No. 676,017. Patented June 11, 1901.

G. WHITE.

GAS HEATER.

(Application filed July 24, 1899.)

(No Model.)

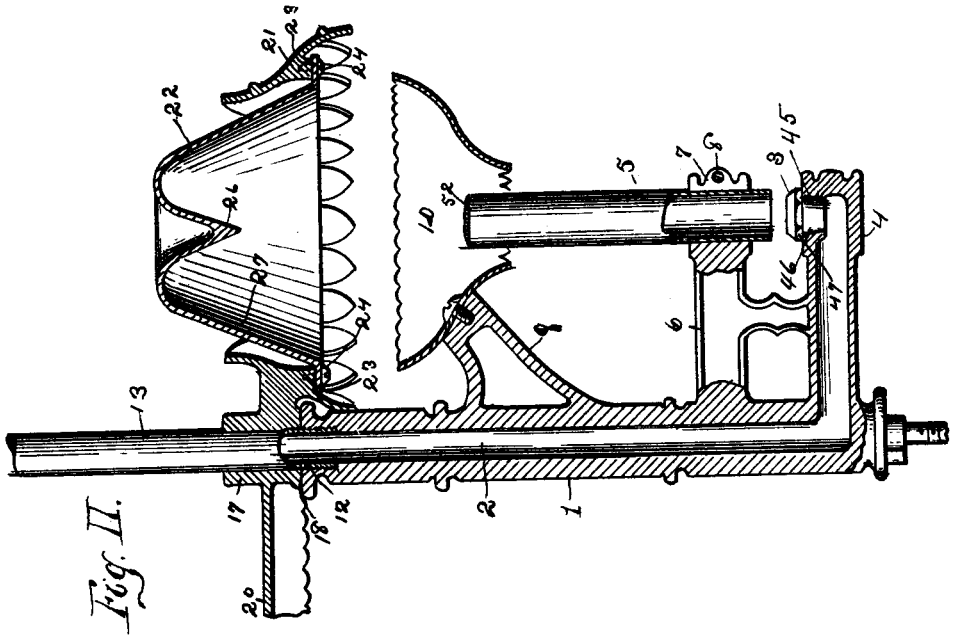

Fig. II.

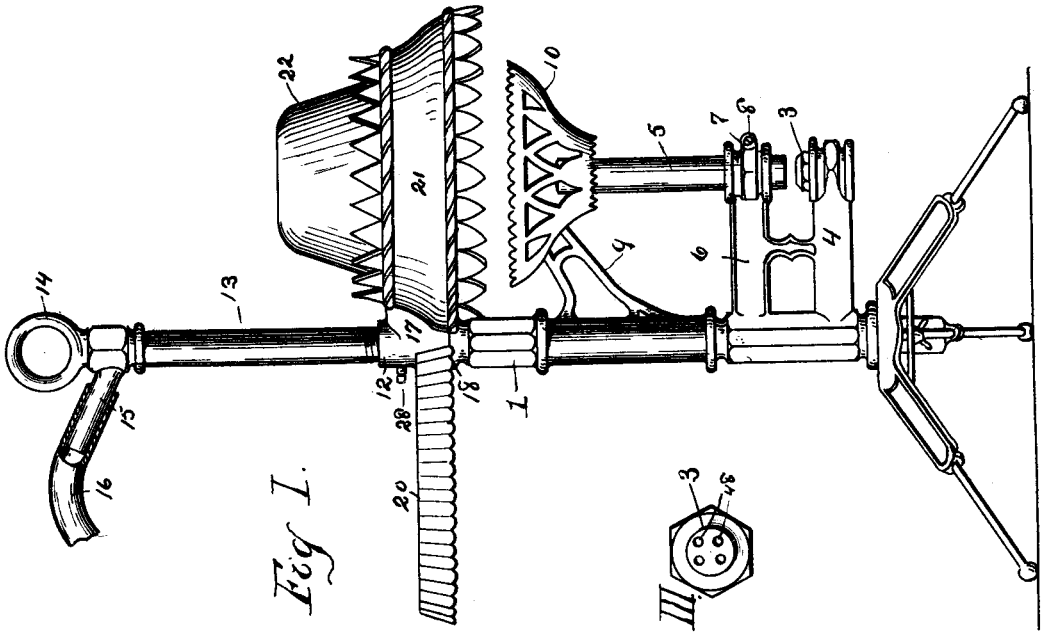

Fig. I.

Fig. III.

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GEORGE WHITE, OF JERSEY CITY, NEW JERSEY.

GAS-HEATER.

SPECIFICATION forming part of Letters Patent No. 676,017, dated June 11, 1901.

Application filed July 24, 1899. Serial No. 724,927. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WHITE, of Jersey City, in the county of Hudson, in the State of New Jersey, have invented new and useful Improvements in Gas-Heaters, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention is a portable gas-heater of peculiar construction, by which the greatest efficiency is obtained and the heat most effectively and economically distributed in proportion to the consumption of gas.

The essential features of my heater are the tubular standard through which the gas is conducted to the burner, a ring surrounding the upper end of the burner, and a deflecting-bell, suitably supported, arranged above the ring and adjacent thereto.

My invention will be better understood by reference to the accompanying drawings, in which the same numerals of reference indicate the same parts in all the figures.

Figure I is a side elevation of my heater. Fig. II is an enlarged vertical section of the standard, burner, guard, and deflecting-bell, slightly modified in that the guard is imperforate instead of being formed with perforations, as shown in Fig. I. Fig. III is a top plan view of the gas-jet.

In the figures, 1 indicates the tubular standard, supported on suitable legs and having the channel 2 for conducting the gas to the peculiar double burner consisting of gas-jet 3, sustained on the integral tubular lower arm 4, through which the gas flows into the lower end of the burner 5, supported adjustably on integral solid arm 6, split at 7, and having the ends secured together by clamping bolt or screw 8 to grip the burner more or less firmly.

9 is the upper integral arm supporting the substantially circular guard 10, surrounding the upper end of the burner and the flame. This guard may be formed with perforations, as shown in Fig. I, or solid, as shown in Fig. II.

The upper end of the standard is screw-threaded at 12, to which is fitted the tube or tubular member 13, having at its upper end the handle 14 for convenience in moving the heater, and the tip 15, to which may be connected a flexible tube 16, through which the gas is conducted to the heater, thence passing through the tube, standard, and hollow arm to the burner. To this tubular member is rotatably fitted the support 17, resting on shoulder 18 at the upper end of the standard, said support being fitted to the tube and having an integral plate or extension 20 for supporting a vessel over the flame when desired, and the integral guard-ring 21, in which is secured the bell 22 by means of lugs 23 and screws 24 or other desirable means. This bell is arranged with its open mouth directly above the flame and is formed with the peculiar downwardly-extending tip 26 and interior flaring sides 27 substantially straight, so that the rising heated current is separated by the tip and turned by the curve in the top of the bell with the least resistance to pass around the periphery of the guard 10 out and down toward the floor, where it is most needed to heat the lower portion of the room. This support preferably rests on the shoulder 18, by which the bell is maintained substantially at the proper distance from the flame, and the set-screw 28 may be added, if desired, to maintain it in the proper position.

The gas-jet 3 is preferably formed, as shown in Figs. II and III, with inclined base 45 to fit perforation 46 in the tubular arm 4, by which a tight fit is made, shoulder 47, and gas-inlet holes 48 48, four in number, more or less.

The burner 5 is preferably fitted with a wire-cloth grating 52 of a mesh sufficiently fine to prevent the flame passing through into the interior of the burner and lighting back.

From this description the operation of my heater will be clear. The bell is arranged over the burner, which is adjustable up and down to admit sufficient air to effect substantially perfect combustion. The flame rising into the bell heats it to a high degree, making it a very hot combustion-chamber, so that perfect combustion is effected and no consumable gas is permitted to escape. As before suggested, the ascending current of hot air strikes the tip in the interior of the bell and passing along the inclined sides thereof is deflected with the least resistance by the interior curve at the top of the bell and delivered downwardly to the lowest, and there-

fore coldest, portion of the room. When the room is sufficiently warmed, the flame may be turned down by diminishing the amount of gas delivered at the source of supply without disturbing the burner.

Having thus fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In combination in a gas-heater, a tubular standard properly supported for conducting the gas to the burner, the burner supported thereon, a deflecting-bell supported above the burner, having its open mouth turned downwardly and having an integral, downwardly-depending tip in the interior of its upper end, a curved channel formed in its upper end around said tip and straight, flaring sides.

2. In combination in a gas-heater, a suitable base, a gas-burner supported thereby, a ring surrounding the upper end of the burner and also supported by the base, a deflecting-bell arranged above the ring and forming a combustion-chamber therewith.

3. In combination in a gas-heater, a suitable base, a tubular standard for conducting the gas to the burner, the burner, a ring surrounding the upper end of said burner and extending above the same, a deflecting-bell supported above the ring adjacent thereto and forming therewith a combustion-chamber around and above the burner.

4. In combination in a gas-heater, a base, a tubular standard supported thereon for conducting the gas to the burner, the burner, a suitably-supported circular ring having a contracted lower portion and an enlarged upper portion arranged to surround the upper end of the burner and extend above the same, a deflecting-bell adjacent to the upper portion of said ring, said bell having an interior downwardly-depending tip and straight outwardly-flaring sides.

In testimony whereof I have hereunto signed my name.

GEORGE WHITE.

Witnesses:
ALFRED WILKINSON,
GEO. E. KNOWLES.