R. F. HUME.

INCUBATOR.

APPLICATION FILED JAN. 18, 1917.

1,274,166. Patented July 30, 1918.

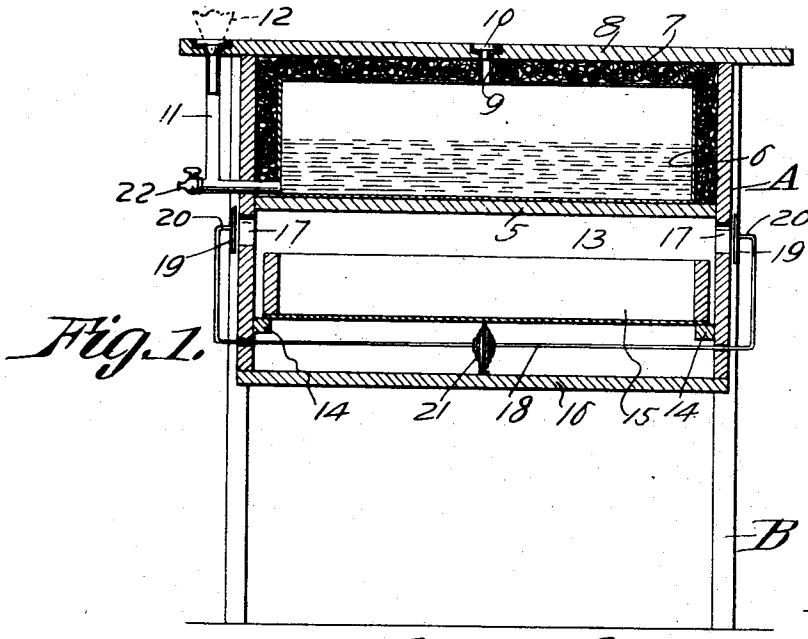

Fig. 1.

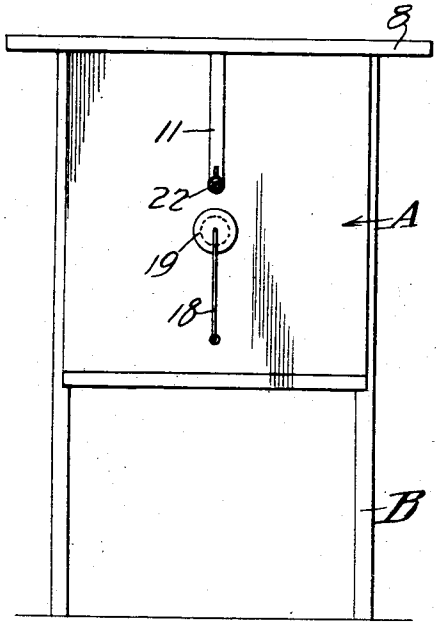

Fig. 2.

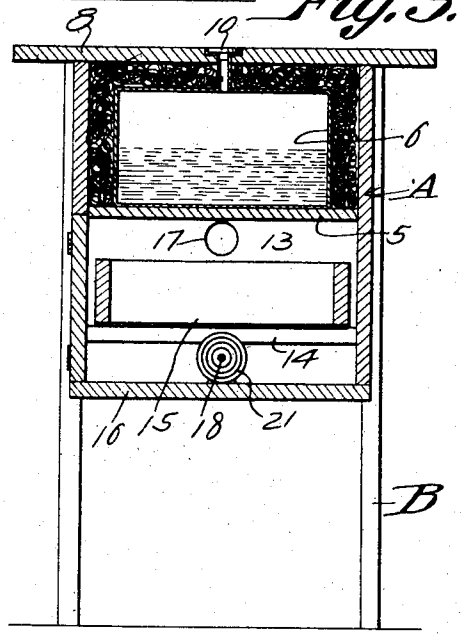

Fig. 3.

Inventor

Robert F. Hume,

By Talbot & Parker

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT F. HUME, OF LIMA, OHIO.

INCUBATOR.

1,274,166. Specification of Letters Patent. Patented July 30, 1918.

Application filed January 18, 1917. Serial No. 143,120.

To all whom it may concern:

Be it known that I, ROBERT F. HUME, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented certain useful Improvements in Incubators, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention relates to an incubator, and has for its primary object to provide an apparatus of this character wherein the use of a lamp or burner interiorly thereof is entirely eliminated, thereby avoiding conflagration, yet the required heat for the hatching of eggs will be had to assure the successful operation of the apparatus.

Another object of the invention is the provision of an apparatus of this character wherein the construction thereof is novel in form so that boiling water can be introduced therein, which will serve as the heating medium for the hatching of eggs and the warming of chicks within the apparatus, thus dispensing with the necessity of a burner or heater so that the apparatus can be safely used within an inclosure such as a house or the like, and the presence of fumes, such as gas or odors, is entirely eliminated, as well as the possibility of fire.

A further object of the invention is the provision of an apparatus of this character wherein the hot water can be readily introduced therein when the occasion requires and can be drawn therefrom with despatch and the overheating of the apparatus will be automatically avoided.

A still further object of the invention is the provision of an apparatus of this character which is extremely simple in construction, thoroughly reliable and efficient in operation and inexpensive in manufacture.

Other objects will be in part obvious and in part hereinafter set forth.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter described, and the scope of the application of which will be indicated in the appended claims.

In the accompanying drawings:

Figure 1 is a vertical longitudinal sectional view through an apparatus constructed in accordance with the invention;

Fig. 2 is an end elevation;

Fig. 3 is a vertical transverse sectional view.

Similar reference characters indicate corresponding parts throughout the several views of the drawing.

Referring to the drawing in detail, A designates generally the body and B the legs or props of the incubator, the body being of substantially box formation and is preferably made from wood, although the same may be made from any other suitable material, while formed interiorly of said body A is a horizontal rest 5 upon which is positioned a water reservoir or tank 6, the sides, ends and top walls being covered through the medium of an asbestos packing 7, which is confined between said walls and the walls adjacent thereto of the body A, as will be apparent.

Rising from the top of the reservoir or tank 6 and extending through the packing 7 and top 8 of the body A of the incubator is an air pipe 9 having a removable closure 10 which is carried at the outer end of the said pipe, while without the body A at one end thereof and extending through the top 8 and one of said ends of the incubator is a substantially L-shaped water inlet pipe 11 which is adapted to receive in its outer end a funnel 12, and through this pipe is introduced the boiling or hot water into the reservoir or tank 6, which water constitutes the heating medium for the incubator.

Located below the reservoir or tank 6 is a compartment 13 which has arranged interiorly thereof, preferably on the ends of the body A, rests 14 upon which is superimposed the egg tray 15, the same being readily removable from the compartment 13 through one side of the body A of the incubator, and in this tray are placed the eggs to be hatched. The tray 15 is supported spaced from the bottom 16 of the body A so that the space below the tray will accommodate the chicks when hatched.

Formed in opposite ends of the body A are ventilating openings 17, while slidably mounted in said ends of the body A are L-shaped arms 18 which carry ventilator doors or disks 19 adapted to normally close the openings 17, the doors 19 being located exteriorly of the body A and are carried on inturned ends 20 of the arms 18, which latter are connected to an expansible and contractible bulb 21 which constitutes a thermostat

for controlling the ventilating doors 19 and regulated by the rise and fall of temperature interiorly of the body A of the incubator so as to prevent the overheating of the latter.

In the use of the incubator boiling or hot water is introduced through the pipe 11 into the tank or reservoir 6 and the heat therefrom serves to create the requisite temperature interiorly of the body A for the hatching of the eggs placed within the tray 15. In event that the temperature rises beyond a predetermined degree the thermostat 21 will automatically operate the ventilating doors 19 so that the excess heat can escape from the interior of the body A and in this manner the temperature is maintained at a predetermined degree for the successful and proper heating of the eggs and the warming of the chicks within the incubator. Thus it will be seen that the use of a lamp or burner is entirely dispensed with, thereby eliminating fumes such as gas or odors and also avoiding the possibility of conflagration.

Extending from the horizontal portion of the inlet pipe 11 is a drain cock 22 which permits the water to be drawn from the tank or reservoir 6, the said horizontal portion of the pipe being extended or communicating with the tank or reservoir 6 contiguous to the bottom thereof. The space above the tray within the compartment 13 is the heat space. It will be apparent that hot or boiling water can be introduced into the reservoir or tank 6 at any time the occasion requires, so as to assure the proper heating temperature within the incubator for the successful operation thereof. By the use of hot water for heating the incubator the health or condition of the chicks when hatched is materially improved to assure life and growth.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the herein described incubator will be readily apparent and, therefore, a more extended explanation has been omitted.

Having thus described my invention, I claim:

1. In a device of the class described in combination a rectangular receptacle, means for supporting said receptacle, a series of horizontally disposed strips mounted in said receptacle, a flat top secured upon said receptacle and having its marginal portion projecting around the same, a sheet metal tank mounted upon said strips and having its sides spaced apart from the sides of the top of said receptacle, an asbestos packing mounted between the walls of said tank and of said receptacle, an air pipe extending upwardly from the upper portion of said tank, said top having a countersunk recess, a dish-shaped portion formed upon said air pipe disposed within said recess, a plug consisting of a disk fitting said dish-shaped portion flush with the outer face of said top and having a portion projecting into the air pipe, an L shaped water inlet pipe having a drain valve at the outer end of its horizontal portion, the inner end of which horizontal portion is connected to the lower end of said tank, the upper end of the vertical portion of said L-shaped pipe having a flaring portion terminating in an enlarged dish-shaped portion both of which portions are countersunk within the projecting portion of said top.

2. In a device of the class described in combination a receptacle, divided into an upper and lower compartment, the lower compartment forming a heating chamber formed upon its opposite sides, directly below the upper compartment with air openings, a pair of supporting strips secured upon opposite sides of the lower compartment and spaced above the bottom of the latter, a tray supported upon said strips below said air openings, a thermostat expanding and contracting element arranged upon the bottom of the lower receptacle, horizontal slidable rods projecting through the perforated sides of the lower compartment and having their inner ends secured to said thermostat element, said rods being formed with vertical arms extending along side of the said receptacle and terminating in inwardly projecting portions and a pair of valves secured to said inwardly extending portions opposite the air openings to control the admission of air into said receptacle.

In testimony whereof I affix my signature.

ROBERT F. HUME.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."