

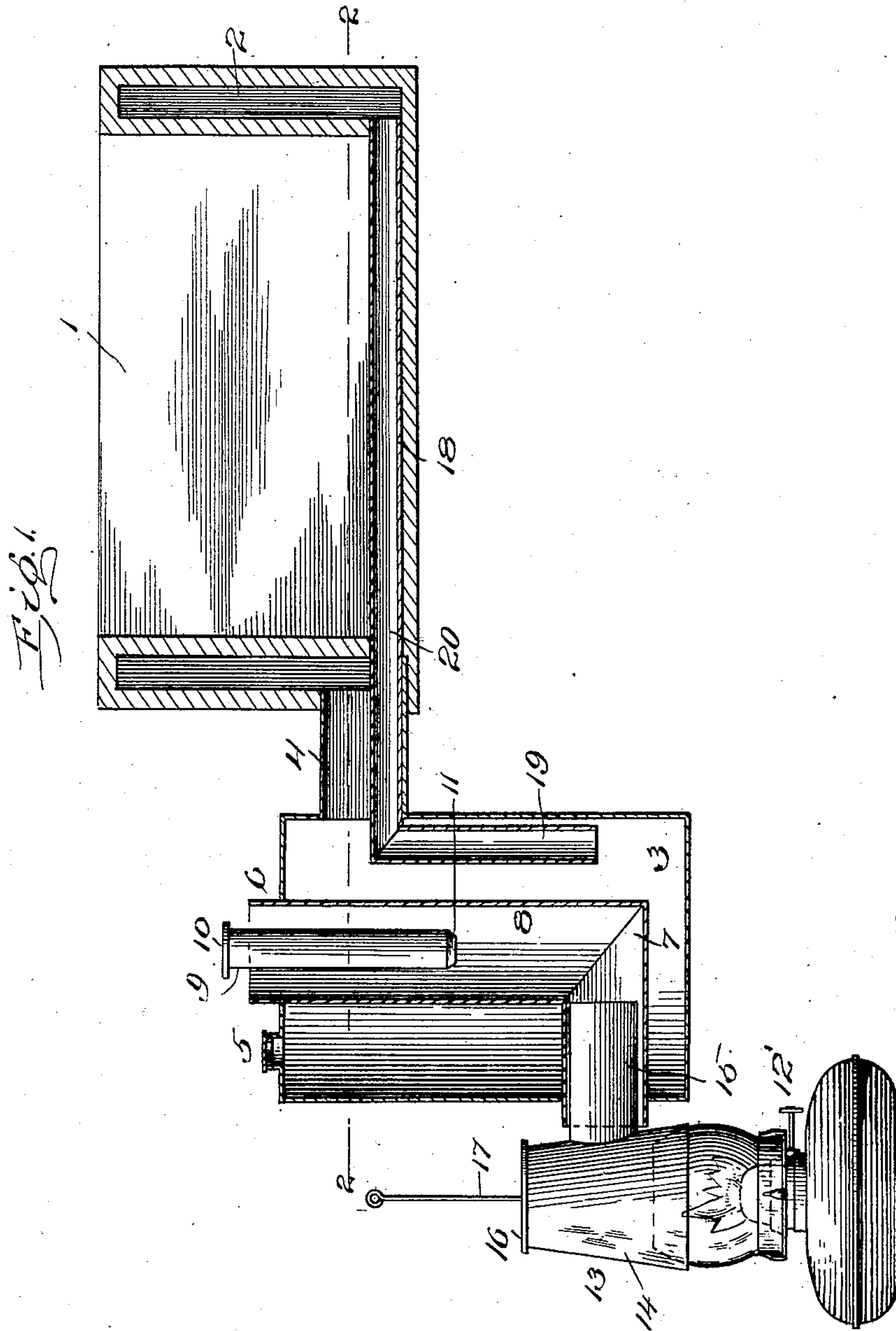
No. 862,764.

PATENTED AUG. 6, 1907.

W. F. SEYFER.
INCUBATOR.

APPLICATION FILED AUG. 31, 1905.

2 SHEETS—SHEET 1.



Inventor

Witnesses
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E. C. Vrooman.

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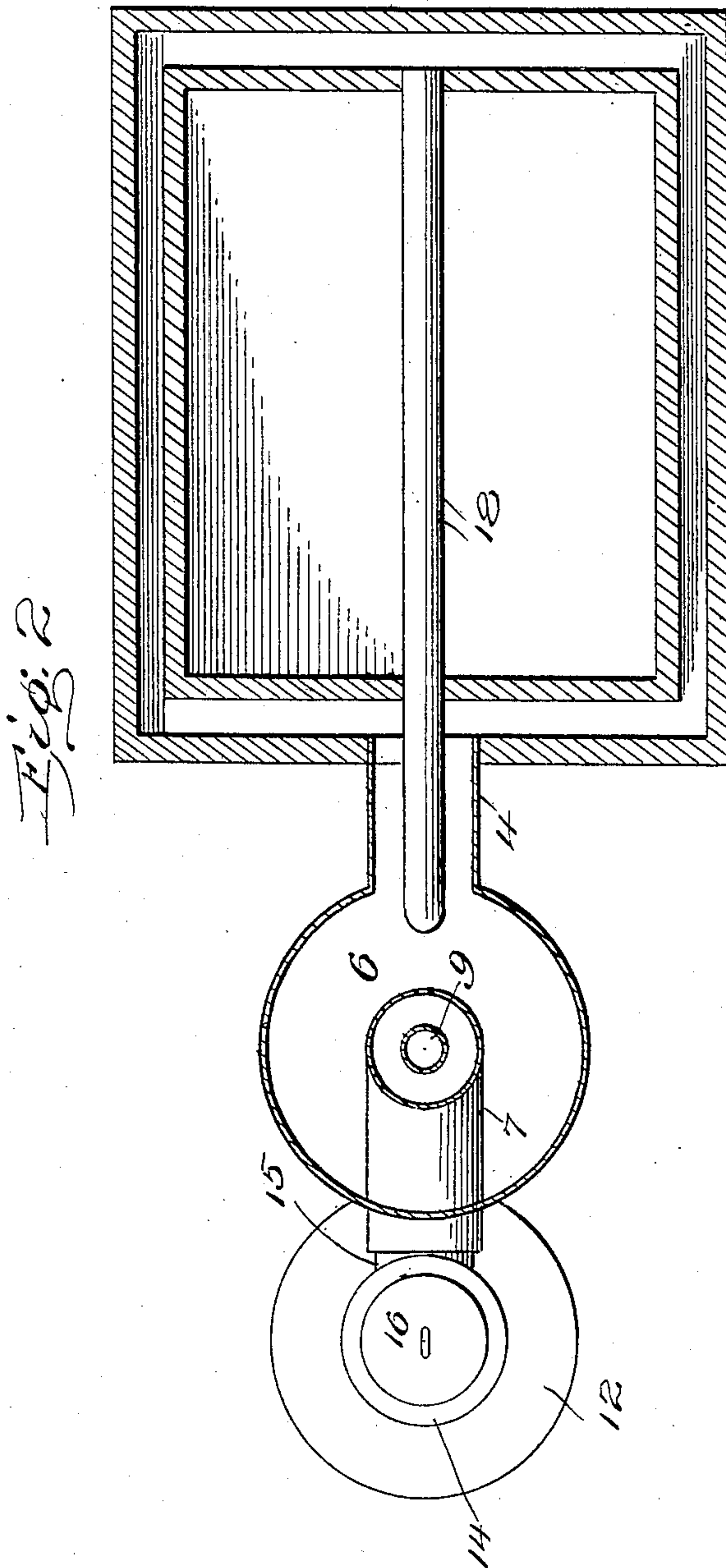
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UNITED STATES PATENT OFFICE.

WILLIAM F. SEYFER, OF DECATUR, ILLINOIS.

INCUBATOR.

No. 862,764.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed August 31, 1905. Serial No. 276,783.

To all whom it may concern:

Be it known that I, WILLIAM F. SEYFER, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Incubators; and I do hereby 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.

10 This invention relates to improvements in incubators, and particularly to heating means therefor.

The object of the invention is the provision of means for facilitating the heating of an incubator by a hot water system.

15 It is a further object of the invention to so construct the incubator that all the heat of which the heating mechanism is capable may be applied thereto without danger of overheating the egg chamber.

20 With this and other objects in view, the invention consists of certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto appended.

25 In the drawings: Figure 1 is a vertical, longitudinal sectional view of an apparatus constructed in accordance with my invention, showing the hood for the lamp in side elevation. Fig. 2 is a horizontal, sectional view taken on line 2, 2, Fig. 1.

30 Referring to the drawings by numerals, 1 designates the body of an incubator of any suitable type, which is provided with a circulating compartment 2. A boiler or cylinder 3 is connected by a hollow member or pipe 4 to the body of the incubator 1, and is in communication with the circulating compartment 2. A removable cap or stopper 5 is positioned upon the boiler 3 by means of which said boiler may be filled with liquid. A hot air flue 6 extends through and projects beyond the side and top of the boiler 3. The flue 6 is an elbow structure, that is to say, it is provided with a lower, horizontal portion 7 and a vertical portion 8. Positioned within the vertical portion 8 of the hot air flue 6 is a hollow or tubular deflector 9, which is closed at its upper end preferably by means of a cap 10. The lower end of the deflector 9 is reduced, as at 11. The deflector 9 is provided for the purpose of deflecting the heat against the inner wall of portion 8 of the hot air flue 6. The liquid contained in the boiler 3 is heated more quickly by employing the deflector 9, than would be the case if the heat from the lamp 12 was allowed to pass unobstructed through the hot air flue.

55 The hood 13 comprises a hollow portion or member 14 and a substantially right-angled, hollow portion or member 15. The portion 14 converges towards its upper end. The hollow, horizontal portion 15 is preferably of less diameter than portion 14. These portions 14

and 15 constitute a substantially T-shaped hood. The horizontal, right-angled portion 15 of the hood is normally positioned within the horizontal portion 7 of the hot air flue 6. The vertical portion 14 of the hood 13 is positioned above the lamp and is adapted to receive the heat radiated therefrom. A regulator cap 16 is adapted to engage and close the upper end of the portion 14 of the hood, when the liquid in the boiler 3 is to be heated. The cap 16 is connected by means of a stem 17 to any suitable actuating means, as for instance, an ordinary thermostat, which is positioned within the incubator so that when the temperature in the incubator has fallen by reason of the liquid in the boiler cooling sufficiently, the thermostat will permit the cap 16 to close the upper end of the portion 14 of the hood, and thereby cause all of the heat radiated by the lamp to pass through the hot air flue 6 to raise the temperature of the liquid in the boiler 3 and, consequently, the temperature in the incubator.

75 A return pipe 18 is in communication with the forward portion of the circulating chamber 2, and the vertical, right-angled portion 19 of said pipe terminates near the bottom of the boiler 3, so that the hot liquid passes from the boiler 3 through the pipe 4 into the circulating chamber 2, and from the circulating chamber, it is returned in a more or less cooled condition to the lower part of the boiler 3. It will be obvious that the return pipe comprises a horizontal portion 20 and a right-angled, vertical portion 19.

85 The pipe 19 is preferably connected to the forward portion of the circulating compartment 2 near its bottom.

The peculiar structure of the hood greatly increases the efficiency of my heating apparatus, as it will be noticed that if the liquid becomes too highly heated, the cap, through the medium of its actuating means, will be raised and all of the heat radiated from the lamp will pass directly out of the upper end of portion 14, which is entirely removed from the boiler, while in the event the liquid should be heated, if the cap is closed, Fig. 1, all of the heat must pass through the hot air flue 6. It will, therefore, be seen that a material advantage is obtained in removing the lamp entirely from the boiler and positioning it to one side thereof.

100 It will be observed that the lamp is so constructed and so related to the chambers of the incubator that the said lamp may be turned up to a full blaze so as to insure an ample quantity of heat for the egg chamber and yet without the danger of overheating said egg chamber. This is chiefly due to the fact that the heater or lamp is entirely outside the mechanism and is connected therewith by a hood.

What I claim is:

110 1. In an apparatus of the character described, the combination with a circulating chamber, of a boiler provided with a horizontal pipe in communication with said circu-

lating chamber, a flue positioned within said boiler and projecting beyond one side and the top of the same, said flue comprising a vertical and a horizontal portion, a hollow deflector provided with an upper, closed end, positioned within said flue, a hood, said hood comprising a vertical and a horizontal portion, the horizontal portion of said hood positioned within the horizontal portion of said flue, means for closing the upper end of said hood, and heating means positioned contiguous to and communicating with the vertical portion of said hood.

2. In an apparatus of the character described, the combination with the circulating chamber of an incubator, of a boiler in communication with said chamber, a return pipe communicating with the circulating chamber and extending to the lower portion of said boiler, a flue extending through the boiler and opening at one side thereof, a deflector positioned within said flue, and means disposed at one side of said boiler and communicating with the flue for supplying heat thereto.

3. In an apparatus of the character described, the combination of a substantially rectangular, circulating chamber, a boiler provided with a horizontal pipe in communication with said chamber, a return pipe positioned within said chamber and extending nearly to the bottom of said boiler, a flue provided with a horizontal and a vertical portion positioned within said boiler, said flue opening at one side and at the top of said boiler, a removable cap carried

by said boiler, a deflector positioned within the vertical portion of said flue, said deflector comprising a tubular body portion provided with a lower, reduced end and with an upper closed end, a hood secured at one side of said boiler, said hood comprising a vertical portion and a right-angled, horizontal portion of less diameter than said vertical portion, the vertical portion tapering throughout its length, the horizontal portion of said hood positioned within the horizontal portion of said flue, means for closing the upper end of the vertical portion of said hood, and means for supplying heat to the hood.

4. In an apparatus of the character described, the combination with a circulating chamber, of a boiler in communication with said circulating chamber, an angular flue positioned within said boiler and opening at the top and upon the side thereof, a deflector suspended in said flue near the upper end thereof, a tubing positioned within said boiler and circulating chamber and opening into said boiler at one end and into said circulating chamber at the opposite end, and heating means positioned to one side of said boiler for supplying heat to said flue.

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

WILLIAM F. SEYFER.

Witnesses:

JESSE L. DECK,
JOHN P. EKELS.