S. B. SMITH.

INCUBATOR.

APPLICATION FILED FEB. 12, 1916.

1,263,138.

Patented Apr. 16, 1918.

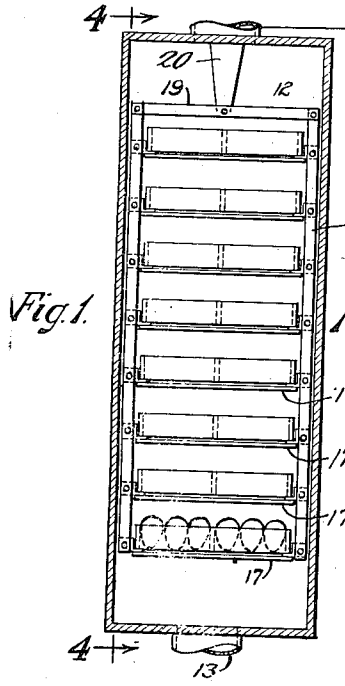


Fig. 1.

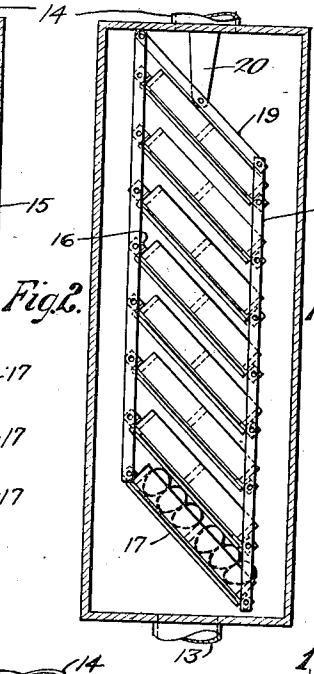


Fig. 2.

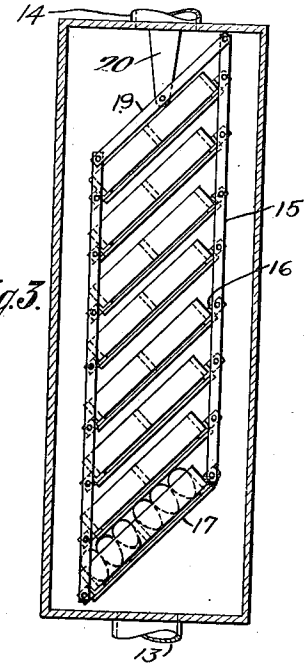


Fig. 3.

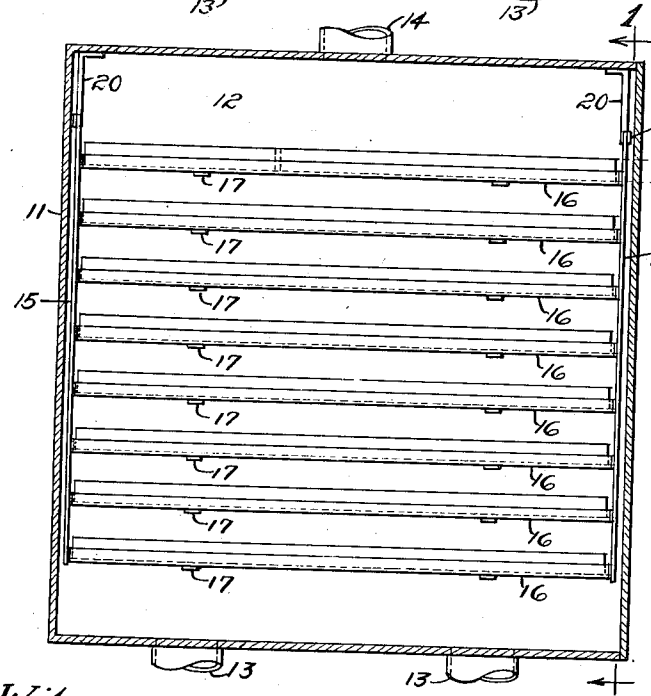


Fig. 4.

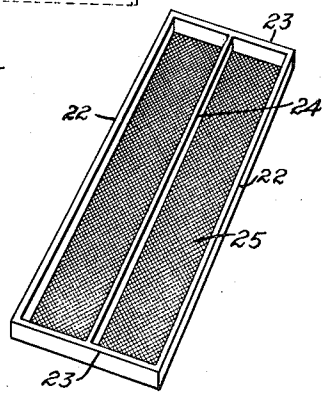


Fig. 5.

Witnesses:
Lee B. Green
B. C. Brown.

Inventor:
Samuel B. Smith
by Church & Dorer
his Attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL B. SMITH, OF CLEVELAND, OHIO, ASSIGNOR TO THE BUCKEYE INCUBATOR CO., OF SPRINGFIELD, OHIO, A CORPORATION OF OHIO.

INCUBATOR.

1,263,138. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed February 12, 1916. Serial No. 77,848.

To all whom it may concern:

Be it known that I, SAMUEL B. SMITH, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Incubators; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to new and useful improvements in incubators, and more particularly to improvements in trays for holding the eggs while they are being incubated.

The object of the invention is to provide means whereby the eggs can be quickly and uniformly turned from one side to the other during the process of incubation.

My invention therefore consists in the features of construction and combination of parts hereinafter described in the specification, pointed out in the claims and illustrated in the accompanying drawings.

In the accompanying drawings, Figure 1 is a central vertical section through an incubator embodying my invention. Fig. 2 is a similar view showing the trays tipped, that is, with their bottoms at a wide angle to the vertical so that each egg therein is approximately lying on one side. Fig. 3 is a similar view showing the trays tipped in the opposite direction so that each egg therein is lying on the side opposite to that in Fig. 2. Fig. 4 is a section on line 4—4, Fig. 1. Fig. 5 is a perspective view of a tray removed from the incubator.

Again referring to the drawings, 11 represents the exterior walls of an incubator or a section of an incubator, and 12 represents the chamber for holding the eggs. Hot air pipes 13 communicate with the chamber 12 at the bottom thereof, and an outlet or ventilating pipe 14 is provided at the top of the chamber. Within the chamber 12 is arranged the tray supporting frame. This frame comprises two side members, each comprising two vertically arranged bars 15. The side members of the frame are preferably spaced apart a distance slightly greater than the width of the egg carrying trays which are to be supported and the vertical bars 15 of each side member are spaced apart a distance approximately equal to the length of the trays. A series of horizontally arranged tray supporting rails 16 extend between the bars 15 of each side member and the rails on one side member are in horizontal alinement with the rails on the opposite side member. These rails 16 are angle shaped in cross section and are pivotally secured at their ends to the bars 15 so that the rails are free to rock between the bars of the side member on which they are mounted. The said tray supporting rails 16 are preferably connected by cross slats 17. At the top of each side member of the frame are pivotally secured cross bars 19. At the top of the chamber 12 at each side thereof is rigidly supported a hanger 20, and the said cross bars 19 are pivotally secured at their centers to the said hangers 20.

The trays comprise an open frame consisting of side members 22 and end members 23. A partition 24 extends longitudinally and centrally of the frame dividing it into two equal sections. The bottom of the frame is preferably formed of wire gauze 25.

As is well known to those familiar with the art to which my invention pertains, the best results are obtained in the incubation of eggs when the eggs are disposed during the period of incubation with the longer axis of the egg lying in an approximately horizontal plane, and also that in order to maintain the contents of the egg in equilibrium, it is necessary to turn the egg from time to time from one side to the other side. This, of course, can be successfully done by hand, but requires a considerable expenditure of time. When using my improved incubator the trays are positioned, as shown in Fig. 1. That is, the bottom of the trays extend in horizontal planes. The eggs are then placed in the trays with the larger end up and the longer axis approximately vertical. The side members of the frame are then taken hold of and by shoving up on one side of the frame and pulling down on the other side the trays are caused to assume an angle greater than forty-five degrees to the horizontal, and as the trays are tipped the eggs slide a little on each other owing to their larger ends being uppermost and each egg assumes a position with its longer axis close enough to the horizontal to secure satisfactory results. When it is necessary to turn the eggs again, the frame is shifted so as to depress the side of the tray which was high before and raise the side of

the tray which was low, and the eggs assume the same position as before but are lying on their opposite sides.

The constructions disclosed in the present application and not claimed have been made the subject-matter of claims in my pending application Ser. No. 127,915, filed October 26th, 1916.

What I claim is:—

1. In an incubator, a main supporting frame, a support to which the upper part of said frame is pivotally connected, said frame comprising vertically arranged side members pivotally connected together whereby said side members may be elevated or lowered relative each other, and a series of egg trays tiltably supported by said side members whereby the elevation and lowering of said side members causes the tilting of said trays.

2. In an incubator, the combination of an incubating chamber, means for supplying heat to said chamber, an egg tray supporting frame arranged within said chamber, said frame comprising oppositely disposed vertical side members, means supporting said side members so as to permit them to slide vertically with respect to each other, a series of horizontally arranged tray rails pivotally supported between the side members, each rail on one side member being opposite a corresponding rail on the other side member and trays arranged on said rails.

3. In an incubator, the combination of an incubating chamber, means for supplying heat to said chamber, a tray holding frame comprising side members, each side member consisting of two vertically arranged bars, cross members connecting one bar of each side member with a bar on the opposite side, means pivotally supporting each cross member at its center, a series of rails extending between the bars of each side member, said rails being angle-shaped in cross section and pivotally secured at their ends to said bars, cross members connecting the said rails together and trays arranged on said rails.

4. In an incubator, the combination of an incubating chamber, means for supplying heat to said chamber, a tray holding frame comprising side members, each side consisting of two vertically arranged bars, cross members connecting one bar of each side member with a bar on the opposite side member, means pivotally supporting each cross member at its center, a series of rails extending between the bars of each side member, said rails being angle-shaped in cross-section and pivotally secured at their ends to said bars, cross members connecting said rails together and egg trays arranged on said rails, each tray having a perforated bottom and a partition extending longitudinally and centrally of the tray.

5. In an incubator, an incubating chamber together with means for supplying heat to said chamber, a main supporting frame pivotally hung from the upper portion of said chamber, said frame comprising vertically arranged side members pivotally connected together whereby said side members may be elevated or lowered relative each other, and a series of egg trays tiltably supported by said side members whereby the elevation and lowering of said side members causes the tilting of said trays.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

SAMUEL B. SMITH.

Witnesses:
VICTOR C. LYNCH,
B. C. BROWN.