J. SHIMMELFENNIG.

GAS HEATED WATER HEATER.

APPLICATION FILED MAR. 3, 1914.

1,112,484. Patented Oct. 6, 1914.

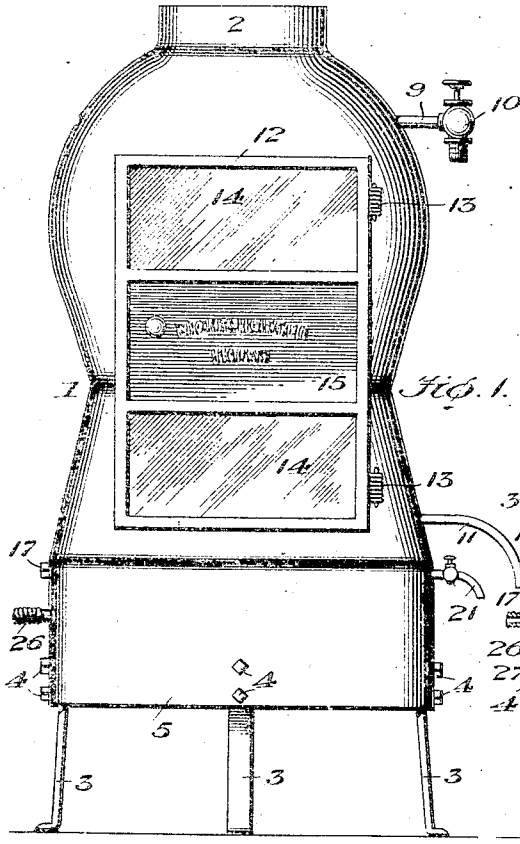


Fig. 1.

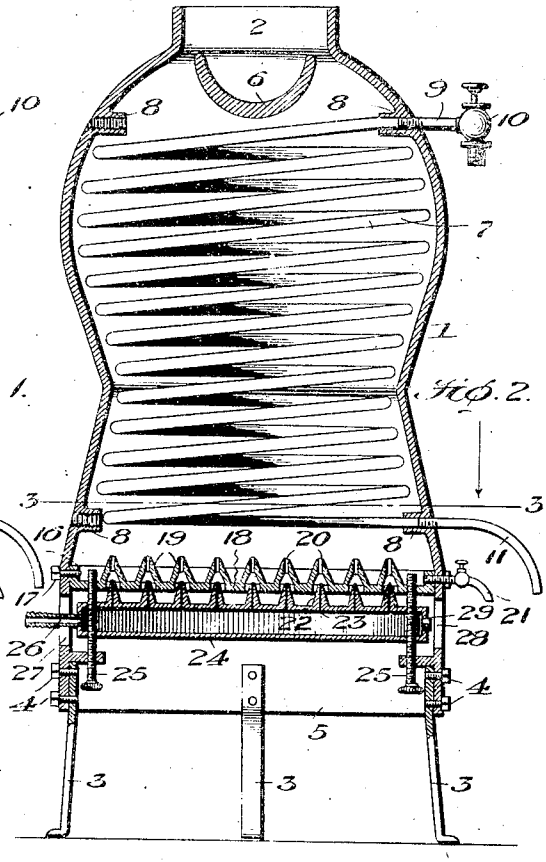


Fig. 2.

Fig. 3.

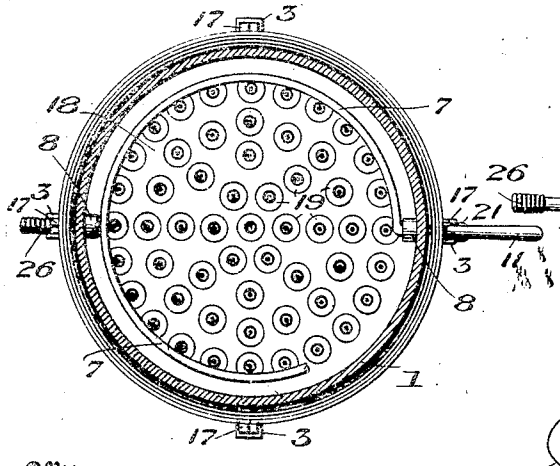
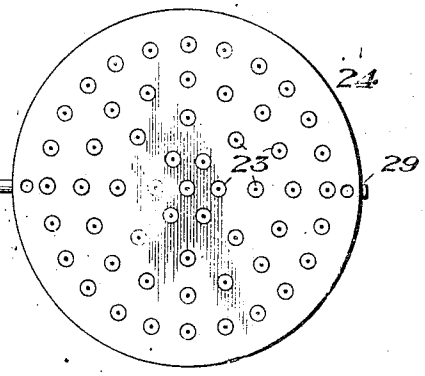


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH SHIMMELFENNIG, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO WILLIAM E. GROLL, OF WEST PHILADELPHIA, PENNSYLVANIA.

GAS-HEATED WATER-HEATER.

1,112,484. Specification of Letters Patent. Patented Oct. 6, 1914.

Application filed March 3, 1914. Serial No. 822,200.

To all whom it may concern:

Be it known that I, JOSEPH SHIMMELFENNIG, a citizen of the United States, residing at Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Gas-Heated Water-Heaters, of which the following is a specification.

This invention relates to gas heated water heaters.

The object of the invention is the provision, first, of a novel multiple gas burner having air and gas supply nipples or nozzles which are bodily adjustable in relation to each other, whereby simultaneous regulation of the air supply at all the burners, may be obtained; second, an improved arrangement and construction of raised nipples or nozzles for a gas burner of a water heater, together with a condensation drip or drain, whereby the condensation is automatically drained off without clogging or interfering with the burners.

The invention consists, first, of a gas burner having multiple burners, nipples or nozzles, with means and mounting whereby the gas supplying nipples may be adjusted, bodily, as an entirety, in both directions, in relation to the air nipples to thereby simultaneously regulate the air supply according to the character and pressure of the gas being burned.

The invention consists, further, in an improved arrangement of shell and air supply plate and nipples, and a condensation drip or drain whereby the accumulated condensation is prevented from clogging the burners.

The invention consists, still further, in the details of construction and combination of gas expansion box, gas and air nipples, and adjusting screws for effecting relative bodily movement of the parts, as set forth fully hereinafter.

In the accompanying drawings: Figure 1 is a side elevation; Fig. 2, a vertical section; Fig. 3, a cross section on line 3—3, Fig. 2; and Fig. 4, a detail of the gas expansion box and the gas supply nipples.

The invention is intended for use in any connection where it is desired to heat water, instances being the heating of water for domestic use such as at the usual kitchen boiler or at a bath tub. Other uses are obvious.

The shell 1 may be of any suitable contour and is provided at its top with an outlet 2 which may open directly into the room or be connected to a flue. The shell is supported by legs 3 which are secured by screws 4 to the lower part or apron 5 of the shell. In the upper part of the shell is a baffle 6 which sufficiently retards the heat to prevent too rapid draft and to insure proper heating of the coil 7. The coil 7 may be of any form but is preferably of the shape shown. The inside of the shell 1 is provided with integral lugs 8 on opposite sides thereof or at many points as desired. Such of these lugs are tapped as are most convenient in the installation of the heater, the coil being connected to two of such lugs. The cold water inlet 9 is secured to one of the lugs and is provided with a controlling valve 10 to let in or shut off the water. To the other lug to which the coil is connected, there is attached a valveless hot water outlet 11. The shell is provided with a relatively large opening which is kept normally closed by a door 12 having spring hinges 13 which keep said door shut. Consequently if there should be a flare-back or explosion such as occurs in igniting a water heater, the door would remain closed and the user would not be alarmed, such explosions being not dangerous, but sometimes terrifying. The door may have isinglass panels 14 and a name-plate 15.

Secured by a flange 16 and screws 17 is a bottom plate 18 which is of circular form and provided with numerous conical nipples 19 which are provided with air holes 20. These holes may be of varying sizes, but they are preferably about one-eighth inch in diameter. There is provided a pet-cock or condensation drain 21 on a level with the upper surface of the bottom plate 18. The conical nipples 19 projecting upwardly from the plate 18, the accumulation of condensation cannot readily reach the holes 20 and quite a quantity may accumulate before it is necessary to open the pet-cock and drain the condensation off.

Located within the apron 5 and below the plate 18, is a hollow circular gas expansion box 24 which is provided on its upper surface with nipples 22 corresponding in number to the nipples 19 and each of tapering form and provided with a pin hole 23 communicating with the interior of the box 24 and affording an outlet for the gas. The nipples 22 are adapted to be entered more

or less in the nipples 19 to thereby adjust the effective area of air supply opening to the holes 20. Natural gas does not require as much air for its proper consumption as does artificial gas. Also, the richness and pressure of artificial gas varies in different cities and localities. I, therefore arrange the box 24 and its nipples 22 so that they may be moved simultaneously and bodily in relation to the nipples 19 to regulate the effective air supply by choking down or opening up the interior of the nipples 19. This may be done in different ways, but I preferably employ screws 25 threaded through the box 24 in any suitable manner to prevent escape of gas and threaded into the bottom plate 18 so that on turning these screws, the entire box 24 and its nipples 22 may be moved simultaneously and bodily to any desired extent in relation to the plate 18 and the nipples 19. Preferably three of the screws are employed. Screwed into one side of the box 24 is a gas inlet 26 which may be connected to any suitable flexible gas tube or pipe and this inlet slides up and down in a slot 27 in the apron 5. A similar slot or slots may be provided at different points 28 of the apron and a plugged hole 29 may be provided on the opposite side of the box 24 for convenient attachment of the inlet 26 according to the position in which the heater is installed.

I am aware that various changes in detail construction may be resorted to in the means for adjusting the gas expansion box and in the construction of the nipples for the air and gas without departing from the spirit and scope of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination with a plurality of air nipples or burners, of gas supplying nipples or burners corresponding in number and position to the nipples aforesaid and individually adapted to coöperate therewith to regulate the air supply therethrough, said plurality of gas supplying nipples or burners being movable at will in opposite directions simultaneously and bodily as an entirety in relation to the air nipples or burners to position them closer to or farther from the air nipples or burners.

2. The combination with a plurality of air burners or nipples, of a plurality of projecting gas supplying nipples or burners corresponding in number and position to the nipples aforesaid and individually adapted to enter and coöperate with the air nipples to regulate the air supply therethrough, said air nipples and gas supplying nipples being relatively bodily movable at will in opposite directions as an entirety to position them closer to or farther from each other.

3. The combination with a plurality of air nipples or burners, of a gas expansion box having a plurality of projecting gas burners communicating with its interior and adapted to enter and coöperate with the air nipples or burners to regulate the supply of air therethrough, and means for adjusting at will in opposite directions the gas expansion box in relation to the plate whereby the gas burners are simultaneously and bodily moved closer to or farther from the air nipples.

4. The combination with an inclosing shell, of a plate located inside said shell and provided with burners, raised above its surface, and means for draining condensation from the upper face of said plate.

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

JOSEPH SHIMMELFENNIG.

Witnesses:
MORRIS DOS PASSOS,
FRANCIS X. DELANEY.