provided with an electric lamp 5 which is surrounded by a hot water coil 6, outside of which is a chimney 7. The water coil is connected at its upper and lower ends to a pipe 8 provided with a water gage 9, and with a mouth 10 for filling the system.

Mounted upon a sheet of insulation 11 is a standard 12 which is bifurcated and provided in its upper ends with bearings for a knife plate 13 secured to the usual rod 14, members 12, 13 and 14 being of conducting material. 15 represents a weight which is adjustable on the bar 14 as is usual and is provided with covers 16 which cover the safety ports 17 in the top of the frame 1. The tip of the rod 14 operatively connects with a rheostat shown at 18, said rheostat being in circuit with the lamp 5.

Normally, air passes in at the bottom of the machine and up through the chimney 7 where it is heated. The air is then deflected downwardly on to the eggs and through the sand trays, out of the escape ports 19 at the bottom, but when the heat becomes too great, covers 16 are raised throwing up the rod 14. Any well-known thermostatic device may be used for this purpose. This not only permits the escape of the heated air through ports 17, but also operates the rheostatic device to "turn down" lamp 5. As the air in the machine becomes cooled, the parts 16 and 14 return to normal and thereby close ports 17 and turn on more power through lamp 5.

In Fig. 3 is shown practically the same heating and regulating device as is shown in Figs. 1 and 2 but applied to a brooder. The same principle of operation is involved, and similar parts are given similar reference characters.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What I claim as new and desire to secure by Letters Patent is:—

1. In a device of the class described, the combination of an electrically operated heating element, a water coil heated thereby, egg trays, and a chimney permitting air to pass into said device and into contact first with said water coil and then with said egg trays.

2. In a device of the class described, the combination of an electrically operated heating element, an egg tray and a water system heated by said element for heating air about said egg tray.

3. In a device of the class described, the

combination of an electrically operated heating element, a water coil heated thereby, egg trays, a chimney permitting air to pass into said device and into contact first with said water coil and then with said egg trays, and means for regulating the current passing through said heating element.

4. In a device of the class described, the combination of an electrically operated heating element, an egg tray, a water system heated by said element for heating air about said egg tray, and means for regulating the current passing through said heating element.

5. In a device of the class described, the combination of an electrically operated heating element, a water coil heated thereby, egg trays, a chimney permitting air to pass into said device and into contact first with said water coil and then with said egg trays, and a rheostat in the circuit with said heating element as and for the purpose set forth.

6. In a device of the class described, the combination of an electrically operated heating element, an egg tray, a water system heated by said element for heating air about said egg tray, and a rheostat in the circuit with said heating element as and for the purpose set forth.

7. In a device of the class described, the combination of a chamber to be heated, an electrically operated heating element therefor, and means whereby the electric current for operating said element may be automatically controlled by the temperature of said chamber.

In testimony whereof I have affixed my signature.

JOHN A. HOWARD, SR.