July 6, 1926. 1,591,782

C. W. RONSHEIMER

BROODER HEATER

Filed Oct. 2, 1925 2 Sheets-Sheet 1

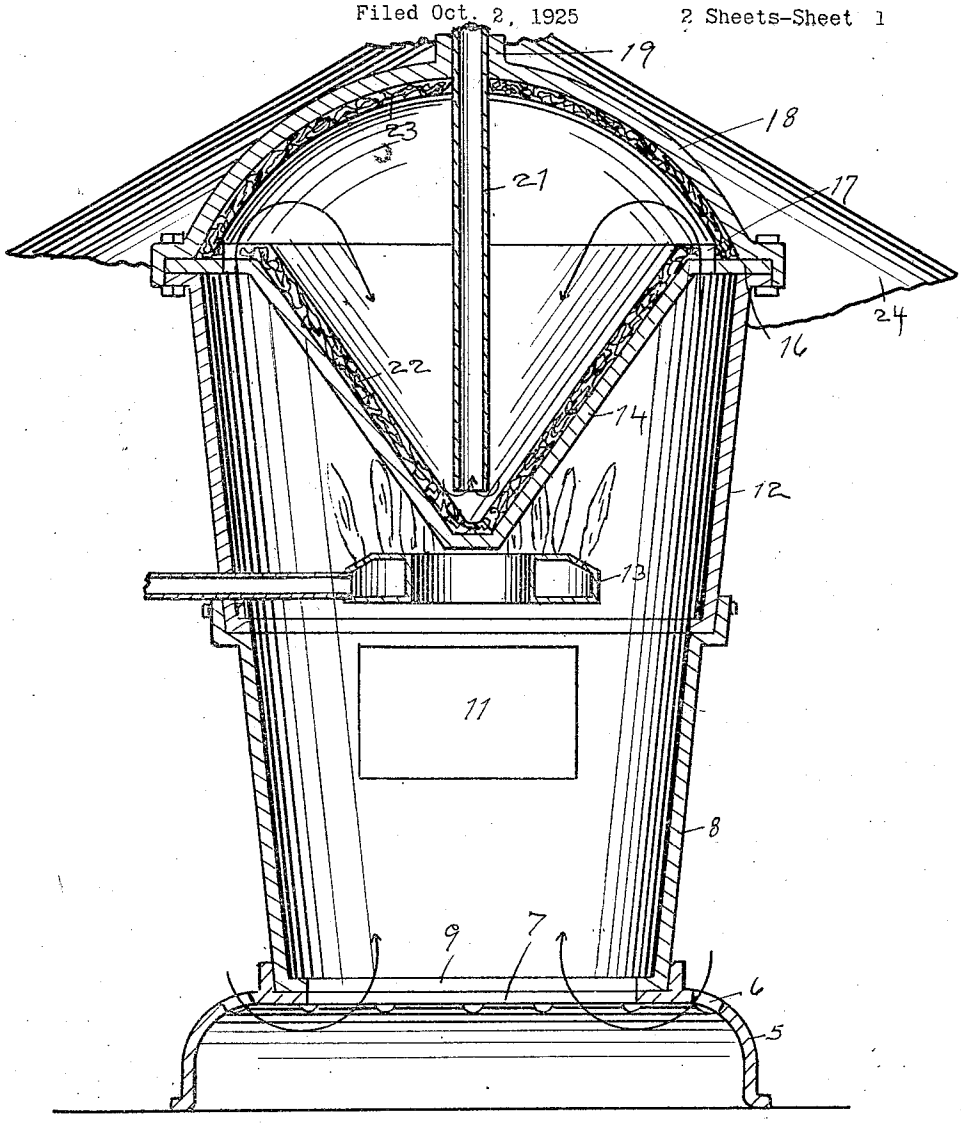


Fig. 1.

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Fig. II.

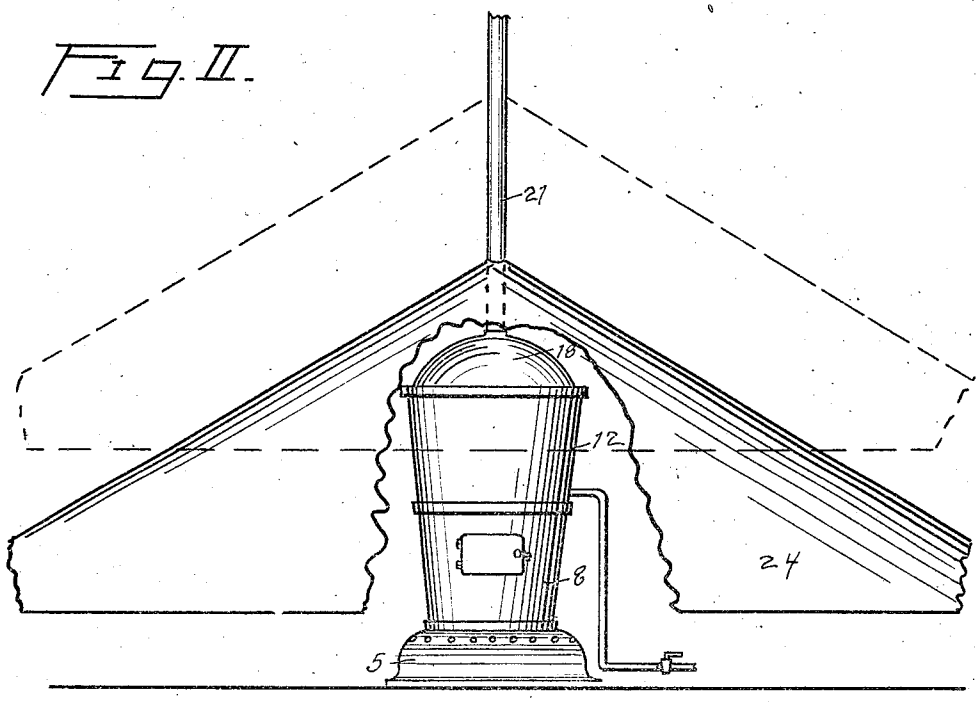
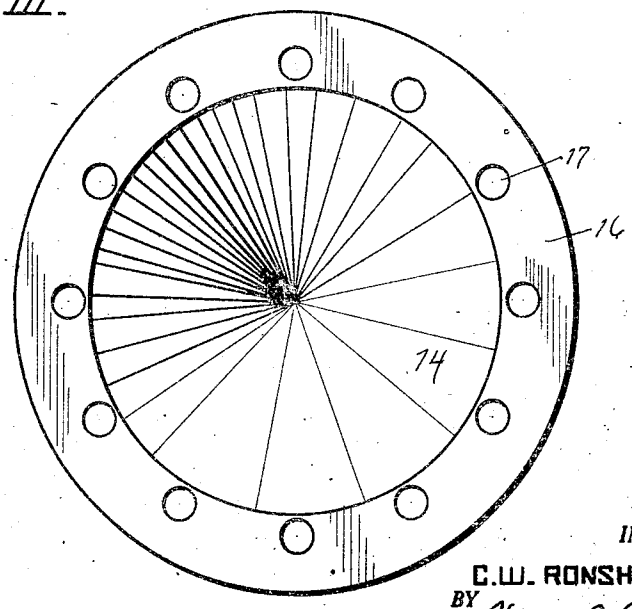


Fig. III.



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UNITED STATES PATENT OFFICE.

CHARLES W. RONSHEIMER, OF PENNGROVE, CALIFORNIA.

BROODER HEATER.

Application filed October 2, 1925. Serial No. 60,090.

This invention relates to improvements in brooder heaters and has particular reference to a heater capable of use with illuminating gas or other similar gaseous fuels.

The principal object of this invention is to produce a brooder heater which will use a minimum amount of fuel and give off a uniform heat.

Another object is to provide means whereby the heat is reflected laterally thereby securing the greatest efficiency from the amount of fuel employed.

A still further object is to produce a heater of this character which is simple in construction and, therefore, cheap to manufacture.

An additional object is to produce a heater of this character which may be substituted for the type of brooder heater now used, without materially altering the construction of the brooder house and other equipment.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure I is a vertical cross section of my improved heater,

Figure II is a front elevation of my heater, showing the movable canopy partly broken away, and

Figure III is a top plan view of the reflector cone.

Many types of brooder heaters are now employed, which use various types of fuel. These heaters are expensive to operate due to the fact that a large percentage of the heat rises and passes out of the stack with a consequent loss. I have, therefore, devised a heater whereby an exceedingly small flame comparative to the size of the heater suffices to maintain the required temperature beneath the canopy and by referring to the drawings, it will be noted that the numeral 5 designates a base having a plurality of openings 6 therein.

The base 5 has a central opening 7 which communicates with the interior of an inverted frustrum of a cone 8 open at both ends and forming an air chamber. In the wall of this chamber 8 is formed a door opening at 11. Mounted upon this chamber 8 is an element consisting of an inverted frustum of a cone also open at both ends and forming a combustion chamber 12 within which a burner 13 is positioned.

This burner may be of any type capable of heating a reflector cone 14 which is provided with a flange 16 which flange rests upon the top of the combustion chamber 12. This flange 16 is provided with a plurality of holes 17 (see Figures I and III).

A dome 18 is superimposed upon the whole structure and secured thereto in any convenient manner. This dome has an outlet 19, through which a pipe 21 passes. This pipe extends downwardly to a point in close proximity to the bottom of the reflector cone 14. This cone is lined with a retort cement 22, the purpose of which will be later seen.

This dome 18 is also covered with a coating of cement as shown at 23. A canopy 24 is slidably supported upon the stack 21 as is best illustrated in Figure II, and is capable of being raised and lowered to accommodate for chicks of various ages.

The operation of my heater is as follows:—

When the fuel supply is turned on and admitted to the burner 13, the same is ignited through the door 11. The flame impinges upon the reflector cone 14, heating the same, which heat is reflected against the interior wall of the combustion chamber 12. Fresh air is drawn through the openings 6 as indicated by the arrows which air passes upwardly through the air chamber 8 coming into contact with the hot surface of the reflector cone 14, where it is heated to a high temperature. This air then passes through the openings 17 as indicated by the arrows, downwardly within the cone and upwardly through the stack 21. The result of this construction is that heat is reflected against the sides of the casting 12 on account of the fact that the cone is lined with retort cement, the stored up heat is considerable, which heat is sufficient to maintain an even temperature beneath the canopy.

This is an important feature, as it often occurs that a sudden change in outside temperature is injurious to the chicks and it is, therefore, important that the heater maintain as even a temperature as possible, under all conditions, which is not possible with a sheet iron or cast iron heater, as the same lose their heat rapidly.

It is to be understood that the forms of

my invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

In a brooder heater, a base having a plurality of openings therein, a circular casting forming an air chamber positioned on said base, the interior of said air chamber communicating with the interior of said base, a second circular casting forming a combustion chamber positioned on said first mentioned casting, a reflector positioned in said combustion chamber and having a plastic lining formed therein, means for heating said reflector and said lining for the purpose of storing and reflecting heat to the wall of said combustion chamber, a dome positioned above said reflector and secured to said second mentioned casting, said dome having a plastic lining, and a pipe passing through said dome and extending to a point in close proximity to said reflector.

In testimony whereof I affix my signature.

CHARLES W. RONSHEIMER.