

No. 754,354.

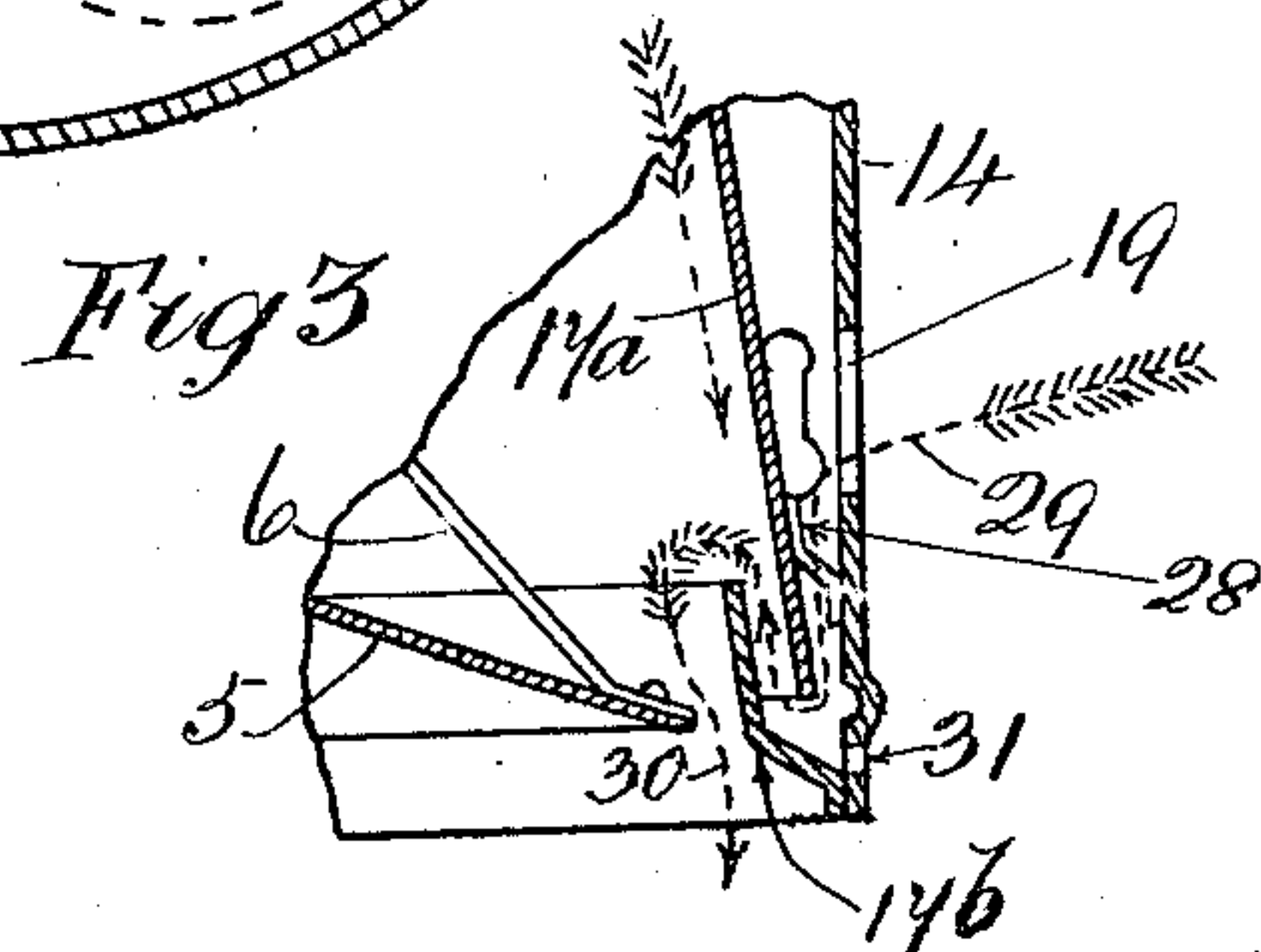
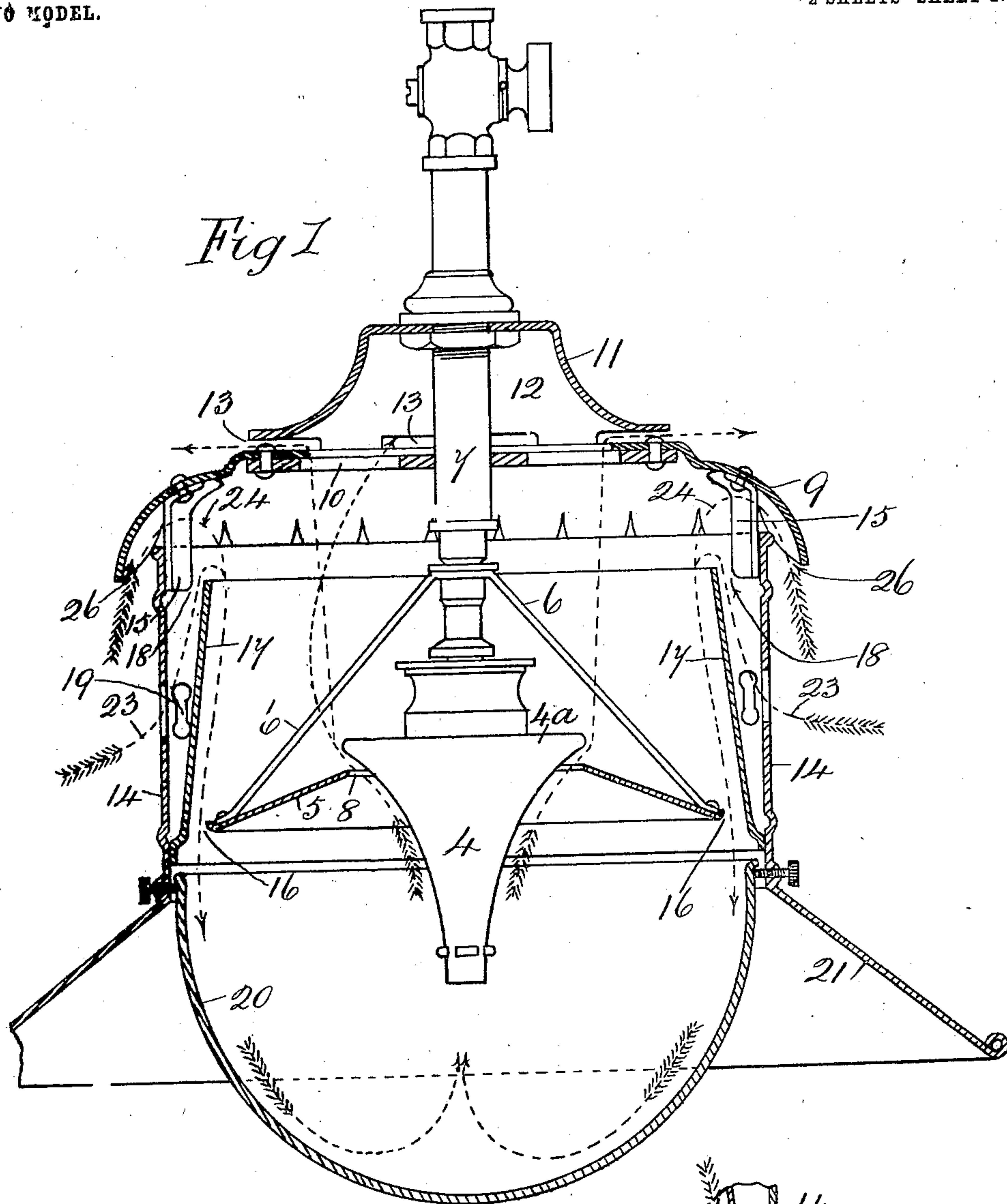
PATENTED MAR. 8, 1904.

T. B. SMITH.
INVERTED INCANDESCENT GAS LAMP.

APPLICATION FILED NOV. 9, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Clayward Powell
J. Vernon Fellows.

Inventor
Thomas Baker Smith
per Charles F. Powell
Attorney

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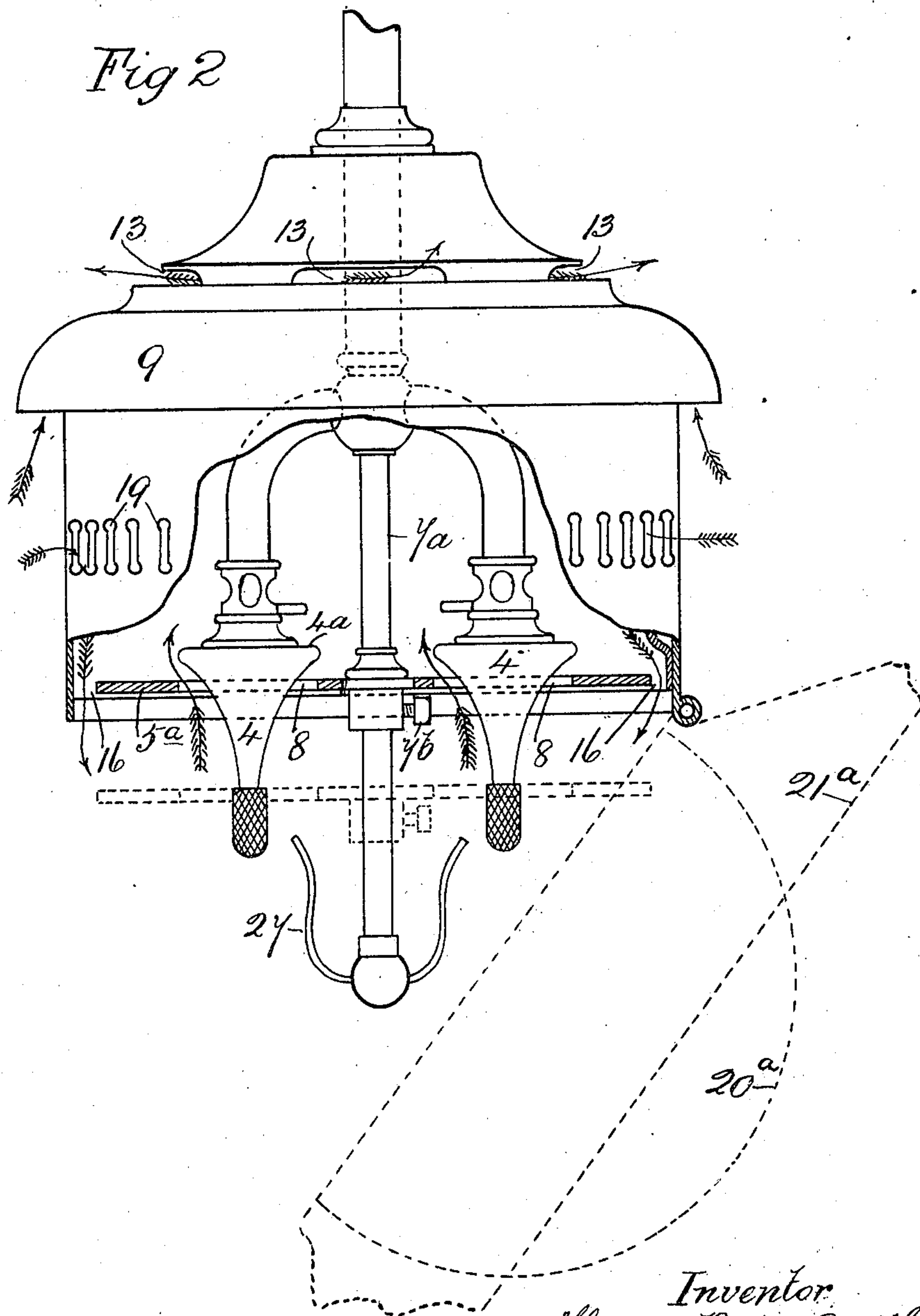
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Attorney.

UNITED STATES PATENT OFFICE.

THOMAS BAKER SMITH, OF HANDSWORTH, ENGLAND.

INVERTED INCANDESCENT GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 754,354, dated March 8, 1904.

Application filed November 9, 1903. Serial No. 180,449. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BAKER SMITH, a subject of the King of Great Britain, residing at Ribblesdale, 8 Holly road, Handsworth, in the county of Stafford, England, have invented certain new and useful Improvements in Inverted Incandescent Gas-Lamps, of which the following is a specification.

My invention relates to improvements in inverted incandescent gas-lamps, and has for its object the construction and arrangement of the parts by which the burner of such lamps may be used within an inverted glass shade without the usual air-inlets at the bottom crown, or thereabout, of such shade and by which a perfect shadeless down-light is produced. Hitherto it has been found difficult to provide such inverted burners with the required air-supply without resorting to inlets below or at the side of the burner. Also such lamps upon the present lines of construction are exposed to disturbance of the burner-light from any strong current or gust of wind. By these my improvements, however, these objections are practically overcome.

In order to more clearly explain this my invention, I have appended hereunto an illustrative sheet of drawings, upon which are figures and numbers of reference, and in which—
 Figure 1 is a general sectional view of a lamp having a single burner constructed according to this my invention. Fig. 2 is a similar part sectional view of a lamp having more than one burner constructed according to this my invention. Fig. 3 is a detailed view showing a modified arrangement of admitting air above the deflector for the circumferential current.

Referring to Fig. 1, 4 represents the usual inverted incandescent burner-cone. 5 is a deflecting-plate which is carried by means of narrow supporting-strips 6 from the central joint-pipe 7. This deflecting-plate occupies the position a little below the upper part 4^a of the cone and is formed with a central opening at 8, so as to afford an annular air-passage between it and the cone 4. 9 is a hood having a large central opening 10. Above this hood is carried the cover 11, which thus forms a chamber 12, in which are made outlet-openings 13, which are preferably of a narrow horizontal

slot shape and which lie near to the upper surface of the hood 9. Between the deflecting-plate 5 and the hood 9 is fixed what is usually termed the "body" of the lamp, as shown at 14, and which is suitably attached to the hood—such, for instance, as by means of the connecting-pieces 15, which are riveted to the hood and to the said body, but leaving an annular inlet-space at 26 between the top of the body and the hood. Around the deflecting-plate 5 is an annular space 16. 17 is a circular partition, known in some localities as a "basher," which is connected at its lower edge to the body 14, so as to be closed, while its other part is open, thus leaving an annular space 18 between it and the body 14. Around the body 14 are any desired number of perforations, such as 19, so that the air may pass therein. To the lower part of the body is now secured the inverted glass dome 20, in which the usual air-inlets are not made. 21 is the usual extended reflector, which is suitably connected to the lower part of the body 14. In some cases I find it an advantage to hinge this said reflector at the one side, as shown at 22, for purposes hereinafter mentioned. (See Fig. 2.) Hence the air-supply for the burner passes through the perforations 19 and strikes against the basher 17, and thence passes upward through the opening 18 and again downward in the direction shown by arrow 23. Also air for the same purpose may pass through the opening 26 and fall downward, as indicated by arrow 24. This air passes down to the bottom of the glass dome 20, and by reason of it thus passing down in a circular form around the said dome such currents rise toward the burner 4 and thus supply the flame. The air thus heated now passes upward through the annular space 8 in the direction of the arrows 25 to the chamber 12, passing thence to the atmosphere through the openings 13, thus forming an independent outer ring of fresh air to the burner and a central outlet for the hot air.

Referring to Fig. 2 I have shown how this my invention may be applied to a lamp having two or more burners, the several parts bearing corresponding numbers of reference to the parts already described in Fig. 1.

Referring to Fig. 3, it will be seen that I

may modify somewhat the parts about the lower part of the body 14, in which I make the partition or basher in two parts, 17^a and 17^b, thus leaving an annular space between 17^a and the body 14 and also at the lower part a similar annular space between 17^a and 17^b, the part 17^b being connected to the body 14, as already explained for Figs. 1 and 2, the part 17^a, however, being connected to 14 by any required number of tie-pieces 28. Hence some of the air passing through perforations 19 will pass beneath the basher 17^a and over 17^b and thence to the burner in the direction shown by arrows 29 and 30. 31 represents any required number of outlets at the bottom of the body 14, which permits the escape of any water which may from any cause accumulate between the basher and the said body.

By hinging the reflector 21^a at 22 and securing the dome 20^a to such reflector it will be readily seen that by letting down the reflector 21^a upon its hinge, as shown in Fig. 2, access to the burner is readily obtained for various purposes, such as replacing mantles or for other adjusting purposes. To further facilitate such access, I may provide that the deflecting-plate 5^a (shown in Fig. 2) may be slidably carried upon a central pillar 7^a and secured by set-pin 7^b, so that by slackening the said pin the plate may be lowered, as shown in dotted lines. Other means for obtaining access to the interior of the lamp may be adopted, such as circular-sliding doors formed upon the partition or basher 17 and the body 14; but this forms no part of this my invention.

The usual by-passes—such as shown, for instance, at 27—may be provided as required.

As before intimated, the primary object of this my invention is to provide improved arrangement of means whereby glass domes may be used having no air-inlets; but it does not necessarily follow that those having air-inlets may not be used with lamps constructed according to this my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a lamp of the class described, the combination with a burner, of a body having air-inlets, a circular partition between the burner and body and separated from the latter to form a space for the passage of atmospheric air entering said inlets, a hood over the body,

having inlets for atmospheric air, a hot-air chamber above the hood, having inlets for the hot air from the burner, and outlets for said hot air opening into the atmosphere, and a deflecting-plate around and separated from the burner and inclosed by and separated from said partition.

2. In a lamp of the class described, the combination with a burner, of a body having circumferential air-inlets, a circular partition within and connected to said body, the partition being separated from the body beyond its point of connection therewith to afford a space for the passage of atmospheric air entering through said inlets, a deflecting-plate surrounding the burner and separated therefrom to form a space for the passage of hot air from the burner, said deflecting-plate being inclosed by and separated from the central partition to form a space for the passage of atmospheric air to the burner, entering said inlets.

3. In a lamp of the class described, the combination with a cylindrical body having air-inlets, of a circular partition within the body consisting of two overlapping and separated parts, the lower part being connected with said body below said inlets and the upper part being free of said body to provide for the passage of air over the top of said partition, which air enters the inlets, and which is adapted to flow through the space separating the two sections of the partition.

4. In a lamp of the class described, the combination with a body having air-inlets, of a circular partition within the body, consisting of two overlapping and separated parts, one of the parts being connected with said body, and the latter having an outlet for the escape of liquid.

5. In a lamp of the class described, the combination of a body, a drop-down reflector carried by said body, a burner in the body, and a deflector also in the body, arranged for movement with respect to the burner to obtain ready access to the latter.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS BAKER SMITH.

Witnesses:

C. HAYWARD POWELL,
T. VERNON FELLOWS.