

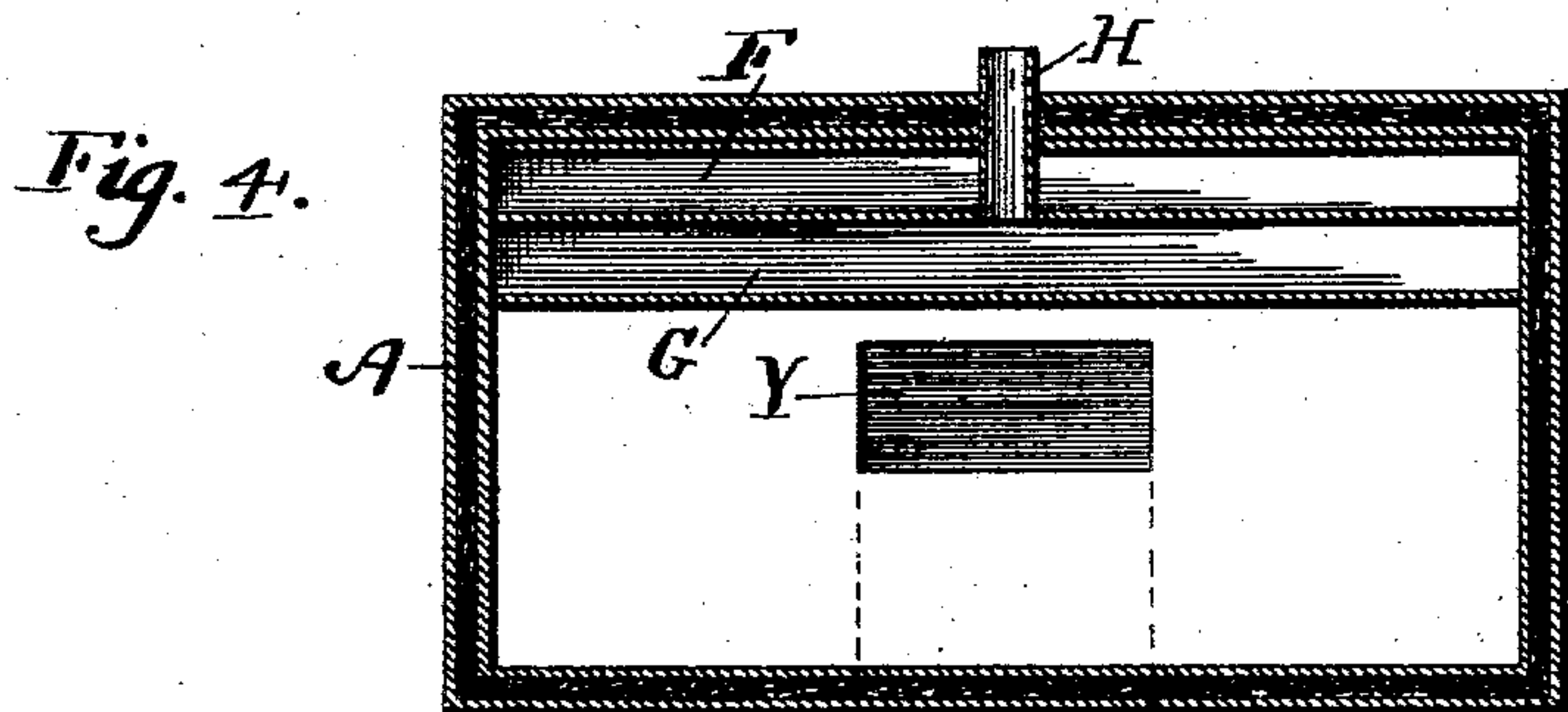
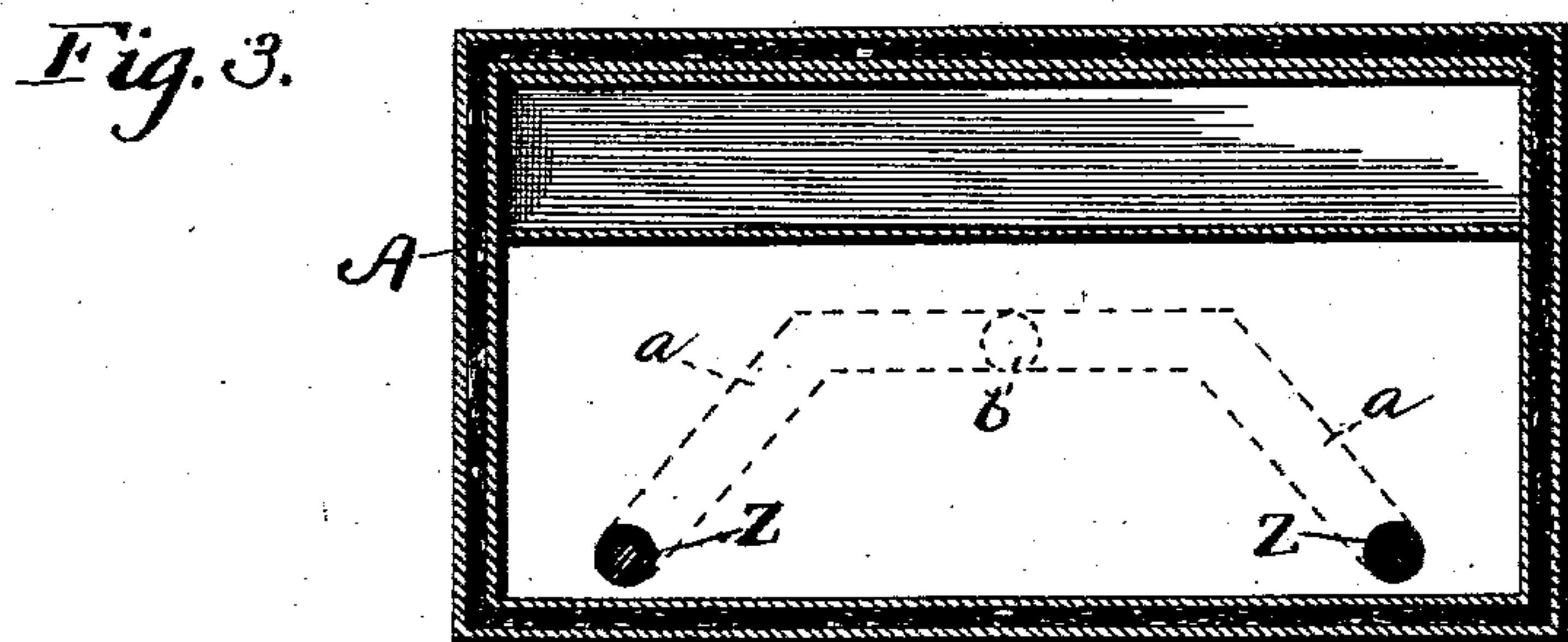
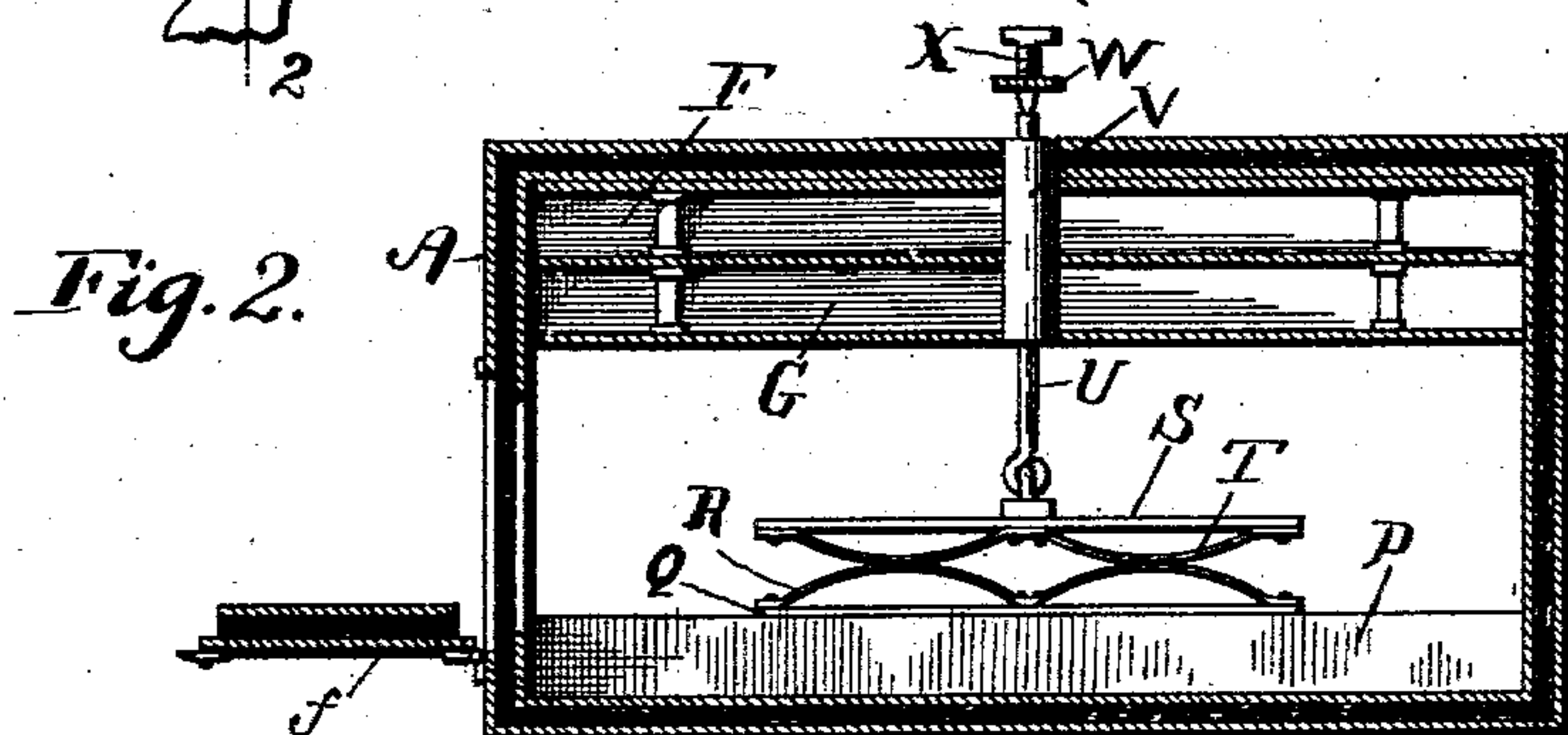
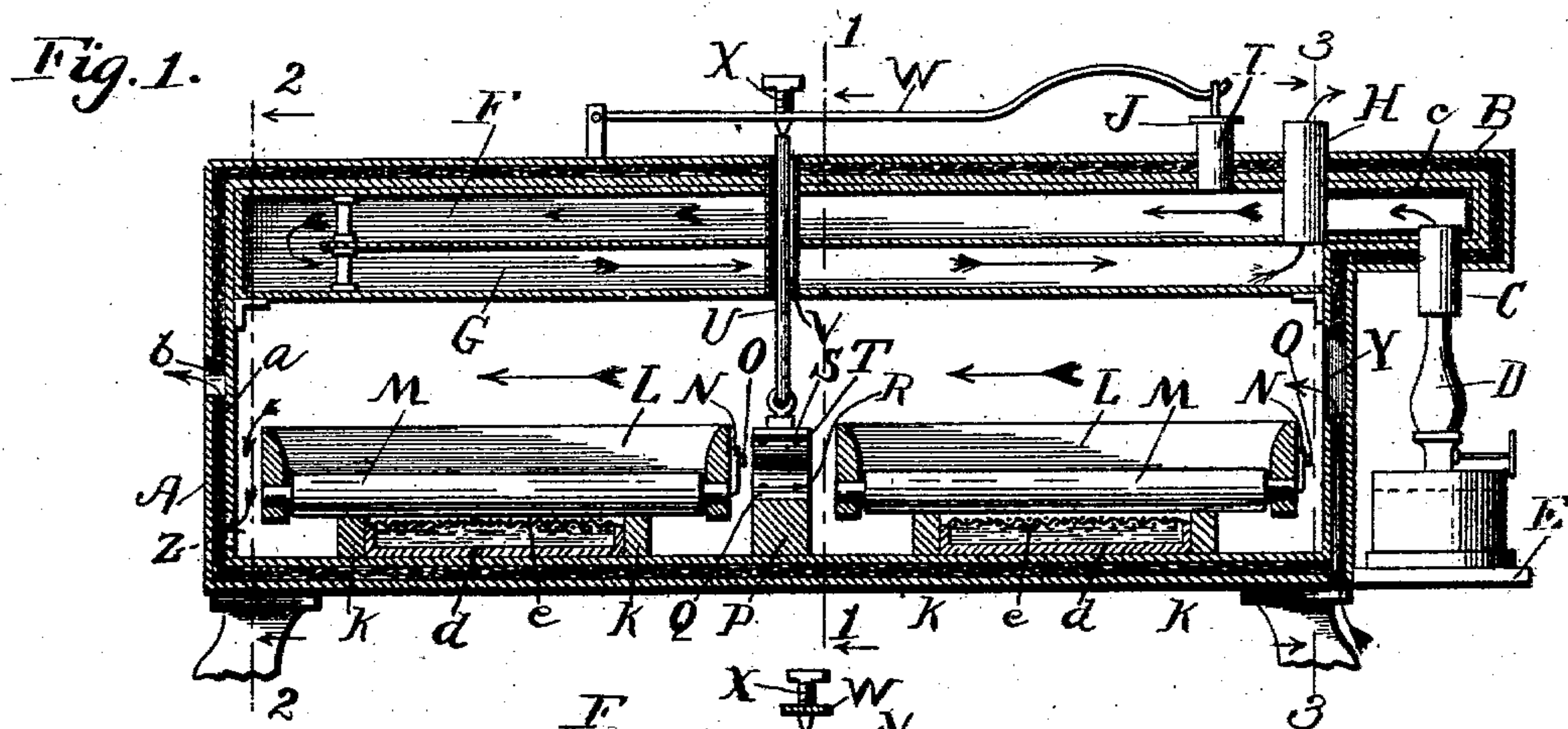
No. 704,841.

Patented July 15, 1902.

F. KRUPICKA.  
INCUBATOR.

(Application filed Aug. 18, 1900.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

FRANK KRUPICKA, OF MILLIGAN, NEBRASKA.

## INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 704,841, dated July 15, 1902.

Application filed August 18, 1900. Serial No. 27,303. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK KRUPICKA, a citizen of the United States, residing at Milligan, in the county of Fillmore and State of Nebraska, have invented a new and useful Incubator, of which the following is a specification.

This invention relates to improvements in incubators; and the object is to provide a simple and effective construction of incubator in which the temperature is regulated by an improved construction.

With the above object in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a vertical longitudinal sectional view of an incubator constructed in accordance with my invention; Fig. 2, a transverse section taken on the line 1 1 of Fig. 1, illustrating the thermostat; Fig. 3, a transverse section on the line 2 2 of Fig. 1, showing the exit-openings for the air circulating through the egg-chamber, the passages being shown in dotted lines; and Fig. 4 is a transverse section on the line 3 3 of said figure, showing the ingress-passage for the air to the egg-chamber.

Referring now more particularly to the drawings, A designates the casing of the incubator, which is formed of a double wall, as clearly illustrated, the space between the walls being filled, preferably, with cotton, so as to form a packing to retain the heat. The casing at one end and at its upper edge is formed with a centrally-projecting portion B, from the lower wall of which a tube C depends, and positioned beneath this portion B is a lamp D, the chimney of which extends into said tube, the lamp being supported upon a shelf E.

Positioned within the casing A, at the top thereof, is a casing formed into chambers F and G, one being disposed above the other. The upper chamber F extends at one end into the projecting portion B of the casing, the tube C having its upper end secured in an opening formed in the bottom of said chamber. The bottom wall of said chamber F, at its opposite end, terminates short of the casing, so as to provide communication between

said chamber and the lower chamber G. A flue H communicates with chamber G at the opposite end thereof from its communication with chamber F and with the atmosphere, said flue extending through the upper wall of the incubator-casing. The heat from the lamp thus passes, as indicated by arrows, into chamber F, at the forward end thereof, through said chamber, and from the same at its opposite end into chamber G. The heat then passes back through chamber G to the flue H and through said flue to the atmosphere. Chamber F is provided at its forward end with a flue I, which opens through the upper wall of the incubator-casing, said flue being provided with a damper J, which is controlled by a thermostat presently to be described.

The space beneath the hot-air chambers constitutes the egg-chamber, and upon the bottom wall thereof transversely-extending strips K are secured, there being two of these strips for each of the egg-trays L. These egg-trays consist each of a rectangular frame, between the side bars of which rollers M are mounted. These rollers have their pintles at one end projecting through the side bars of the frame and bent angular, as illustrated at N, to engage stops O upon the frame. This construction is for the purpose of limiting the rotation of the rollers in either direction, so that when the frames are operated to turn the eggs the rollers will make only a sufficient portion of a revolution to effect the proper turning of the eggs.

Secured to the bottom wall of the egg-chamber, at the center thereof, is a transversely-extending strip P, to the upper edge of which a strip Q of hard wood is secured. A strip of rubber R is secured at its respective ends to said strip and also intermediate its ends, forming two loops.

S designates a second strip of hard wood, to the under side of which a strip of hard rubber T is secured in a manner similar to strip R, and these two rubber strips are secured together at their looped portions. The strip of hard wood S carries at its center an upwardly-extending rod U, which rod extends through a tube V, extending through the walls of the heating-chambers and the upper wall of the incubator-casing.



W designates an arm pivoted at one end to the upper wall of the incubator-casing, upon the outer side thereof, and at its opposite end connected with damper J. This arm is provided intermediate its ends with an adjustable screw X, the lower end of which is engaged by the upper projecting end of the rod U of the thermostat. As the thermostat is affected by the temperature in the egg-chamber the rod U is raised or lowered by the expansion or contraction of the thermostat, thus opening or closing the damper J. When the damper J is open, it will be understood that the greater portion of the heat from the lamp will pass therethrough, and thus the temperature of the egg-chamber will be reduced.

One of the end walls of the incubator-casing is provided with the passage Y, communicating at its lower end with the atmosphere and at its upper end with the egg-chamber. The opposite end wall of the casing is provided with the two egress-openings Z, communicating with the egg-chamber and with passages *a*, formed in said end wall, which at their upper ends communicate with an opening *b*, communicating with the atmosphere. Thus a circulation of air through the egg-chamber is provided.

The hot-air chamber F, at the end thereof where it receives the heat from the lamp, is provided with an asbestos lining *c*.

*d* designates a pan placed within the egg-chamber and filled with water, the same being covered with a wire screen *e* for the purpose of preventing the chickens from getting therein when they are hatched. The casing is provided with a door *f*, whereby access may be had to the egg-chamber.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An incubator comprising a casing, an

egg-chamber in the lower part of the casing, said chamber having inlet and outlet openings in its opposite end walls, heating-chambers arranged in the upper part of the casing one above the other, and communicating with one another at one end, the upper chamber being provided at the end opposite that which communicates with the lower chamber with means for connection with a source of heat, a flue leading from the end of the lower chamber opposite that which communicates with the upper chamber, out through the upper chamber and the casing, a valved flue leading from the upper chamber out through the casing, and a thermostat arranged in the egg-chamber and operating the valve of said flue, as set forth.

2. An incubator comprising a casing having an extension at one end at the upper part thereof, an egg-chamber in the lower part of the casing and having inlet and outlet openings in its opposite end walls, heating-chambers arranged in the upper part of the casing one above the other, the upper chamber having one end extending into the extension of the casing and communicating with the lower chamber at its opposite end, a flue leading from the upper chamber out through the bottom of the extension and with which a source of heat is to be connected, a flue leading from the lower chamber at the end adjacent to the extension out through the upper chamber and the casing, a flue leading from the upper chamber out through the casing, a valve for controlling said flue, and a thermostat in the egg-chamber and controlling said valve, as set forth.

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