

(No Model.)

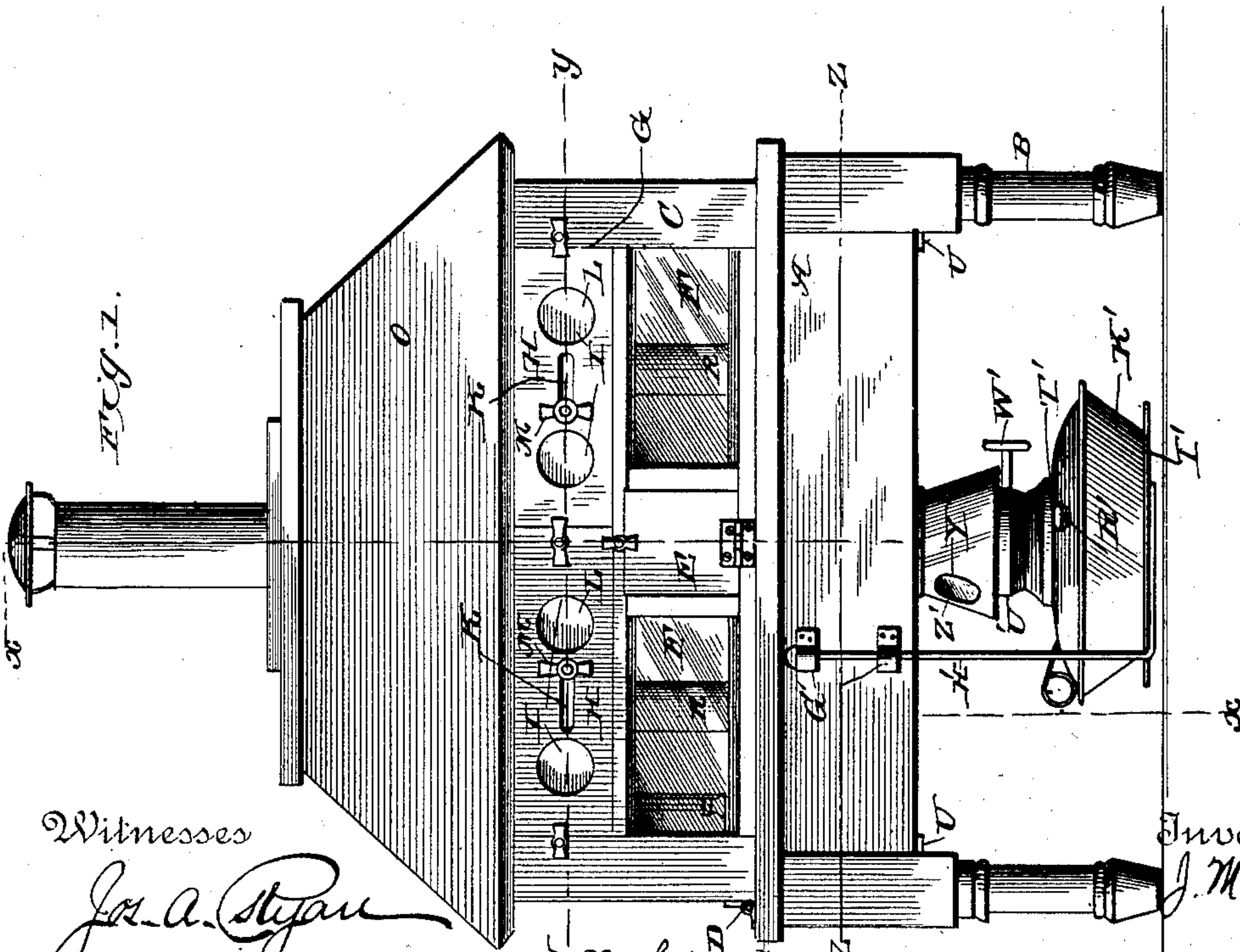
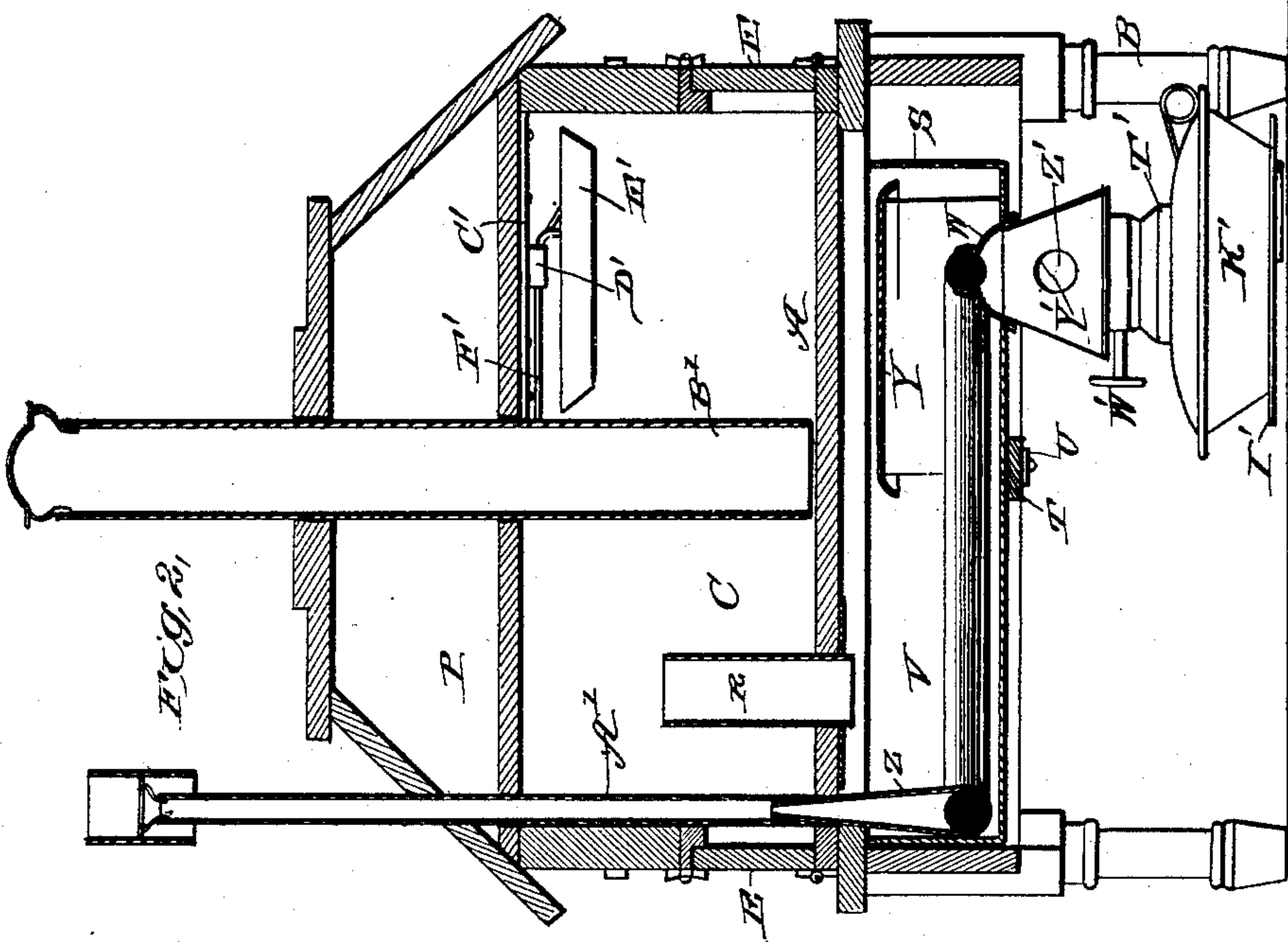
2 Sheets—Sheet 1.

J. M. BODGE.

BROODER FOR REARING YOUNG CHICKENS.

No. 375,692.

Patented Dec. 27, 1887.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

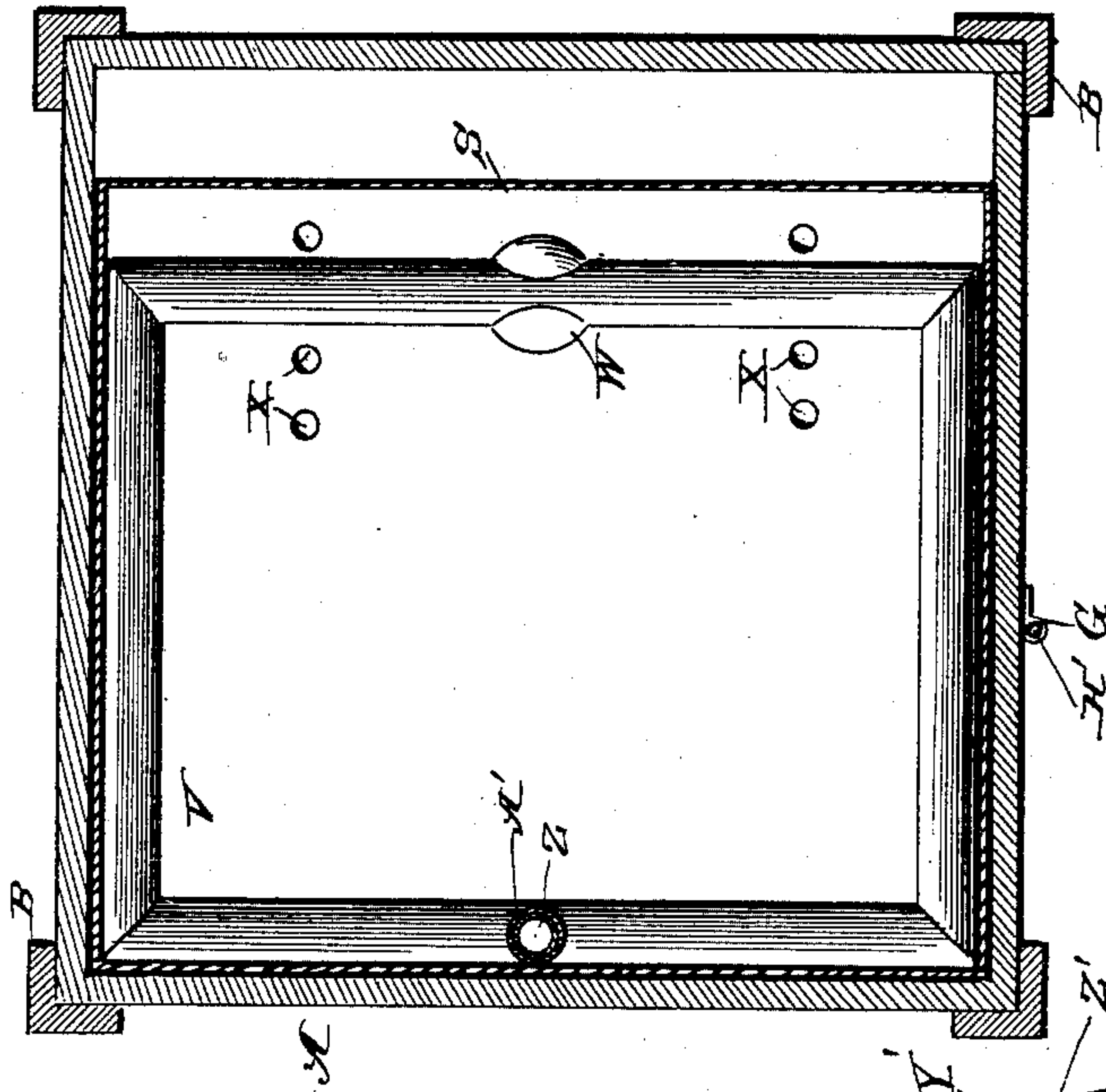


Fig. 5.

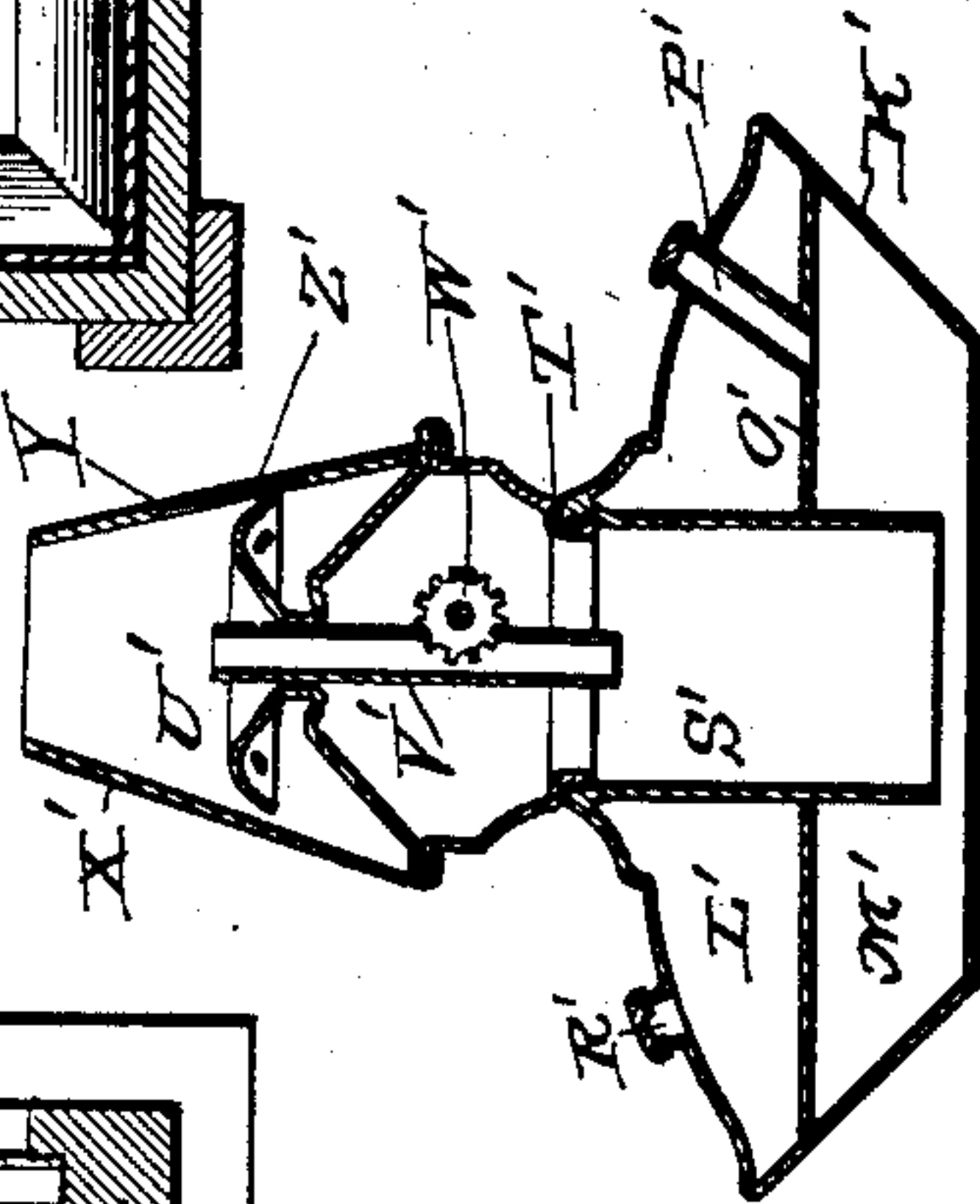
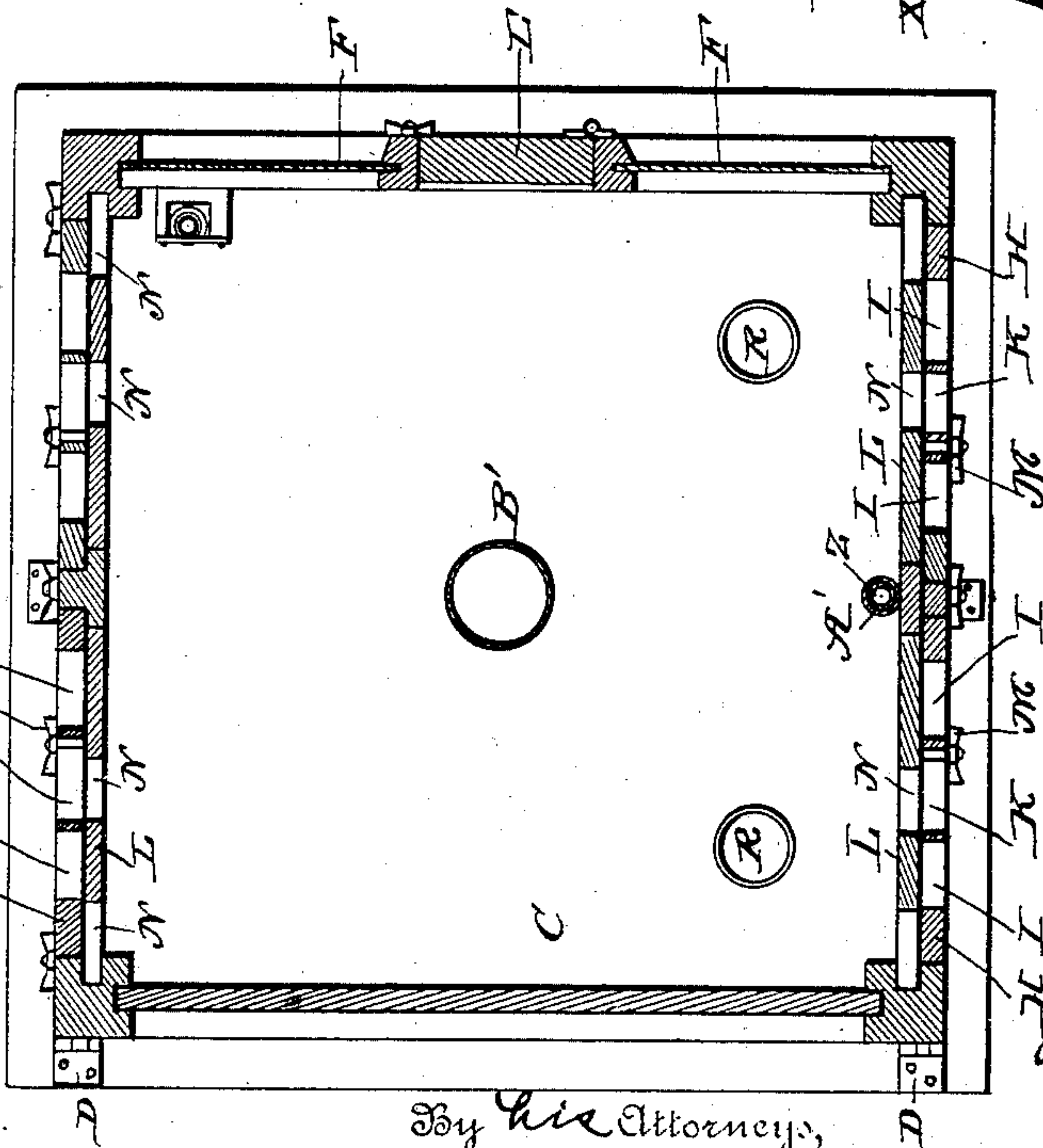


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN M. BODGE, OF ADA, OHIO, ASSIGNOR OF ONE-HALF TO MATHIAS M. CONNER, OF SAME PLACE.

BROODER FOR REARING YOUNG CHICKENS.

SPECIFICATION forming part of Letters Patent No. 375,692, dated December 27, 1887.

Application filed March 24, 1887. Serial No. 232,307. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. BODGE, a citizen of the United States, residing at Ada, in the county of Hardin and State of Ohio, have invented a new and useful Improvement in Brooders for Rearing Young Chickens, of which the following is a specification.

My invention relates to an improvement in brooders for rearing young chickens; and it consists in the combination and arrangement of parts, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of the brooder embodying my improvements. Fig. 2 is a vertical sectional view of the same, taken on the line *x x* of Fig. 1. Fig. 3 is a horizontal sectional view taken on the line *y y* of Fig. 1. Fig. 4 is a similar view taken on line *z z* of Fig. 1. Fig. 5 is a detail view of the lamp for heating the brooder.

A represents the supporting base or table, which is of the usual construction and is provided at its corners with the depending legs B.

C represents a box which is adapted to fit on the top of the table, and is hinged thereto at one side by means of hinges D, and thereby the said box C is adapted to be tilted or inclined to one side, so as to uncover the table-top to permit the latter to be cleaned. This box C is provided with hinged doors E in its sides, and with openings provided with glass panes F, to admit light to the interior of the box. Above the said openings on opposite sides of the box are longitudinal rectangular openings G, which are covered by plates H, that are provided with circular openings I and with longitudinal slots K. On the inner side of each plate H is a slide, L, which is secured to the plate by means of a set-screw, M, that extends through the slot K and enters the slide. The latter is adapted to close the openings I when moved longitudinally in one direction, and has openings N, that are adapted to register with the openings I when the slide is moved in the contrary direction, thus adapting the said slide to uncover the openings I and admit fresh air to the interior of the box or chamber C, which constitutes the brood-chamber.

O represents a roof or cover which is adapted to be placed on the upper side of the box C and to be removed therefrom at pleasure. When the said roof or cover is placed on the box C, a chamber, P, is formed between the under side of the roof or cover and the top of the box, as shown in Fig. 2.

R represents a pair of pipes which extend through the table-top near one side thereof and project upward above the same to within a suitable distance of the top of the box C. The said pipes are open at their upper and lower ends.

S represents a metallic radiating box or pan which depends from the under side of the table-top, and is supported by means of a cross-bar, T, which is arranged under the radiating-pan and has its ends engaged by turn-buttons U, secured at the lower edges of opposite sides of the table. In the pan S is located a series of pipes, V, which are made of metal and communicate with each other and extend around the sides of the pan. From the center of the pipe on the front side of the pan depends a short sleeve or tube, W, which communicates with the pipe and extends through an opening in the bottom of the pan. The bottom of the pan is also provided with a series of perforations, X, which are arranged on opposite sides of the opening through which the sleeve W depends.

Y represents a metallic deflecting-plate which is arranged over the pipes in the front side of the pan. A nozzle, Z, projects upward from the center of the pipe in the rear side of the pan and extends through an opening made in the table-top and up into the brood-chamber C at one side thereof.

A' represents a pipe which is passed down through vertical aligned openings which are made in the roof and in the top of the brood-chamber. The lower end of this pipe A' receives the upper end of the nozzle Z and communicates with the same.

B' represents an air-pipe, of suitable length and diameter, which passes down through central vertical aligned openings that are made in the top of the roof or cover and in the top of the brood-chamber. The said pipe B' may be drawn upward or moved downward

to cause its lower end to be vertically adjusted in the brood-chamber, and thus draw the air either from the same near the floor or table-top or from a point near the top of the brood-chamber, for the purpose to be hereinafter described.

Under the top of the brood-chamber, at one corner thereof, is secured a metallic plate, C', which is provided on its under side with a depending keeper or strap, D'.

E' represents a shallow evaporating-pan, which is of a size such as will enable it to be passed through one of the openings G in the sides of the box C, and the said pan is provided on its upper side with a horizontal supporting-arm, F', which is adapted to be engaged by the keeper or strap D', so as to support the said pan and suspend the same from the top of the box C. Water is placed in this pan to provide the air in the interior of the box with a sufficient degree of moisture as the water evaporates.

On the front side of the table or base, at a suitable distance from the center thereof, is secured a pair of vertically-aligned bearing-lugs, G', in which is journaled the upper end of a vertical rod, H'. The lower end of this rod is bent at right angles to a horizontal position and forms the supporting-arm for a plate, I'. By turning the rod H' in the bearing-ears the plate I' may be turned outward from under the table-top, or it may be moved inwardly under the same, as will be readily understood.

K' represents a lamp bowl or body, which is made of sheet metal, and is divided into an upper compartment, L', and a lower compartment, M', by means of a horizontal diaphragm, O'. An inlet tube or opening, P', communicates with the lower compartment, M', and extends through the top of the lamp bowl or body and has a suitable cap, whereby it may be closed, and a similar inlet tube or opening, R', is provided for the upper compartment, L'. Through the center of the lamp extends an annular collar, S', which communicates with the screw-collar T' at the top of the lamp-bowl, and to which the burner U' is secured in the usual manner. The burner is provided with the wick-tube V' for a wick which passes downward through the sleeve S' and enters the lower or oil compartment, M', and a wick-raiser, W', of the usual construction is provided for the lamp-burner, whereby with to raise or lower the wick, and thereby control the size of the flame.

X' represents a chimney, which is made of tin or other sheet metal, and forms the frustum of a cone. This chimney fits on the lamp-burner and is provided on one side with an opening, Y', covered by a sheet of mica, Z', whereby the flame is rendered visible.

The operation of my invention is as follows: The upper compartment, L', in the lamp bowl or body is filled with water, and the lower compartment, K', thereof is filled with oil. The water-chamber above the oil-chamber pre-

vents the latter from becoming heated, and consequently renders the lamp free from the danger of explosion. The lamp is placed on the plate I' and the latter is turned inward, so as to raise the lamp under the radiating-pan S, and the upper end of the chimney is caused to receive the lower end of the inlet-sleeve W. A suitable quantity of sand is sprinkled over the table-top, which forms the floor of the brood-chamber C, and the young chickens are placed in the said brood-chamber. When the lamp is lighted, the heat, smoke, and products of combustion pass upward therefrom into the pipes V, and pass through the said pipes around the sides of the radiating-pan to the nozzle Z, and from thence into and up through the smoke-pipe A' into the outer air. The heat radiated from the pipes V causes the air between the bottom and sides of the radiating-pan and the floor of the brood-chamber to become heated, and it rises through the pipes R into the brood-chamber, and is discharged therein from the upper ends of the said pipes. The radiating-pan is supplied with a constant accession of fresh air through the openings X. After the heated air circulates in the brood-chamber it escapes upward through the air-pipe B', and the temperature of the air in the brood-chamber may be easily regulated by raising or lowering the said air-tube B', so as to cause it to take the air either from a point near the floor of the brood-chamber or near the top thereof. When the tube B' is lowered, so that its lower end is nearly in contact with the floor of the brood-chamber, the air becomes heated to a considerable degree before it is drawn off by the air-tube; but when the latter is raised, so that its lower end is just below the top of the brood-chamber, the heated air readily passes from the brood-chamber up through the air-tube, and consequently the temperature is lowered. By this means and in connection with the plates H, having the openings I and the slides to open or close the said openings, as before described, the temperature of the air in the brood-chamber may be maintained at a uniform degree, as will be readily understood. A thermometer is placed in the brood-chamber opposite one of the glass windows to indicate the exact temperature of the air in the brood-chamber.

It will be observed that the heat from the radiating-pan is applied directly to the floor of the brood-chamber, causing the same and the sand sprinkled thereon to be thoroughly warmed, thus rendering it exceedingly comfortable for the feet of the chickens and inducing them to sleep and to grow very rapidly, thus enabling them to be placed on the market at an early age.

The deflecting-plate Y prevents the heat at the front end of the radiating-pan from striking directly against the front portion of the floor of the brood-chamber, and thereby heating the same to too high a degree.

Having thus described my invention, I claim—

1. In a brooder for chickens, the combination of the heating-chamber, the brood-chamber C, arranged over the same, the pipes R, communicating with the heating-chamber and extending upwardly through the floor of the brood-chamber to conduct the heated air to the said brood-chamber, and the vertically-adjustable air-escape pipe B', extending through the roof of and communicating with the interior of the brood-chamber, substantially as described.

2. In a brooder for chickens, the combination of the brood-chamber, the heating-chamber S, arranged under the same and having the air-inlet openings X, the pipes R, extending from the heating-chamber to the interior of the brood-chamber to conduct heated air to the latter, the heat-radiating pipes V, arranged in the heating-chamber S, and through which the products of combustion pass, and the pipe A', communicating with the pipes V and extending up through the brood-chamber, substantially as described.

3. In a brooder, the combination of the brood-chamber, the heating-chamber S, arranged under the same and having the air-inlet openings X, the heat-radiating pipes V therein, the lamp having its burner arranged under and communicating with the pipes V, whereby the latter are caused to serve as a flue for the escape of the products of combustion,

and the deflecting-plate Y, arranged over the pipes V, substantially as described.

4. The combination of the table or base, the heating-chamber under the same, and having the flue or pipes V, and the nozzle Z, projecting inwardly therefrom, with the hinged box C on the table and forming the brood-chamber, and the pipe A', extending downward through the said box and adapted to receive the upper end of the nozzle Z, for the purpose set forth, substantially as described.

5. In a brooder, the base or platform A, which forms the bottom for the brooding-chamber, the heating-chamber S, arranged under the base or platform, the pipes R, passing through the base or platform and allowing heated air to pass from the heating-chamber into the brood-chamber, the brood-chamber C, hinged at one side to the base or platform, whereby it may be thrown back, and the escape-pipe B', extending through the roof of the brood-chamber and opening into the interior of the latter, substantially as described.

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

JOHN M. BODGE.

Witnesses:

R. L. PRESTON,
C. E. STUMM,
H. R. MOHLER.