

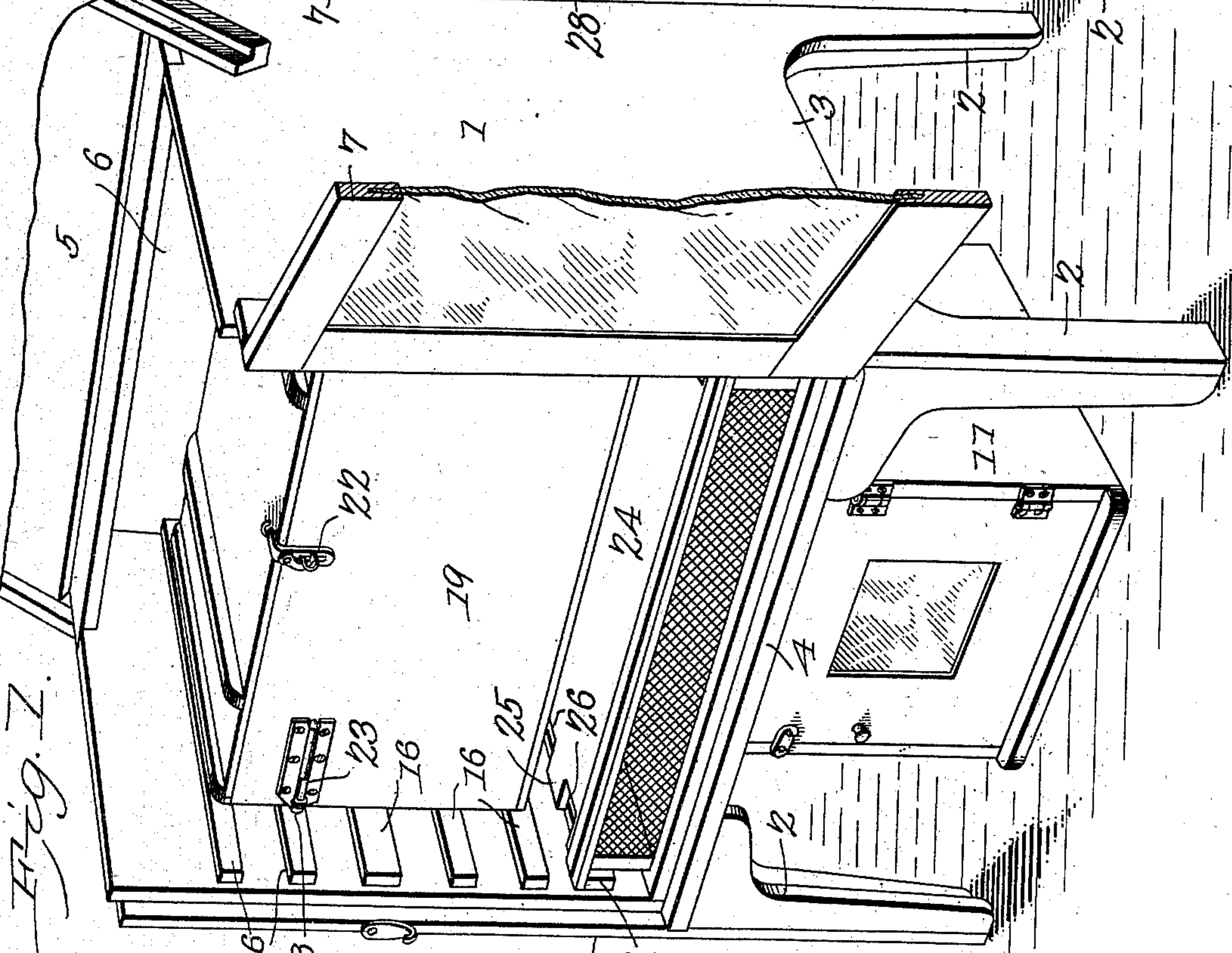
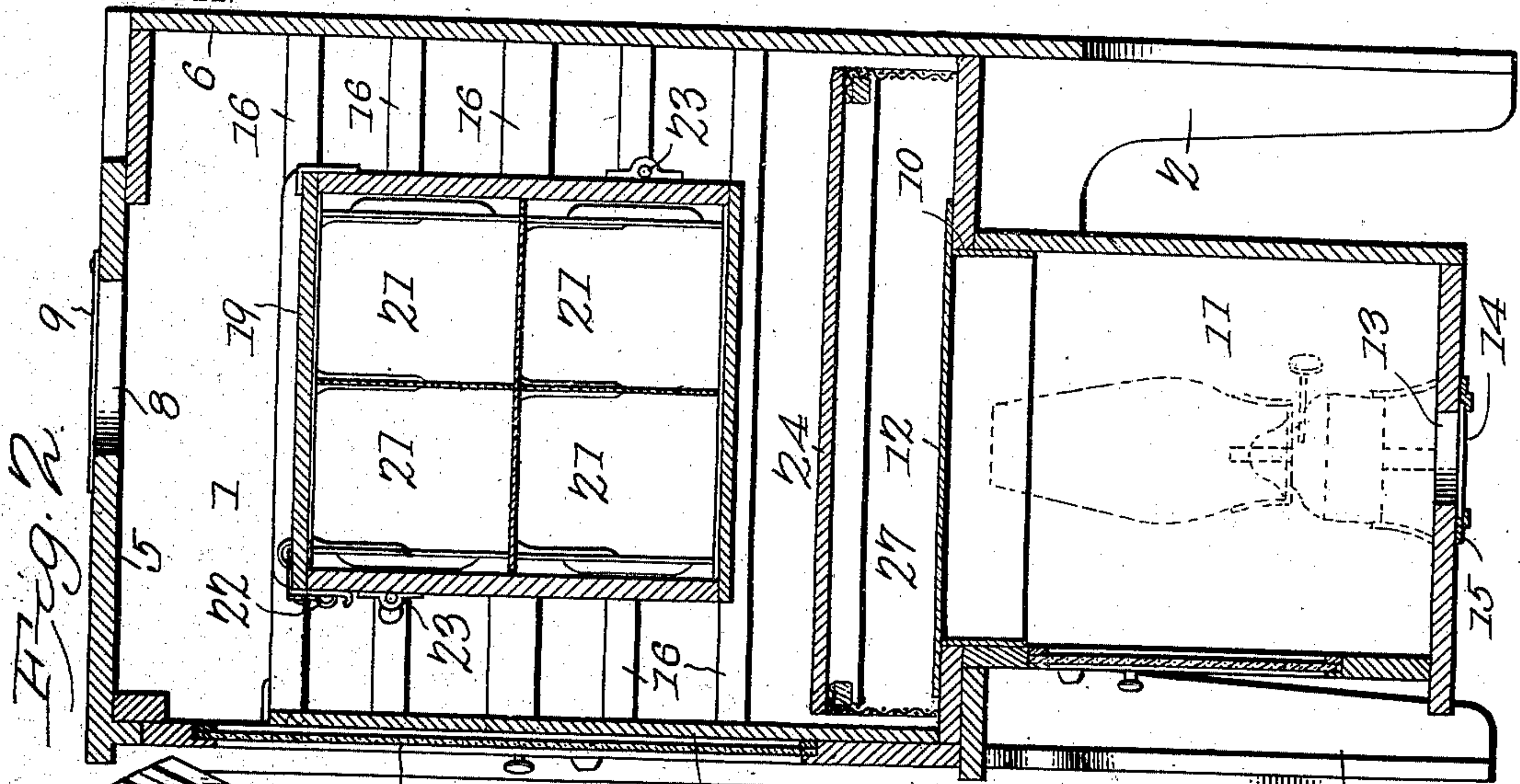
No. 749,356.

PATENTED JAN. 12, 1904.

J. H. BOYD.
INCUBATOR.

APPLICATION FILED OCT. 9, 1903.

NO MODEL.



Witnesses
E. F. Stewart
J. D. Elmore

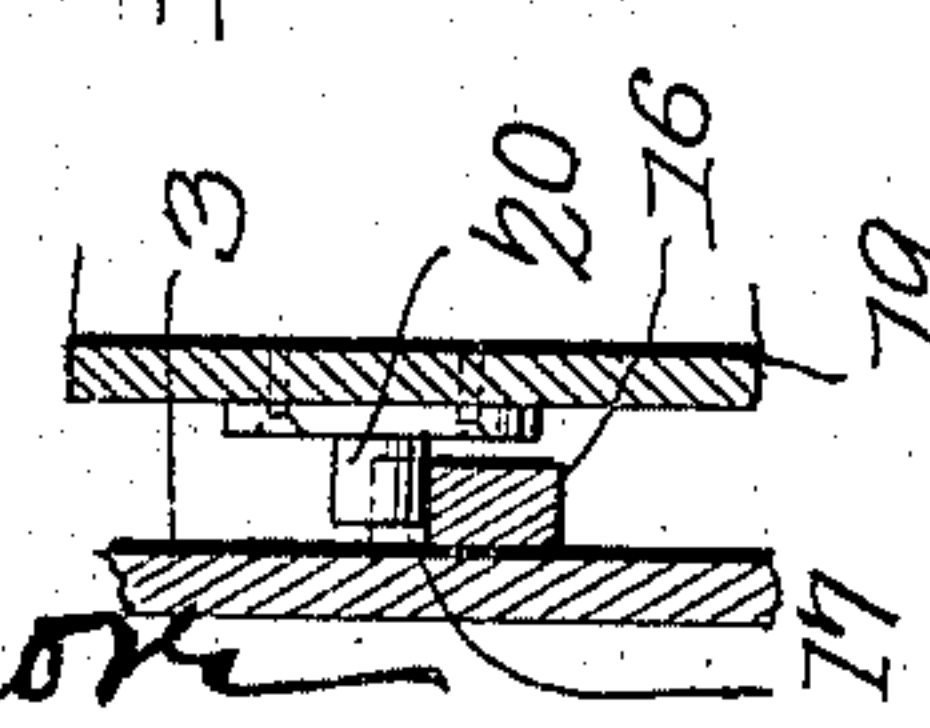


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES H. BOYD, OF WASHINGTON, DISTRICT OF COLUMBIA.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 749,356, dated January 12, 1904.

Application filed October 9, 1903. Serial No. 176,438. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BOYD, a citizen of the United States, residing at Washington, District of Columbia, have invented a new and useful Incubator, of which the following is a specification.

My invention relates to incubators, and has for its objects to produce an inexpensive comparatively simple device of this character in which the ordinary egg-crates may be employed for containing the eggs to be hatched, one in which the eggs may during the hatching process be readily turned from time to time, as circumstances require, and one which may be readily converted into a brooder, if desired.

To these ends the invention comprises the novel details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of my improved device thrown open. Fig. 2 is a vertical transverse section through the same. Fig. 3 is a detail view.

Referring to the drawings, 1 indicates an incubating box or case supported by legs 2 and comprising ends 3, a bottom 4, a pivoted lid or cover 5, a rear side 6, and a front side 7, preferably in the form of a door having transparent panels. The cover is provided with a ventilating-opening 8, closed by a pivoted plate or valve 9. The parts are preferably composed of wood and of the form and arrangement herein shown, but may of course be of other suitable construction and material.

The bottom 4 is provided with a rectangular opening 10, beneath which is disposed a box-like lamp-holder 11, designed to receive a lamp for heating the incubator, as usual, the opening 10 being normally closed by a removable sheet-metal lid or valve 12 in the form of a plate having depending flanges which engage the opening. The lamp-holding box 11, which is secured in any suitable manner beneath the case 1, is provided with a front hinged door, permitting access to the holder for inserting or removing the lamp, and is further provided in its bottom with a ventilating-opening 13, normally closed by a slide-valve 14, sustained by suitable guide-rails 15 and

operable for controlling the amount of cold air admitted to the lamp-chamber.

16 designates a series of horizontal guide rails or bars attached to the inner faces of the ends 3 and arranged in spaced parallel relation one above another, the rails upon one end being oppositely disposed or in alinement with those on the other and a pair of said oppositely-disposed rails having open bearings 17, while the guide-rail next above one of said bearing-rails is provided with a socket 18.

19 designates an egg-receiving container or box provided with trunnions 20, engaging the bearings 17, whereby the container is pivoted for rotation within the casing 1. This container preferably consists of an ordinary egg-crate, to the ends of which the trunnions 20 are detachably secured for ready removal and having egg-cells 21, formed, as usual, by longitudinal and transverse pasteboard partitions. The crate has a removable cover normally locked in its closed position by a suitable latch 22, while attached to the front and rear sides of the crate, adjacent to one end, are sliding bolts 23, so positioned that they will at each half-turn of the tray during its rotation alternately register with the socket 18 for engagement therewith to lock the crate or container against rotation, it being understood, of course, that the container is in practice given a half-turn from time to time to bring first one and then the other side of the eggs downward toward the heat-inlet opening and that after each such turning the container is locked.

Disposed beneath the crate or container 19 and sustained by the lowermost guide-rails 16 is a removable tray or drawer 24, having its end flanges 25, which rest upon the rails, notched or otherwise provided with air-passages 26. This drawer, which is normally disposed bottom side up in order to form, in conjunction with the bottom of the case 1, a hot-air chamber 27, has its front and rear sides composed of any suitable reticulated material—such, for example, as wire-gauze—which permits the escape of the hot air upward around the egg-container.

28 is a plate or shield situated at the front of the case 1 immediately inside of the door

7 in order to guard against cold air passing through the latter into the incubating-chamber.

5 It is my intention in practice to equip the device with one of the crates 19, to which the eggs may be transferred from the ordinary crate, or to employ the latter by attaching to the ends thereof the trunnions 20 and the locking-bolts, whereby the crate may be placed
10 immediately into the incubator and the transferring of the eggs be thus obviated. It is also apparent that in practice after the hatch the crate may be removed and suitable trays similar to the tray 19 inserted to position upon
15 the rails 16, thus converting the device into a brooder.

From the foregoing it will be seen that I produce a device of simple construction, which is admirably adapted to the attainment of the
20 ends in view; but it is to be understood that I do not limit myself to the precise details herein set forth, inasmuch as minor changes may be made therein without departing from the spirit of the invention.

25 Having thus described my invention, what I claim is—

1. In an incubator, the combination with a case, of guide-rails associated with a pair of its opposite walls, an egg-container, trunnions
30 detachably secured thereto for rotatably sustaining the container within the case, and means for locking the container against rotation.

35 2. In an incubator, the combination with a case, of guide-rails associated with a pair of its opposite walls, a pair of said rails having

bearings, an egg-crate provided with cells, trunnions detachably secured thereto and engaging the bearings for rotatably sustaining the crate within the case, and means for locking the crate against rotation. 40

3. In an incubator, the combination with a case having inner bearings, of an egg-crate provided with cells, trunnions detachably secured thereto and engaging the bearings for
45 rotatably sustaining the crate within the case, and locking members carried by the crate for locking the same against rotation.

4. In an incubator, the combination with a case, of guide-rails associated with a pair of
50 its opposite walls, a pair of said rails having bearings and one being provided with a socket, an egg-crate, trunnions detachably secured thereto and engaging the bearings for rotatably sustaining the crate within the case, and
55 locking-bolts carried by the crate for engaging the socket to lock the crate against rotation.

5. In an incubator, the combination with a case, of a plurality of guide-rails associated
60 with each of a pair of its opposite walls, and a tray having flanges engaging two of the rails and provided with air-passages, said tray having reticulated walls.

In testimony that I claim the foregoing as
65 my own I have hereto affixed my signature in the presence of two witnesses.

JAMES H. BOYD.

Witnesses:

J. H. JOCHUM, Jr.,
J. ROSS COLHOUN.