

No. 716,651.

Patented Dec. 23, 1902.

G. R. ADAMS.
BROODER.

(Application filed July 31, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

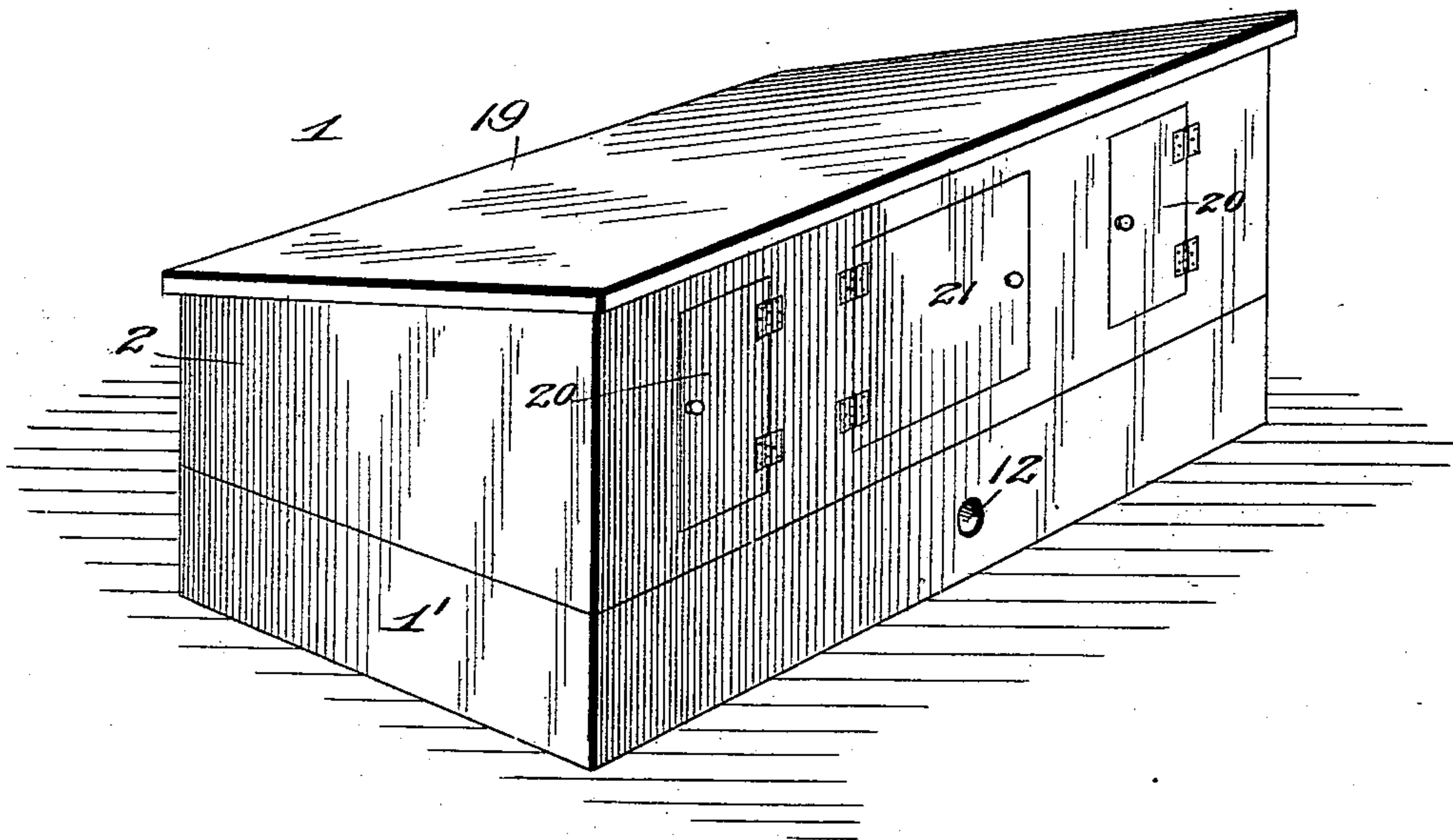
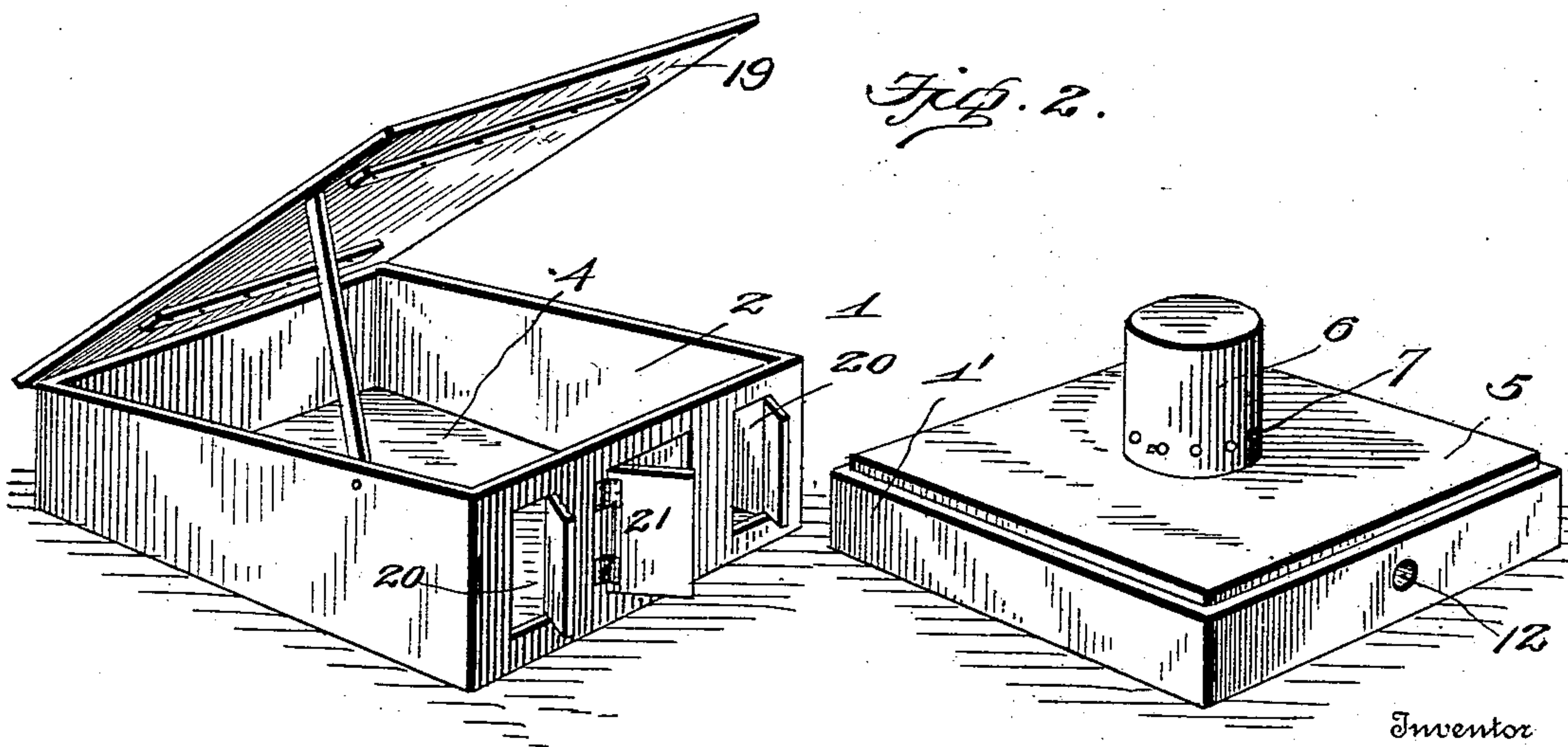


Fig. 2.



Witnesses

C. Hunt.
J. J. Wilson

By

George R. Adams
A. B. Wilson & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE R. ADAMS, OF HIAWATHA, KANSAS.

BROODER.

SPECIFICATION forming part of Letters Patent No. 716,651, dated December 23, 1902.

Application filed July 31, 1902. Serial No. 117,882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. ADAMS, a citizen of the United States, residing at Hiawatha, in the county of Brown and State of Kansas, have invented certain new and useful Improvements in Brooders; and I do 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 appertains to make and use the same.

This invention relates to improvements in brooders.

The object of the invention is to provide a brooder which is simple of construction, durable in use, and comparatively inexpensive of production and one in which provision is made for the convenient cleansing of the chicks' chamber and for the circulation of heat and air throughout such chamber in such a manner as to secure economy of fuel with the most effective results as regards perfect heating and free ventilation.

With the above and other objects in view, which will readily appear as the nature of the invention is better understood, said invention consists in certain novel features of construction and combination and arrangement of parts, which will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a brooder embodying my invention. Fig. 2 is a similar view showing the two sections disconnected and also showing the doors of the top section thrown open. Fig. 3 is a vertical longitudinal section. Fig. 4 is a horizontal section about the line 4 4 of Fig. 3.

Referring now more particularly to the drawings, the numeral 1 designates the brooder, which may be of any desired form, size, and material and comprises two main sections—to wit., a bottom section 1' and a top section 2—the bottom section forming a heating-chamber 3 and the top section a chicks' chamber 4.

The two chambers 3 and 4 are separated by a wall or partition 5, which forms the top of the heating-chamber and the floor of the chicks' chamber and is nailed or otherwise suitably secured to the section 1'. This floor or partition is formed with a central opening

in which is fitted a drum 6, provided at its base with a series of hot-air outlets 7 and extending some distance up into the chicks' chamber 4. Arranged concentrically within this drum is an inner drum 8, which extends down below into the heating-chamber and is provided with an offstanding plate or flange 9, secured to cleats 10, by means of which said drum 8 is supported in position. A flaring conducting tube or drum 11 extends vertically and diagonally within the drum 8 and opens at its upper end therethrough into the top of the drum 6 and at its lower end is connected to an air-inlet flue 12, leading to the exterior through the front wall of the base or bottom section 1'. The drum 8 and tube 11 are heated directly by the flames from the lamp 13, which is supported upon the floor 15 of the base-section 1 and is provided with an elongated handle 14 to enable it to be readily applied and removed through a hinged door 16 in the rear wall of said section, which door is provided with a vent-opening 17 for the escape of the hot air and products of combustion.

The top section 2 has a hinged lid or cover 19, which may be raised to afford access to the chicks' chamber and is provided in the front with a suitable number of windows 20 for lighting purposes and with a door 21 between said windows, which also gives access to the chicks' chamber. Also in the corners of the upper section are formed vertical flues 22, each of which is provided at its bottom with an inlet 23, communicating with the chicks' chamber, and at top with an outlet 24, communicating with the atmosphere.

The top section 2 rests upon the vertical wall of the base-section and is detachably connected thereto, so that it may be lifted up and removed from said base-section in the manner shown in Fig. 2, in order that access may be had to the interior of the top section and to the floor or partition 5 whenever it may be found necessary or desirable to clean the interior of the brooder.

As shown, the partition 5 preferably extends a little above the upper edge of the vertical wall of the base-section, so as to break joint with the lower edge of the vertical wall of the top section, thus forming a stop or

shoulder to prevent said top section from sliding on the bottom section, and so adapting the parts to be securely connected without the use of fastenings.

5 If desired, a lining 25, of asbestos, may be applied to the under side of the partition 5 between the cleats 10 and side walls of the base-section 1 to protect said partition from the heat below.

10 In the operation of the device the heat from the lamp 13 is concentrated by the drum 8 about the flue or tube 11, and the air entering through the pipe 12 and passing through said flue or tube is thus caused to be highly
15 heated. From the flue or tube 11 the heated air passes into the top of the outer drum 6 and as said drum is closed at top is forced to flow downward through the space or passage between the two drums 6 and 8 and to there-
20 by become heated by radiation from the drum 8 to a greater extent before discharging through the passage 7, by which it is conducted into the chicks' chamber 4. After cir-
25 culating around this chamber and thoroughly heating the same the heated air, together with the foul air, passes out through the ports 23 into the flues 22 and finally discharges through the ports 24 to the atmosphere. It
30 will thus be seen that the cool fresh air drawn in through the pipe 12 is fully heated to a sufficiently-high temperature before passing into the chamber 4 by the several drums to insure the heating of said chamber to the proper degree and that the chicks' chamber
35 is not only heated by the passage of this warm air, but by radiation from the drums extending thereinto.

When it is desired to clean the chicks' chamber, the top section 2 is lifted off the
40 base-section and the cover 19 raised and supported in raised position, whereupon the interior of said top section, as well as the floor of the base-section, is rendered readily accessible, thus enabling the brooder to be
45 cleaned with the expenditure of a minimum amount of time and labor.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the construction, operation,
50 and advantages of my improved brooder will

be readily apparent without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the prin- 55
ciple or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Let- 60
ters Patent, is—

1. A brooder comprising a heating-chamber, a chicks' chamber above the same, a partition separating said chambers and forming the top of the heating-chamber and floor of the chicks' chamber, a drum extending 65
upwardly into the chicks' chamber and provided with discharge-ports and supported by said partition, a second drum arranged within the drum first named and also supported by said partition, a heater within the heating- 70
chamber below the drums, and means for conducting air from the exterior to the space between the drums, said means forming a conductor located within the inner drum and in communication with the space between the 75
same and the outer drum and adapted to be heated directly from the heater, substantially as described.

2. A brooder comprising a casing having a horizontal partition forming upper and lower 80
chambers, a drum supported by the partition and extending into the upper chamber, said drum having hot-air outlets, an inner drum arranged concentrically within the first-named drum and also supported by the par- 85
tition, a heater in the base-chamber below said drums, an air-inlet pipe extending into the base-chamber, a flaring conducting-pipe extending diagonally from the inner end of said air-inlet pipe through the inner drum 90
and opening into the top of the outer drum and adapted to be heated from said heater, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit- 95
nesses.

GEORGE R. ADAMS.

Witnesses:

J. N. HOWIE,

H. W. GASKILL.