

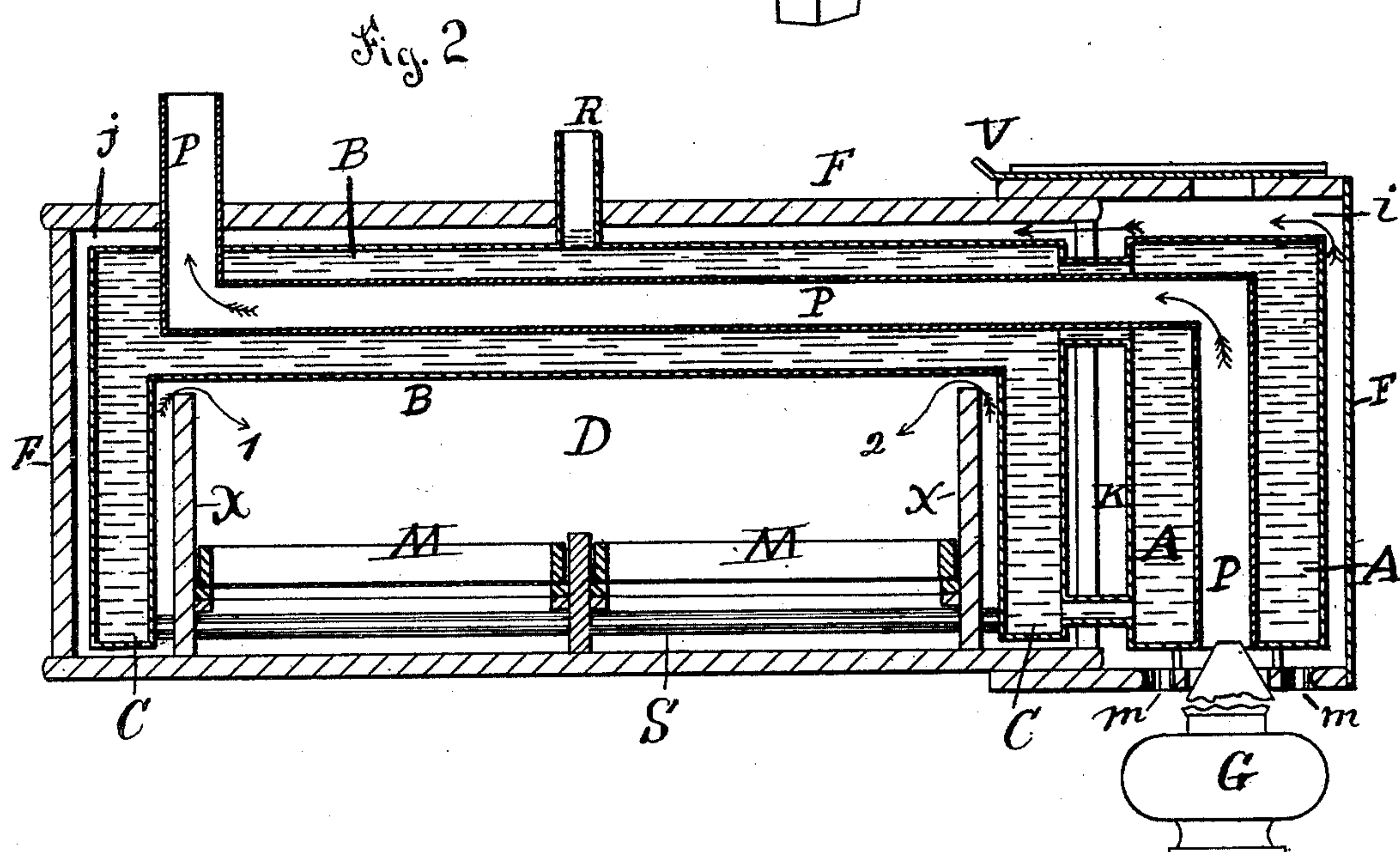
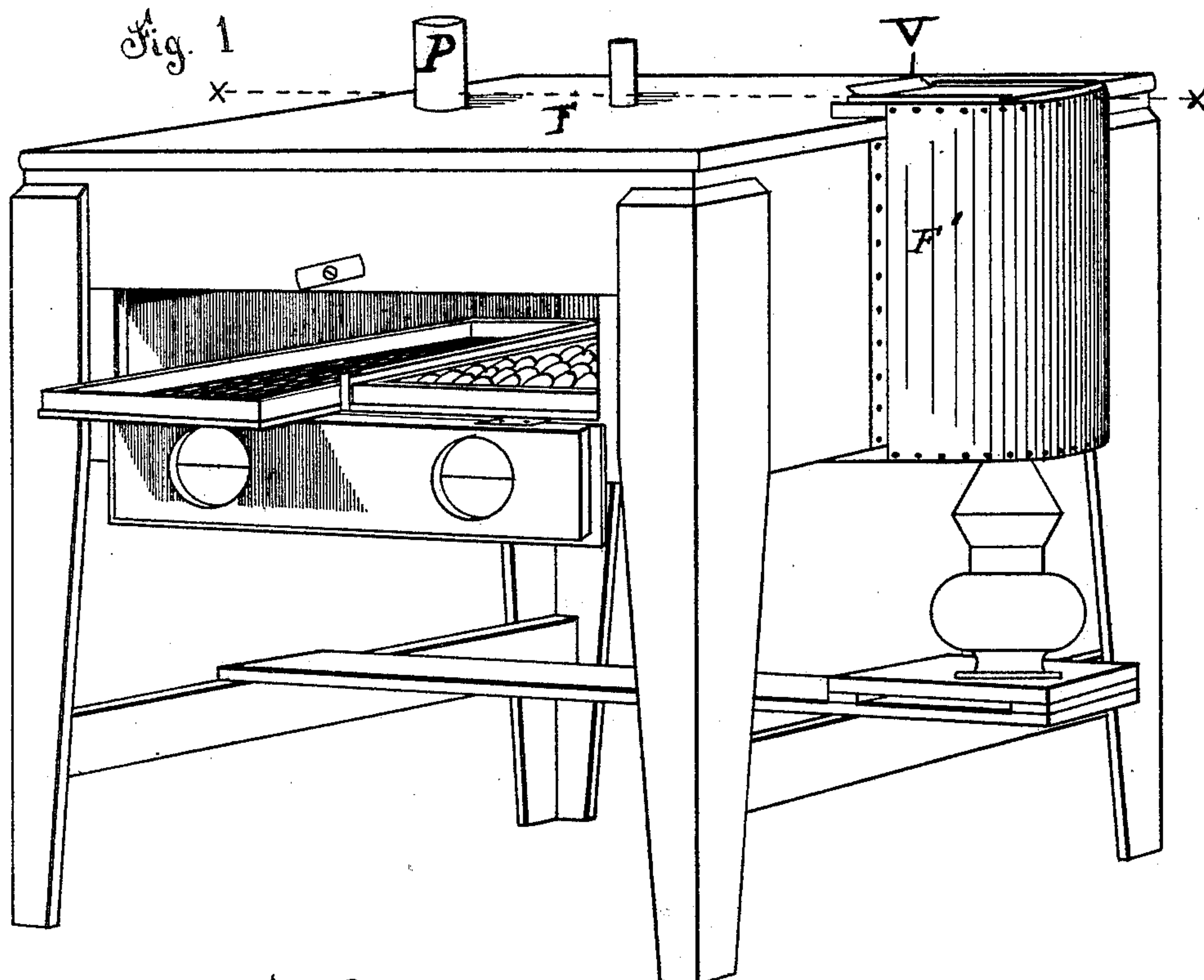
(No Model.)

2 Sheets—Sheet 1.

B. W. S. CLARK.  
INCUBATOR.

No. 424,599.

Patented Apr. 1, 1890.



WITNESSES  
H. P. K. Peck  
M. G. Laler.

INVENTOR  
Byron W. S. Clark

(No Model.)

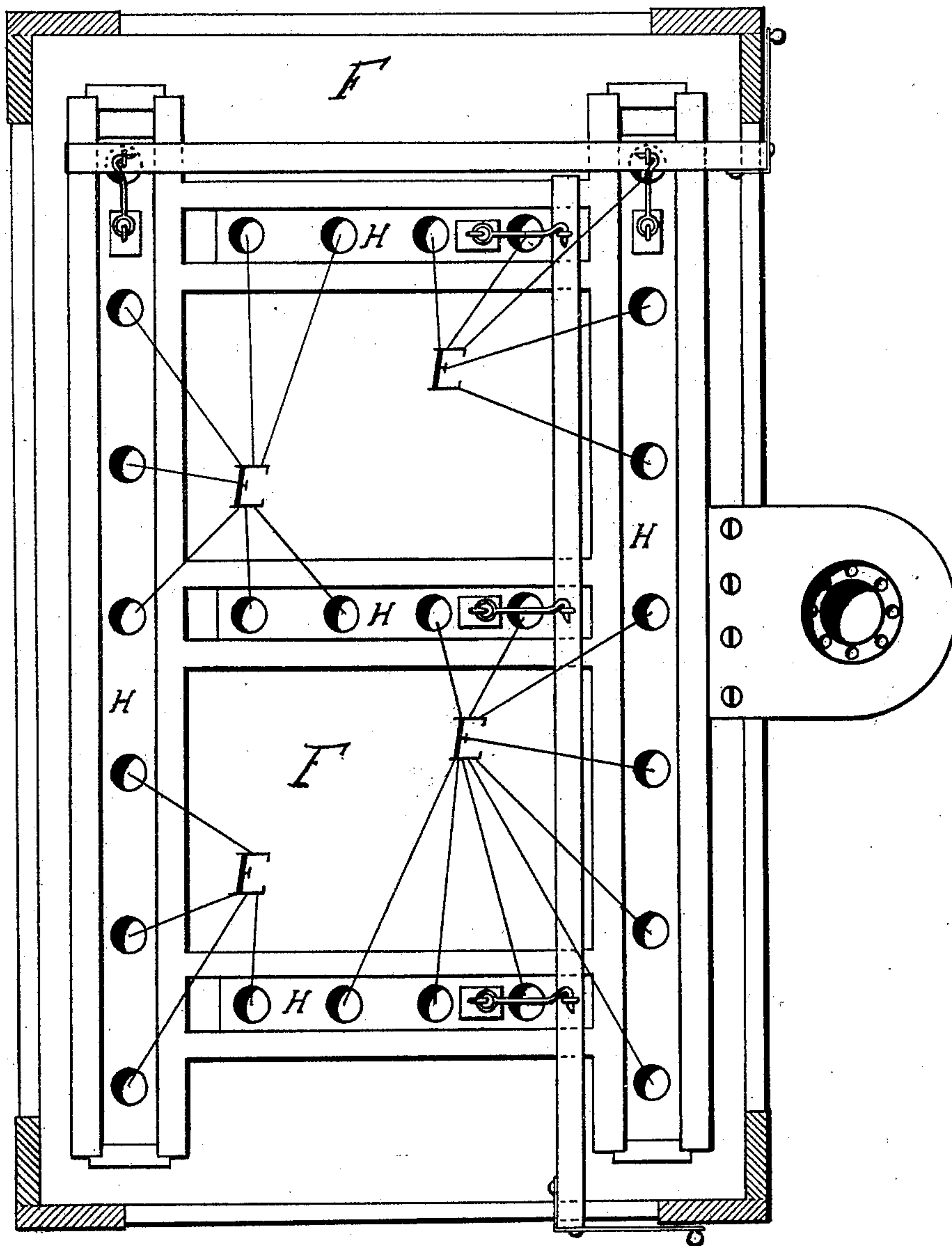
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Fig. 3.



WITNESSES

M. C. Galer.  
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INVENTOR

Byron W. S. Clark  
by Hazard & Townsend  
his Attys.



# UNITED STATES PATENT OFFICE.

BYRON W. S. CLARK, OF LOS ANGELES, CALIFORNIA.

## INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 424,599, dated April 1, 1890.

Application filed June 13, 1889. Serial No. 314,181. (No model.)

*To all whom it may concern:*

Be it known that I, BYRON W. S. CLARK, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Incubators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 of the drawings represents a perspective view of my incubator with the door open and one tray partly withdrawn. Fig. 2 is a central vertical section taken at line X X of Fig. 1. Fig. 3 is a view of the bottom, showing holes E and sliding doors H, by means of which the circulation is regulated.

The body of my improved incubator is rectangular in form, with a circular extension F' at one side, in which is located a cylindrical water-tank A, which communicates with the water-reservoir B C, which extends over the top and along the sides of the central chamber D.

Between the water-receptacles A B C and the casing F F', inclosing the incubator, there is a space *i j k* for air circulation, to which air is admitted through a circular opening *m* in the casing around the lamp G. This air-space for the circulation of air in the incubator surrounds the water-space or reservoir and tank, which surround the entire structure, excepting the bottom and the ends, which are provided with doors. The doors have glass inserted in them to permit of the inspection of eggs in the trays M, and a thermometer which is kept within the chamber D to indicate the degree of heat therein. The flue P, in which the lamp G is placed at the bottom of tank A, extends up through the center of tank A and centrally through the upper strata of water in the reservoir B, and thence at right angles up through the casing F. The pipe R is open at top and bottom and communicates with the upper strata or body of water in the reservoir B.

There are two water-pipes S extending

across the bottom of chamber D, under the egg-trays M, and near the ends of the incubator, which pipes communicate with the portions of the reservoir denoted by letter C, to permit the water to circulate and pass all around the top and sides of the incubator, and thereby the water throughout the entire reservoir and tank is kept at an equal uniform temperature, and the air, which is admitted at *m*, is also kept at a uniform temperature, receiving its heat from the water which it surrounds.

The sliding door V over an opening in the casing above the tank A admits of access to the tank, and may be adjusted to allow sufficient egress of air to keep up a degree of ventilation.

Holes E are provided in the bottom of the casing F to permit the cooler air which descends to escape. Perforated sliding doors H are arranged to close the holes. In Fig. 3 the doors are shown in position to leave free passage through the holes E, the perforations in the doors coinciding with the holes E. The circulation of air may be regulated by means of these sliding doors. The partitions X X at the sides of chamber D do not extend to the top of the chamber, and serve to cause the air to rise in close proximity to warm water of the divisions C C of the water-reservoir and enter chamber D over the egg-trays, as indicated by the arrows 1 and 2.

To provide a proper degree of moisture in chamber D, pans containing water are placed under the egg-trays, which have open wire-cloth bottoms to permit free passage of the warm and moist air to circulate among the eggs which are placed in the trays.

The arrows in the air-spaces around the water-tank and reservoir denote the circulation of air, which is warmed by contact with the water-reservoir and tank A, and as the air-spaces extend down to the bottom of the casing at both sides of the incubator it is warmed by the heated water and arises between partitions X X and the portions C C of the reservoir and enters chamber D, and

is allowed as it is replaced by warmer air to find egress through the holes through the bottom of the casing, as above mentioned.

Having described my invention, I claim and  
5 desire to secure by Letters Patent—

The water-tank and reservoir with the central flue P for the passage of the heat from the lamp and the surrounding air-spaces *i j*

*k* between said tank and reservoir, and the casing F F', in combination with partitions 10 X X and chamber D, as and for the purpose described.

BYRON W. S. CLARK.

Witnesses:

M. C. GALER,  
H. P. K. PECK.