

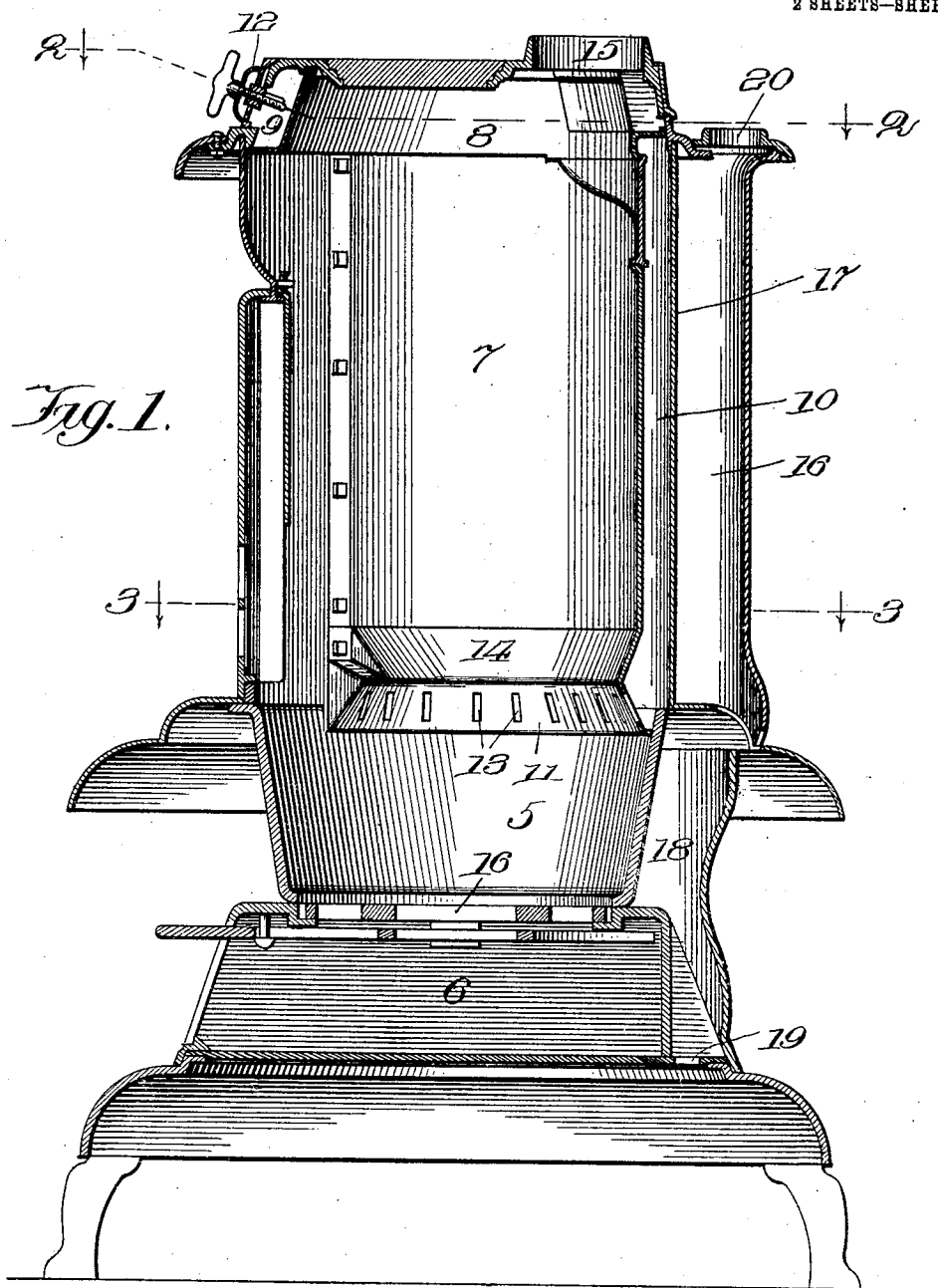
No. 809,507.

PATENTED JAN. 9, 1906.

J. L. KLEMME.
HEATER.

APPLICATION FILED AUG. 1, 1904.

2 SHEETS—SHEET 1.



Witnesses:

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Inventor:

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2 SHEETS—SHEET 2.

Fig. 2.

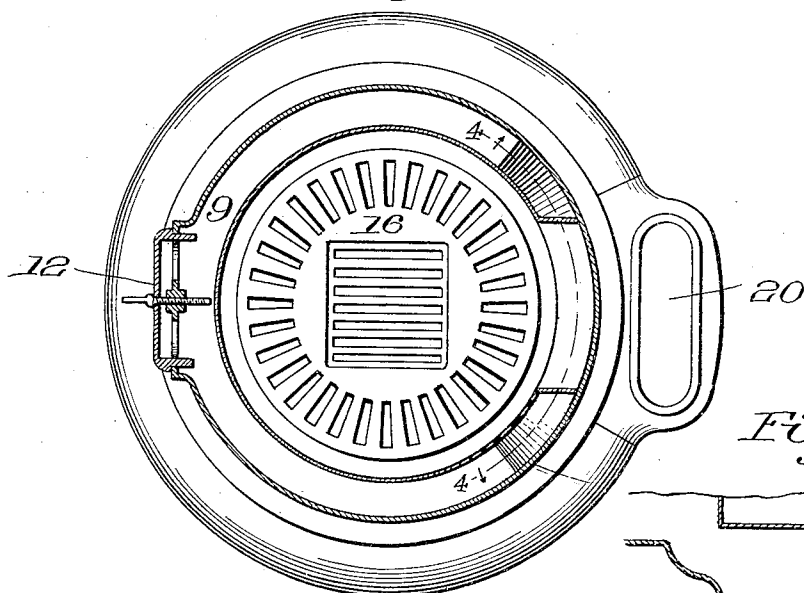


Fig. 4.

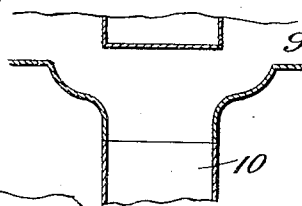
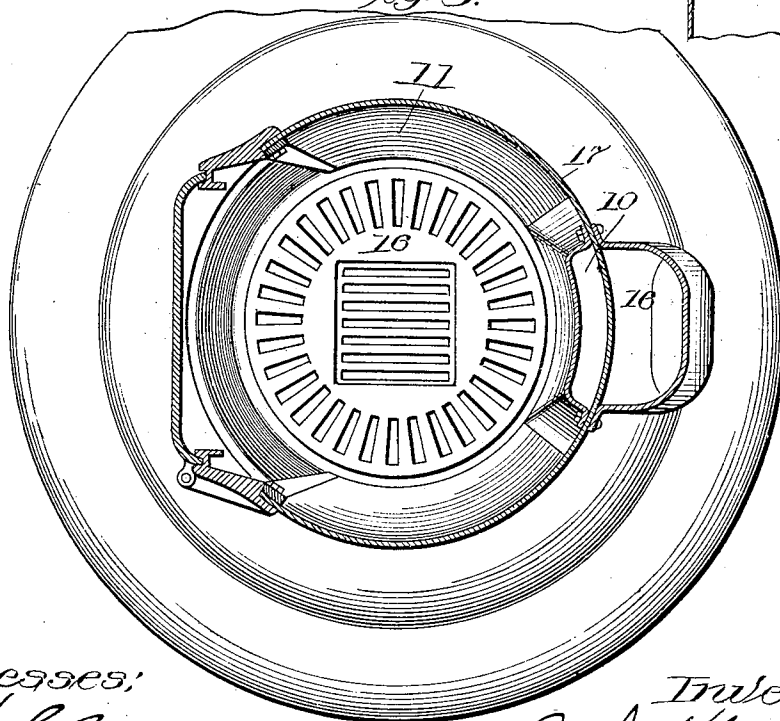


Fig. 3.



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UNITED STATES PATENT OFFICE.

JULIUS L. KLEMME, OF QUINCY, ILLINOIS.

HEATER.

No. 809,507.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed August 1, 1904. Serial No. 219,071.

To all whom it may concern:

Be it known that I, JULIUS L. KLEMME, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in Heaters, of which the following is a specification.

This invention relates to improvements in heating stoves constructed especially for burning bituminous coal; and its object is to provide for a perfect combustion of the fuel to thereby secure the maximum degree of heat without the accumulation of soot and with a material saving in the quantity of fuel consumed.

A further object of the invention is to provide a double heater which can be utilized to heat the room in which the heater is located and also another room.

In the accompanying drawings, illustrating an embodiment of the invention, Figure 1 is a vertical sectional view of the heater. Figs. 2 and 3 are horizontal sectional views on the lines 2-2 and 3-3 of Fig. 1. Fig. 4 is a detail sectional view on the line 4-4 of Fig. 2.

In the drawings, 5 is a fire-box, 6 the ash-pot, and 7 the heating-chamber of the heater, the general construction of these parts, as well as the shape and proportions of the whole heater, being capable of more or less variation without departing from the invention. In the dome 8 above the heating-chamber I provide an annular air-receiving chamber 9, which communicates with a ventiduct 10, connecting with a hollow air-distributing ring 11 between the fire-box and the heating-chamber. Air enters the air-chamber 9 through a damper 12 at the front thereof and passes through the ventiduct 10 and escapes through openings 13 in the distributing-ring. This air is heated to a high temperature in the air-chamber and ventiduct between the time it enters the air-chamber and is discharged from the distributing-ring, and it furnishes a fresh and sufficient supply of oxygen to the combustion-chamber 14 within the distributing-ring and between the fire-box and heating-chamber to provide a perfect combustion of the fuel and entirely consume all the soot which ordinarily passes off. The volume of air can be regulated by adjusting the damper, which may be of any suitable construction. I prefer to make the distributing-ring of angular form in cross-section, with an upwardly and inwardly inclined inner wall 11', as shown, so

that the air discharged therefrom will be directed to a more or less extent downwardly; but this ring may be otherwise shaped, if desired. At the top of the dome I provide an opening 15, to which the stovepipe is connected in the usual manner, and a grate 16 is located at the bottom of the fire-box. I also provide a hot-air chamber 16, preferably at the back of the drum 17 of the heater and behind the air-passage 10, and this chamber communicates at the bottom with a cold-air chamber 18, which extends down beside the fire-box and the ash-pot and is provided with an opening 19 at the bottom. The cold air entering the chamber 18 through the opening 19 and passing up into the chamber 16 will become highly heated by the time it reaches the top of the chamber 16, which is provided with a collared opening 20 to receive a flue-pipe by which the heated air is carried to another room than that in which the heater is located. If it is not desired to utilize this double heater formed by the chambers 18 and 16, the opening 20 may be closed.

It is not necessary to enter into the other details of construction of the heater, because they may be changed in many respects without departing from the invention, which consists, essentially, in taking the air-draft into the front of the chamber 9 and discharging it after it is heated to a high temperature into the combustion-chamber and providing also the double heater at side of drum.

A heater constructed in accordance with my invention will provide a commercially-perfect combustion of the fuel and prevent accumulation of unconsumed fuel in the heater and stovepipe. By reason of this perfect combustion a greater volume of heat is obtained from a given amount of fuel, and consequently in the ordinary use of a heater considerably less fuel is required to obtain the desired amount of heat. The air-chamber 9 and the ventiduct 10 constitute, in effect, a continuous passage from the air-draft from the top front of the heater to the distributing-ring, and in this passage the air is heated to a high temperature.

Without limiting myself to the exact construction and arrangement of parts herewith shown and described, what I claim, and desire to secure by Letters Patent, is—

1. In a heater of the character described, the combination of a drum, a combustion-chamber, a heating-chamber above the combustion-chamber, a dome above the heating-

chamber, an annular air-receiving chamber located in the dome adjacent to its outer wall and having its inlet-opening at the front of the heater, an air-distributing ring in the combustion-chamber, a vertical ventiduct within the heating-chamber at the back thereof and connecting the receiving-chamber and the distributing-ring, and a hot-air chamber outside of the drum behind the ventiduct, a part of the drum forming a wall for both the hot-air chamber and the ventiduct.

2. In a heater of the character described, the combination of a drum, a combustion-chamber, a heating-chamber above the combustion-chamber, a dome, an annular air-receiving chamber located in the dome adjacent to its outer wall and having its inlet-

opening at the front of the heater, a hollow air-distributing ring in the combustion-chamber and having an inwardly and upwardly inclined wall provided with openings through which the air is discharged downwardly in the combustion-chamber, a vertical ventiduct within the heating-chamber at the back thereof and connected at one end to the back of the receiving-chamber and at its other end to the back of the distributing-ring, and a hot-air chamber outside of the drum, a part of the drum forming a wall for both the hot-air chamber and the ventiduct.

JULIUS L. KLEMME.

Witnesses:

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