

No. 749,144.

PATENTED JAN. 12, 1904.

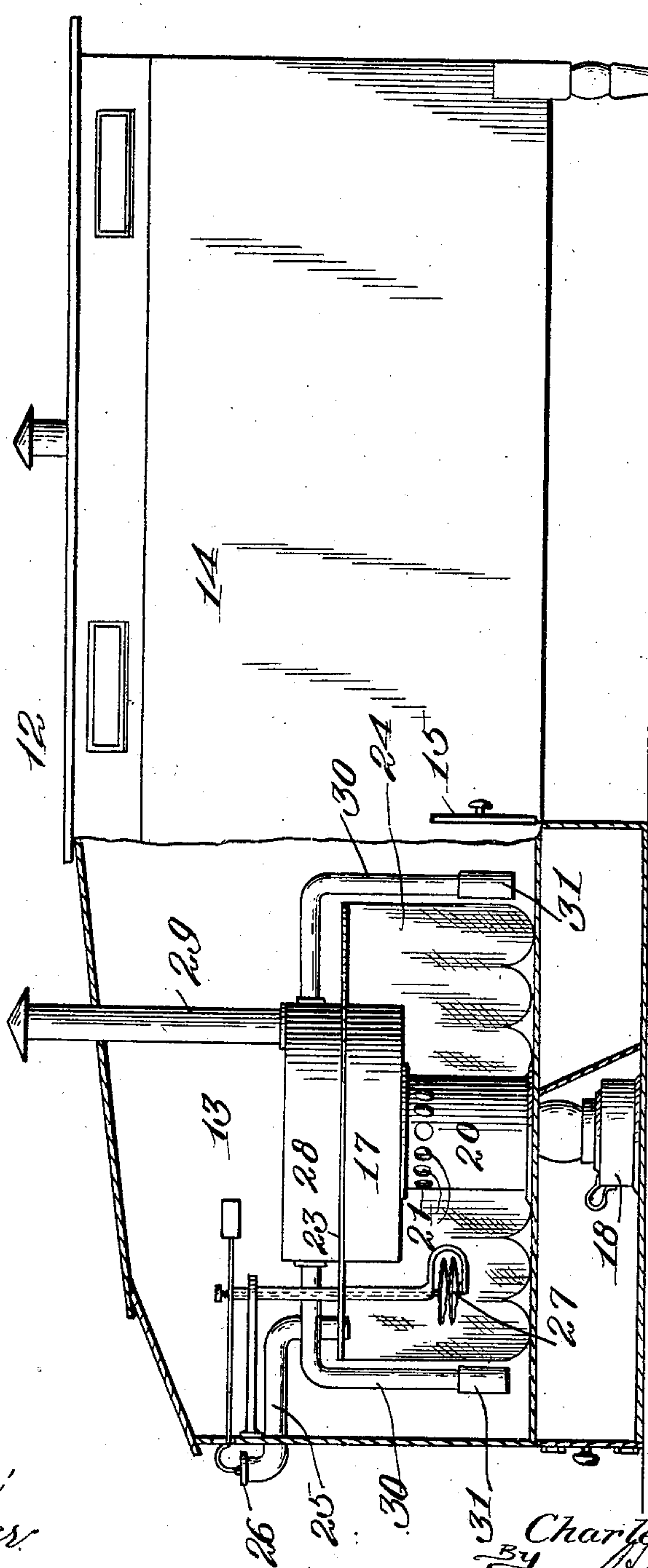
C. E. ADAIR.
BROODER.

APPLICATION FILED JULY 17, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1



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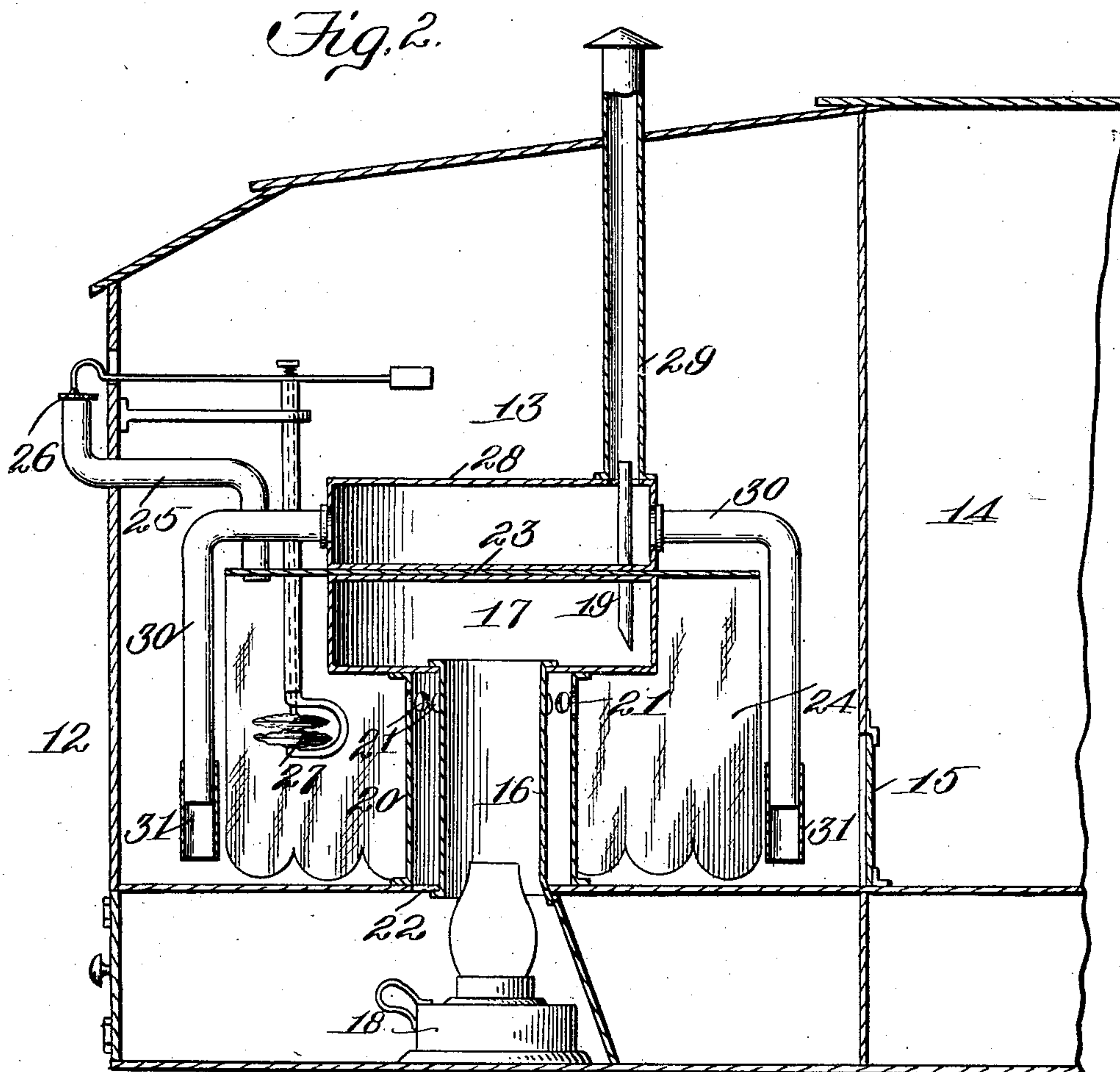
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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES E. ADAIR, OF COLUMBUS, OHIO, ASSIGNOR TO EVAN J. JONES
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BROODER.

SPECIFICATION forming part of Letters Patent No. 749,144, dated January 12, 1904.

Application filed July 17, 1903. Serial No. 165,943. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. ADAIR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Brooders, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to brooders of that type in which a hover-chamber and exercising-chamber are combined, through which the chicks are free to run, and which are artificially heated to the desired temperature.

In the construction which I have devised certain improvements have been made in the heating and ventilating adjuncts of the brooder whereby an equable temperature may at all times be maintained, a supply of warm fresh air always provided, and a perfect ventilation of the hover-chamber secured. In attaining these results structural improvements have been made which will be hereinafter described, and particularly pointed out in the claims.

In order that the invention may be readily understood by those skilled in the art, I have illustrated one embodiment of the same in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of a brooder made in accordance with my invention. Fig. 2 is a detail sectional view, on a somewhat larger scale than that of Fig. 1, of the hover-chamber proper and its heating and ventilating accessories.

Referring to the drawings by numerals, like numbers indicating like parts in the several views, 12 indicates the brooder, which consists of a substantially rectangular box made either with single or double walls, as may be desired. The brooder is made up of two main parts—namely, the hover-chamber 13 and the exercising-room 14—which are separated from each other by means of a movable partition 15, so that when desired the chicks may be kept in either one of the compartments. The exercising-room 14 is of ordinary construction and presents no novel features.

The hover-chamber 13 is provided with a

hot-air flue or pipe 16, extending from its floor vertically to a heating-drum 17, said hot-air flue 16 receiving the products of combustion from any suitable heater, as 18, and these pass to the heating-drum 17, from which they escape after circulating therethrough by means of an outlet-pipe 19, the end of which depends within the drum 17 to a point near the bottom thereof, so that the cooler stratum of air near the bottom of the drum is carried off through the outlet-pipe 19, and thus the full heating effect of the hot air delivered by the pipe or flue 16 is secured. Surrounding the pipe 16 is a fresh-air pipe 20, provided with circumferentially-placed outlet-ports 21 near its top. This fresh-air pipe 20 is warmed from the heating-flue or hot-air pipe 16, the said fresh-air pipe 20 receiving its supply through suitable openings 22 in the bottom of the hover-chamber. (See Fig. 2.) Mounted upon the said heating-drum 17 is the hover-chamber top 23, which is preferably of sheet metal and has depending from its edge the hover-cloth 24, of usual construction. The hover-chamber thus formed is provided with an outlet-pipe 25, the outlet of which is controlled by a valve 26, operated by means of a thermostatic device 27, so that should the temperature in the hover-chamber vary beyond certain limits the outlet-valve 26 will be automatically operated and the temperature brought to the proper degree. It will be understood, of course, that the thermostatic device and valve connections may be adjusted so as to be operative at any desired temperatures. Mounted upon the said heating-drum 17 is a ventilating-drum 28, the hover-chamber top 23 being clamped and held between these two drums, as shown in Fig. 2. The said ventilating-drum 28 is provided with a vent-stack 29, which extends through the top of the brooder-case so as to give a good ventilating-draft. Extending horizontally from the sides of the ventilating-drum 28 are draft-pipes 30, two being shown, the said pipes 30 extending radially to a point outside of the hover, where they are turned downwardly, and their lower adjustable ends 31 extend to a point near the floor of the hover-chamber, as

clearly shown. By this arrangement of ventilating-drum and draft-pipes the vitiated cooled air, which falls to the floor of the hover-chamber, is readily sucked up and carried away and the air within said hover-chamber is kept in fresh warm condition. To insure a proper suction and circulation through the ventilating-chamber and its attached draft-pipes, I preferably have the outlet-pipe 19 of the heating-drum 17 traverse the ventilating-drum 28 and deliver directly to the vent-stack 29 thereof, so that the air within the ventilating-drum 28 is warmed not only by reason of the proximity of the said drum 28 to the heating-drum 17, but also by reason of the outlet-pipe 19, through which the heated products from the drum 17 pass, and a rapid and efficient circulation to secure a ventilating-draft is thus secured. By making the lower ends 31 of the draft-pipes adjustable the ventilation of the hover-chamber may be regulated to a nicety.

From the foregoing description it will be seen that I have provided a brooder in which a supply of warm fresh air is constantly supplied to the hover-chamber, and the air within said chamber as soon as it becomes cooled will be quickly carried off. Furthermore, by the arrangement of heating and ventilating drums shown and described a very compact and simple construction is secured, the said drum serving as a supporting means for the hover proper and the whole being supported upon the heating-flue and its surrounding fresh-air pipe.

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

1. In a brooder, the combination with a hover-chamber, of a heating-drum for said chamber having a suitable heating-flue and an outlet-pipe, a ventilating-drum, and draft-pipes leading from said ventilating-drum to said hover-chamber.

2. In a brooder, the combination with a hover-chamber, of a heating-drum for said chamber having a suitable heating-flue and an outlet-pipe, a ventilating-drum in proximity to said heating-drum and warmed thereby,

and draft-pipes leading from said ventilating-drum to said hover-chamber.

3. In a brooder, the combination with a hover-chamber, of a heating-drum having a heating-flue and an outlet-pipe, a ventilating-drum traversed by said outlet-pipe, and draft-pipes connecting said ventilating-drum with said hover-chamber.

4. In a brooder, the combination with a hover-chamber, of a heating-drum having a heating-flue and an outlet-pipe, a superposed ventilating-drum through which said outlet-pipe passes, and draft-pipes connecting said ventilating-drum with said hover-chamber.

5. In a brooder, the combination with a hover-chamber, of a heating-drum, having a heating-flue and an outlet-pipe, a superposed ventilating-drum having draft-pipes leading to said hover-chamber, and a top for the hover-chamber clamped between the said drums.

6. In a brooder, the combination with a fresh-air pipe, a hot-air pipe traversing said fresh-air pipe, a heating-drum to which said hot-air pipe delivers surmounting said pipes, a hover-chamber top supported by said drum, a ventilating-drum superimposed on said heating-drum and between which and said heating-drum the hover-chamber top is held, and draft-pipes leading from said ventilating-drum to the floor of the hover-chamber.

7. In a brooder, the combination with a hover-chamber, of a heating-drum, a superposed ventilating-drum, a heating-flue delivering to said heating-drum, an outlet-pipe for said heating-drum which passes through said ventilating-drum, a vent-stack for said ventilating-drum to which said outlet-pipe delivers, and adjustable draft-pipes leading from said ventilating-drum to the floor of the hover-chamber.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. ADAIR.

Witnesses:

E. M. MARION,
J. W. MOONEY.