

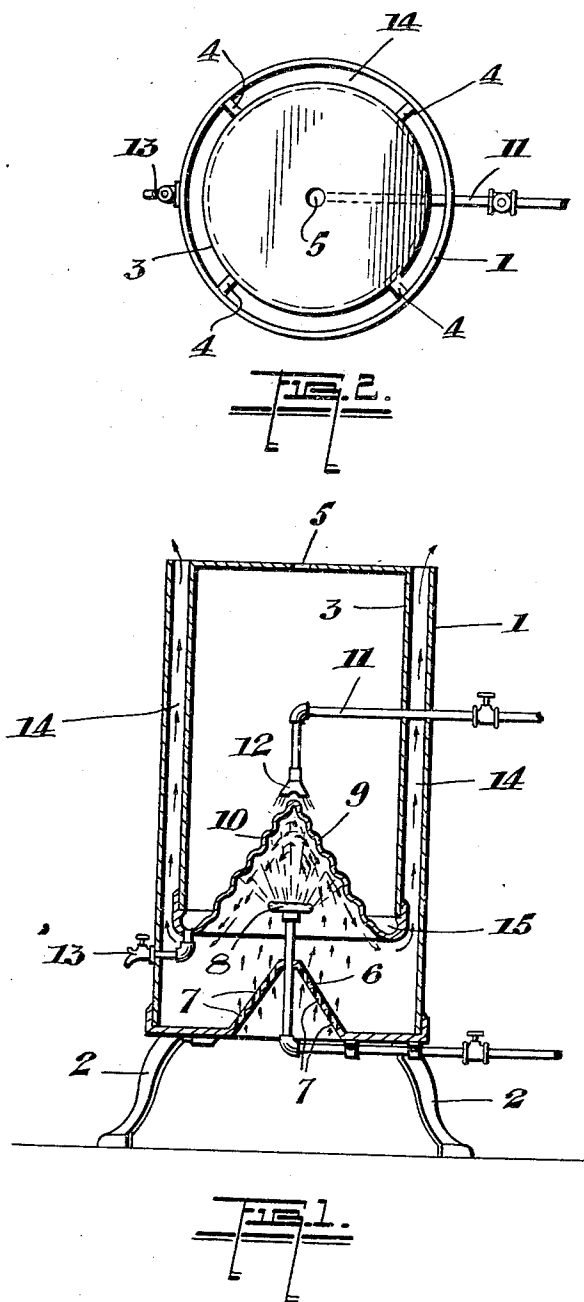
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E. P. PLUMMER

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HEATER

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INVENTOR.
EDGAR P. PLUMMER.

By *Jetherton Haugh Co.*
ATTY'S.

UNITED STATES PATENT OFFICE

EDGAR PERCY PLUMMER, OF REGINA, SASKATCHEWAN, CANADA, ASSIGNOR OF ONE-HALF TO PAUL FAYOLLE, OF REGINA, CANADA

HEATER

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This invention relates to heaters and more particularly to that type wherein a certain amount of water vapour is generated to humidify the air in the room to be heated.

5 It is an object of the invention to construct a heater of this type wherein an economy of fuel is effected and wherein a water heater may be combined with the room heater.

10 It is a further object of the invention to construct an improved so-called instantaneous water heater.

15 According to the invention the heater is constructed of an outer cylinder open at the top and an inner cylinder of smaller diameter than the outer cylinder having a small port formed in the top thereof. A conical projection having ports therein is formed in the bottom of the outer cylinder and a heating device extends upwardly into the interior of this cylinder through the apex of the conical projection. A ribbed conical projection is formed in the bottom of the inner cylinder and a device for discharging a fine stream of water is arranged at the 25 apex of this ribbed conical projection.

The invention will be more fully understood by reference to the attached drawings in which,

30 Figure 1 shows a longitudinal section of the heater, and

Figure 2 is a plan view thereof.

In the drawings 1 shows an outer cylinder which is supported from the ground on legs 2. An inner cylinder 3 of smaller diameter 35 than the outer cylinder is mounted therein and secured thereto by attachments 4. The outer cylinder 1 is open at the top while the inner cylinder 3 is closed at the top except for a small port 5. A conical projection 6 is formed in the bottom of the outer cylinder and has ports 7 pierced therethrough while through the apex of this conical projection extends a suitable heat generating device 8 which is here shown as a gas burner.

45 A conical projection 9 extends upwardly from the bottom of the inner cylinder 3 and has ribs 10 formed thereon. Passing through, and suitably secured in the walls of the inner and outer cylinders 1 and 3 is a water pipe 11 which terminates in a de-

vice 12 for producing a very fine stream or spray of water. A water outlet 13 is formed in the bottom of the conical projection 9 at its juncture with the bottom of the inner cylinder 3.

The operation of the device is as follows:—When the device 8 begins to generate heat the air surrounding it rises to the top of the cone 9 thus causing additional cold air to be sucked in through the ports 7. Convection currents are formed and the hot air at the top of the cone 9 travels down the walls of this cone around the bottom of the inner cylinder 3 and escapes to the atmosphere through the channels 14 between this cylinder and the cylinder 1. At the same time the device 12 is caused to discharge an extremely fine spray of water which passing over the heated cone 9 is changed into steam and escapes through the port 5 to humidify the air in the room in which the heater is placed.

If hot water is desired the amount of water discharged by the device 12 is increased. This water flows down the heated cone 9 which is ribbed as at 10 to provide a larger heating surface. The heated water collects in the annular container 15 formed between the side and bottom walls of the cylinder 3 and the wall of the cone 9 and from this container may be drawn off through the water outlet 13 for any desired use.

It will be seen from the above description that a device has been provided which will at the same time heat and humidify the air of a room and quickly heat water when desired.

The invention is not limited to the exact device herein shown and described since the latter has been used merely for illustrative purposes. The device for generating heat which has here been shown as a gas burner could be replaced by any other suitable device such as an electric heater if desired.

Many other changes could be made in the above described construction without departing from the spirit or scope of the invention which will be more particularly defined in the appended claims.

What I claim as my invention is:—

1. A heater comprising an outer cylinder open at the top and having a conical projection in the bottom, said conical projection having ports formed therein, an inner cylinder of smaller diameter than said outer cylinder having a port formed in the top and a conical projection in the bottom thereof, and means for generating heat extending upwardly into said last mentioned conical projection.

2. A heater according to claim 1 in which means are provided for generating water vapour within the inner cylinder.

3. A heater according to claim 1 wherein the conical projection of the inner cylinder is ribbed and having a water spray at the apex of said conical projection and a water outlet at the bottom of said projection.

In witness whereof I have hereunto set my hand.

EDGAR PERCY PLUMMER.