

No. 798,408.

PATENTED AUG. 29, 1905.

M. C. GREEN.
GAS HEATER.

APPLICATION FILED DEC. 13, 1904.

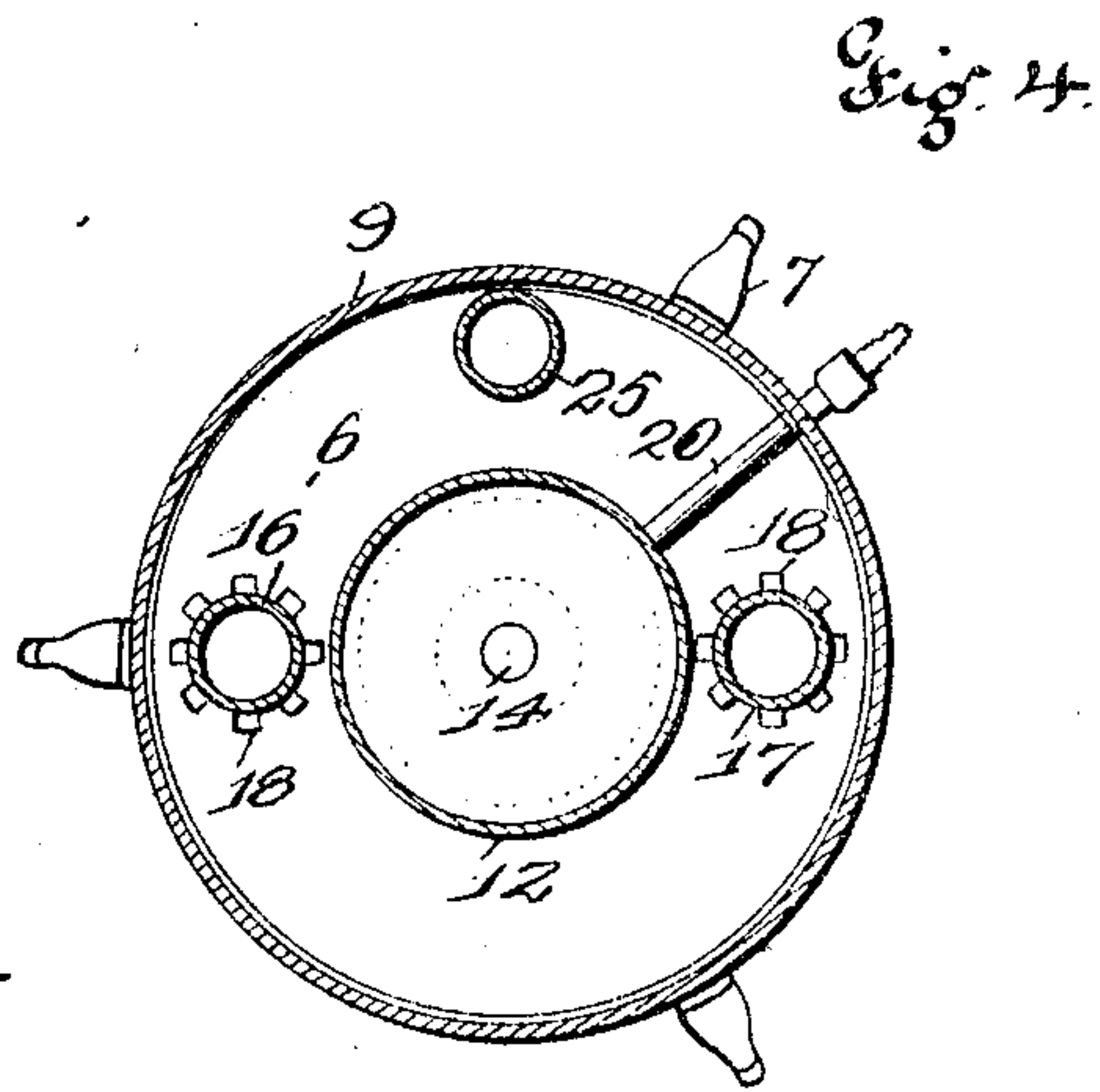
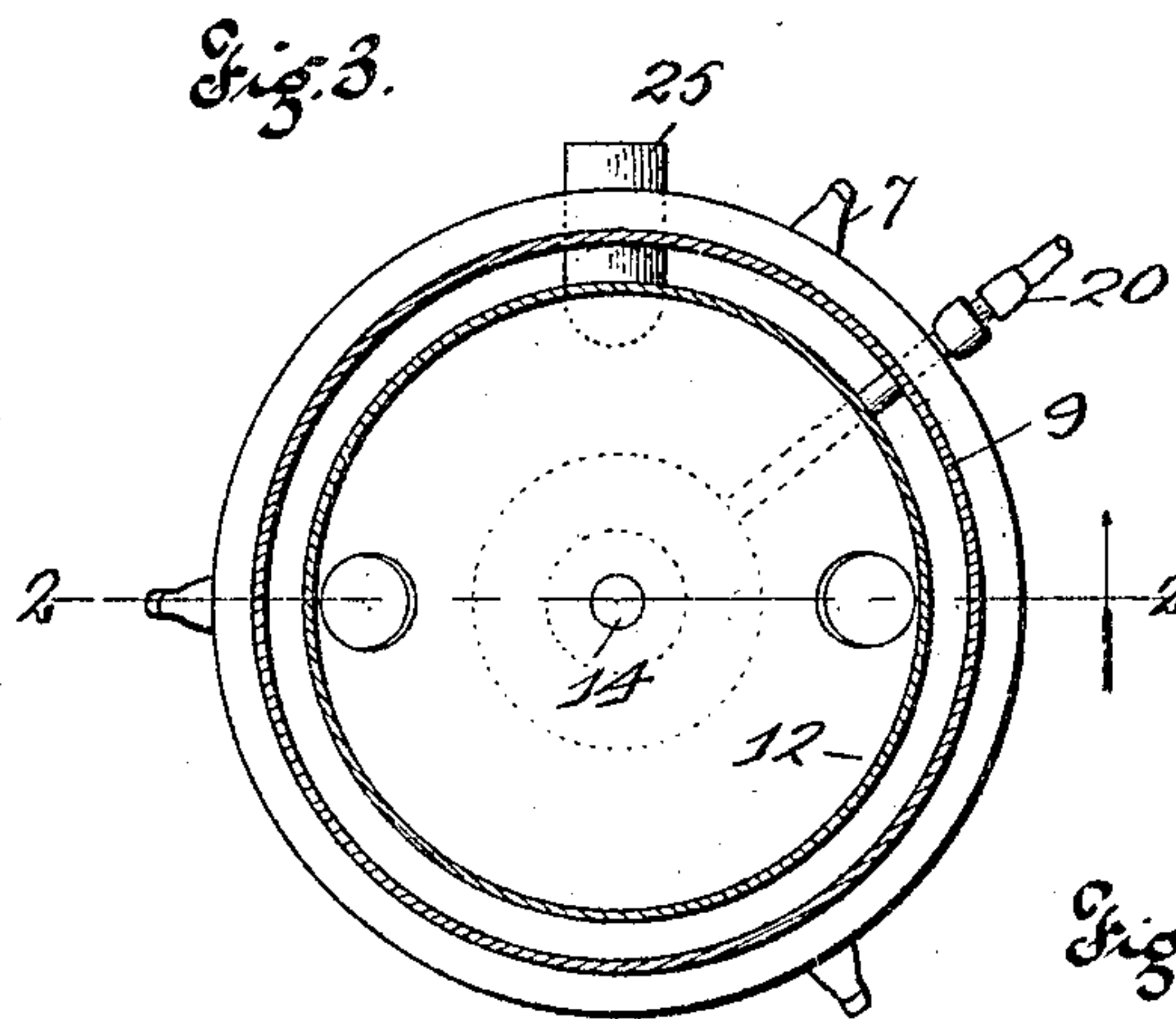
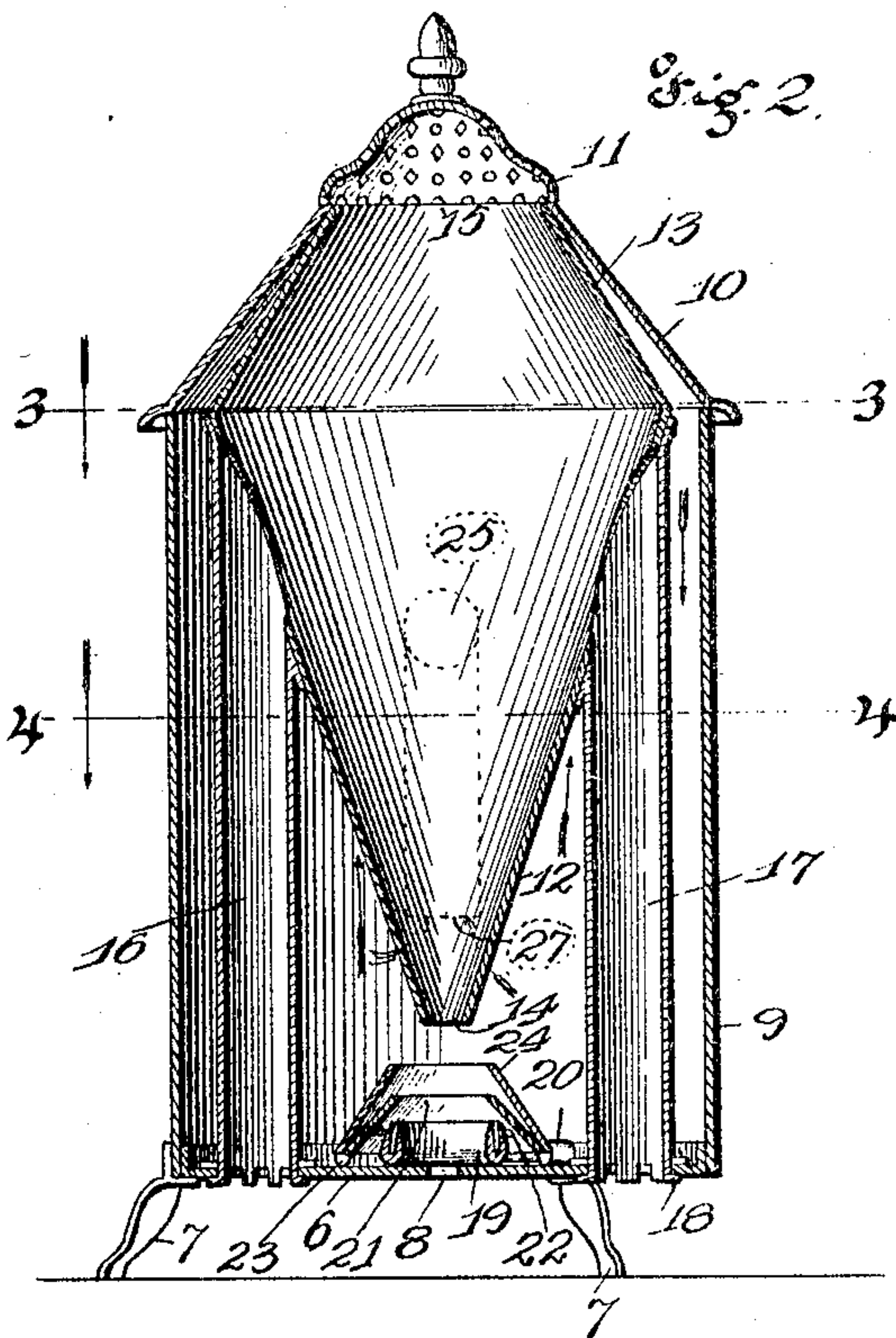
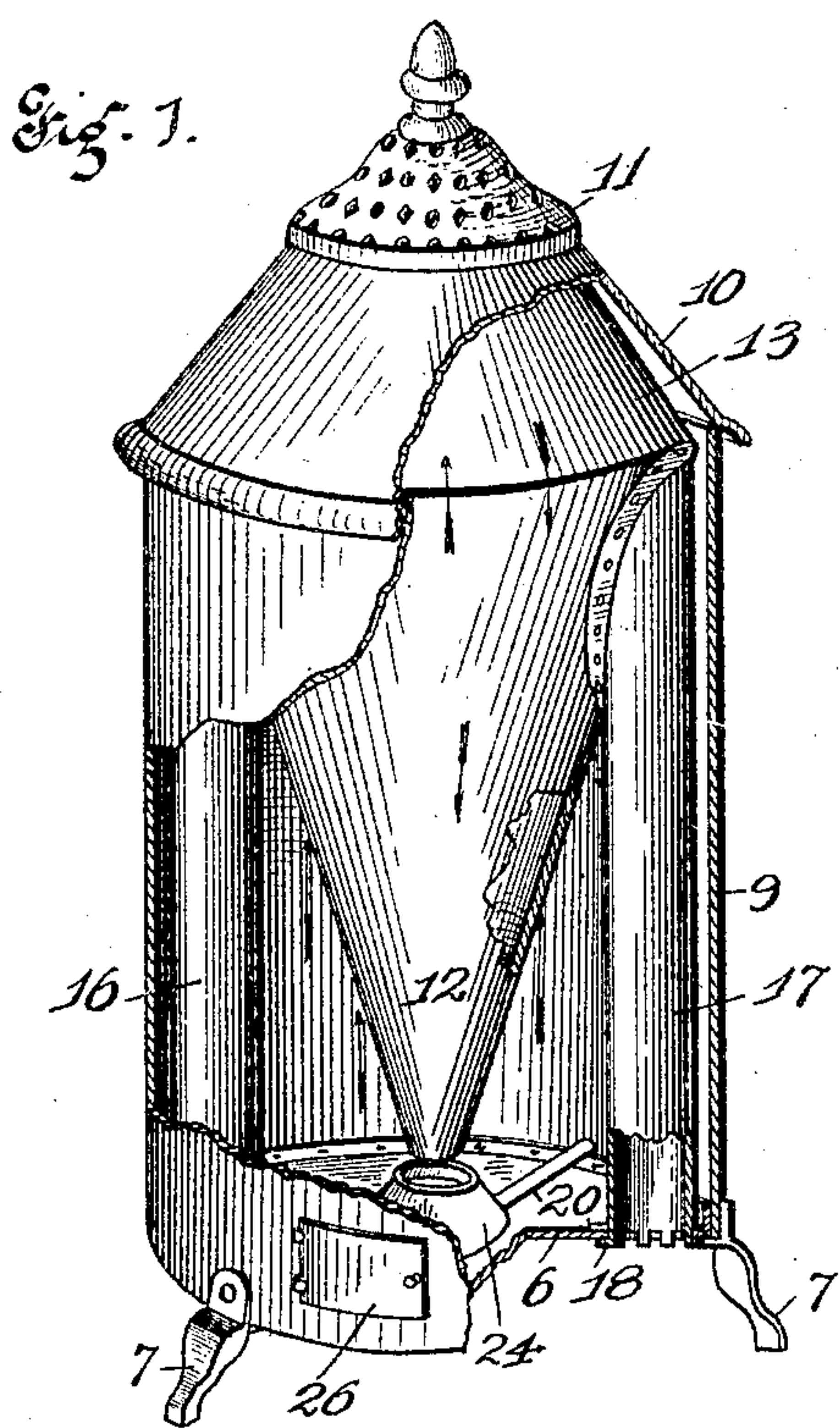
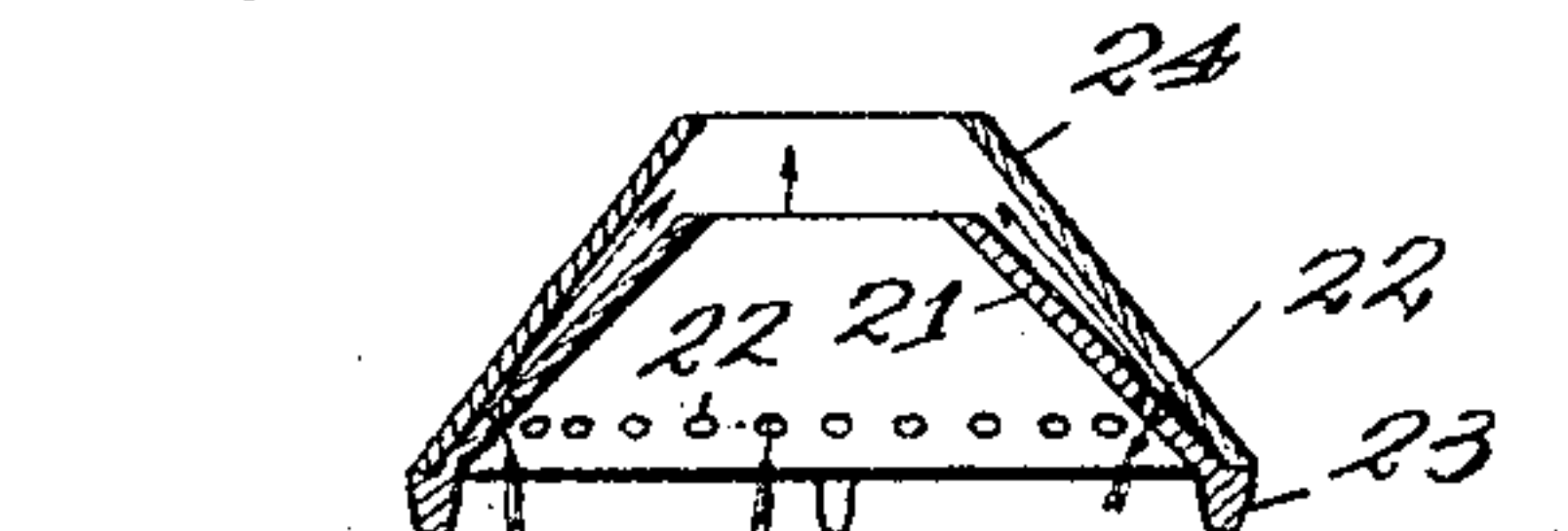


Fig. 5



Witnesses
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UNITED STATES PATENT OFFICE.

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GAS-HEATER.

No. 798,408.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed December 13, 1904. Serial No. 236,765.

To all whom it may concern:

Be it known that I, MILTON C. GREEN, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Gas-Heaters, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in gas-heaters; and it consists of the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a sectional perspective illustrating a heater embodying the principles of my invention. Fig. 2 is a sectional elevation on the line 2 2 of Fig. 3 and looking in the direction indicated by the arrow. Fig. 3 is a horizontal section on the line 3 3 of Fig. 2 and looking downwardly, as indicated by the arrow. Fig. 4 is a horizontal section on the line 4 4 of Fig. 2 and looking downwardly, as indicated by the arrow. Fig. 5 is an enlarged sectional detail showing the hot-plates and air circulation.

Referring to the drawings in detail, the bottom 6 is mounted upon the stove-legs 7, there being a draft-opening 8 at its center. The outer shell 9 extends upwardly from the bottom 6, and the cone-shaped top 10 rests upon the outer shell 9, and the perforated heat-distributing plate 11 forms the point of the cone 10. The inner shell comprises the funnel-shaped lower part 12 and the cone-shaped upper part 13, secured together, there being a small outlet-opening 14 at the lower end and there being a large outlet-opening 15 at the upper end, said large outlet-opening discharging upwardly to the distributing-plate 11. Fresh-air flues 16 and 17 extend upwardly from the bottom 6, said flues being securely attached to the bottom by lips 18 and the upper ends of the flues being flanged and riveted to the inner shell, so that the fresh air will pass upwardly from below the bottom 6 into the inner shell.

A gas-burner 19 is mounted upon the bottom 6 around the draft-opening 8, and gas is supplied to this burner through the pipe 20. The hot-plates comprise the inner cone 21, having perforations 22, the legs 23 resting upon the bottom 6 and supporting the inner cone around and above the burner 19 and the outer cone 24 resting upon the legs 23, the lower edge of the outer cone forming a right joint with the lower edge of the inner cone, so that the air will pass outwardly through

the openings 22 and upwardly between the two cones, as indicated by the arrows in Fig. 5.

A smoke-flue 25 leads from near the lower end of the inner shell outside of the inner shell upwardly and outwardly through the outer shell 9 and may be connected to a chimney or other suitable means of conducting away the smoke and odor. A door 26 in the shell 9 provides access for lighting the burner.

When the burner 19 is lighted, the hot-plates will be highly heated, and the heat, smoke, and odor will pass upwardly around the inner shell because the lower end of the inner shell is smaller than the burner. Fresh air will pass through the flues 16 and 17 to the inner shell, and a part of this fresh air will pass downwardly through the opening 14 to the burner and the remaining and larger part will pass upwardly through the inner shell and be distributed into the room through the plate 11. A light draft of fresh air will pass through the opening 8 to the burner 19. It is obvious that the draft of fresh air which passes into the room will be highly heated without being contaminated with smoke and odor. The products of combustion will be confined within the outer shell outside of the inner shell, and as these products of combustion are cooled by contact with the outer shell and its radiation they will settle to a level with the receiving end 27 of the pipe 25 and then pass through the pipe.

I wish to call special attention to the construction whereby the flame comes in semi-direct contact with the inner shell—hence a greater amount of heat is absorbed by the inner shell and a greater amount of air heated thereby—and whereby the hottest gases are retained in the outer shell in contact with the inner shell and the cooler gases drawn off through the smoke-pipe. This is accomplished by locating the receiving end 27 of the smoke-pipe at a point nearer the bottom of the outer shell than the inner shell. In other words, the inner shell is almost entirely above the receiving end of the smoke-outlet. By this means the hot gases are held in contact with the inner shell until they cool and descend.

I claim—

1. In a gas-heater: the bottom 6 mounted upon legs and having a draft-opening 8 at its center; the outer shell 9 extending upwardly from the bottom 6; the cone-shaped top 10 resting upon the outer shell; the perforated heat-distributing plate 11 resting upon

the cone; the inner shell comprising the funnel-shaped lower part 12, the cone-shaped upper part 13 secured to the lower part, there being a small outlet 14 at the lower end of the lower part, and the large outlet 15 at the upper end of the upper part, and the fresh-air flues 16 and 17 extending upwardly from the bottom 6 and communicating with the interior of the lower part 12; and a burner upon the bottom 6 around the inlet-opening 8.

2. In a gas-heater: the bottom 6 mounted upon legs and having a draft-opening 8 at its center; the outer shell 9 extending upwardly from the bottom 6; the cone-shaped top resting upon the outer shell; the perforated heat-distributing plate 11 resting upon the cone; the inner shell comprising the funnel-shaped lower part 12, the cone-shaped upper part 13 secured to the lower part, there being a small outlet 14 at the lower end of the lower part, and the large outlet 15 at the upper end of the upper part, and the fresh-air flues 16 and 17 extending upwardly from the bottom 6 and communicating with the interior of the lower part 12; a burner upon the

bottom 6 around the inlet-opening 8; and a smoke-flue 25 leading from near the lower end of the inner shell outside of the inner shell upwardly and outwardly through the outer shell.

3. In a gas-heater: a bottom having a center inlet-opening; an outer shell extending upwardly from the bottom; an inner shell mounted within the outer shell above the bottom; and a burner upon the bottom around the inlet-opening; said burner comprising the gas-burner 19, the inner cone 21 having perforations 22, the legs 23 resting upon the bottom and supporting the inner cone, and the outer cone 24 resting upon the legs, the lower edge of the outer cone forming a tight joint with the lower edge of the inner cone; substantially as specified.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

MILTON C. GREEN.

Witnesses:

ALFRED A. EICKS,
M. D. SCHULZE.