No. 779,745. PATENTED JAN. 10, 1905.

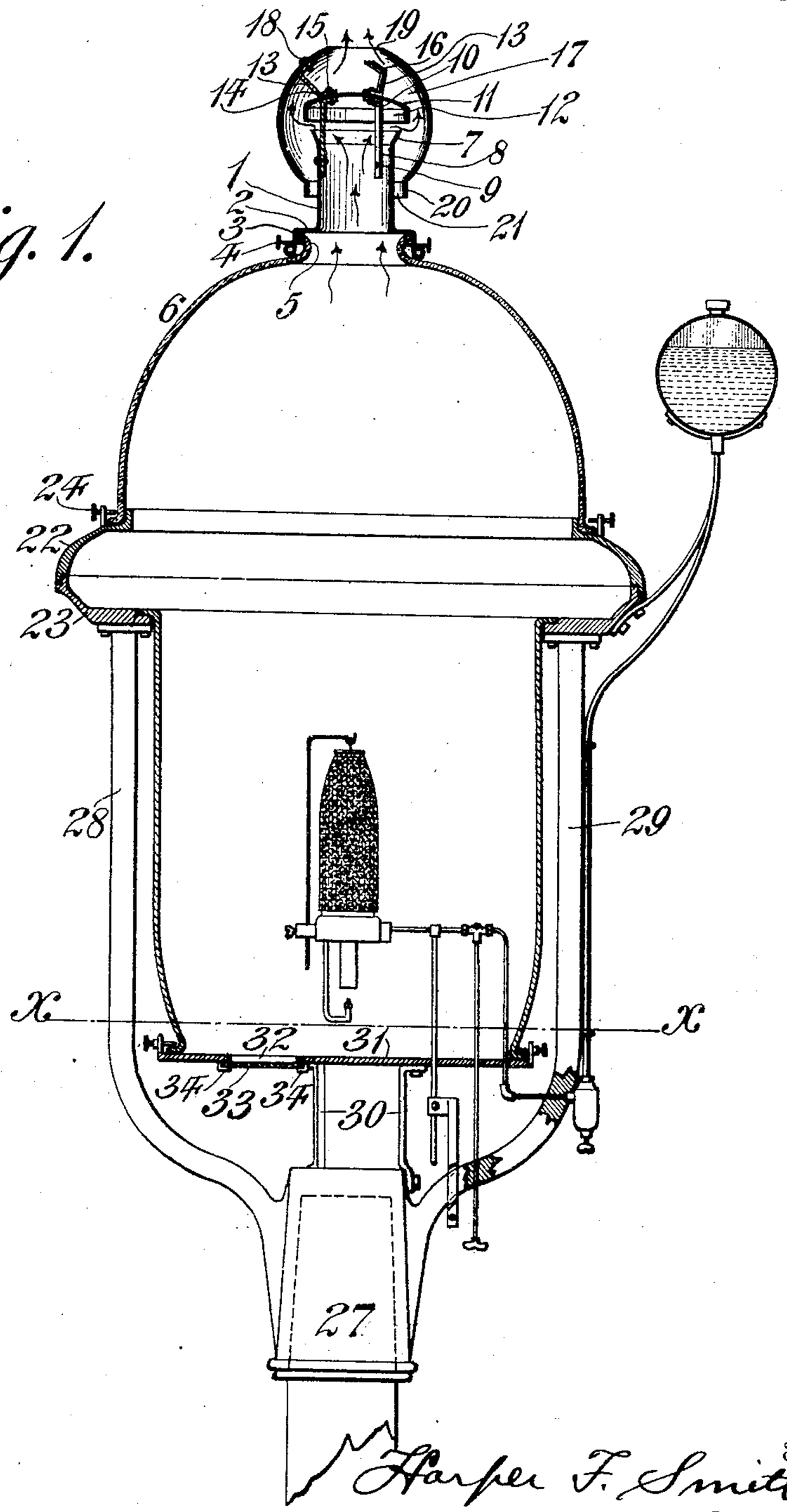
H. F. SMITH.

LAMP.

APPLICATION FILED JUNE 2, 1903.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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3 SHEETS—SHEET 2.

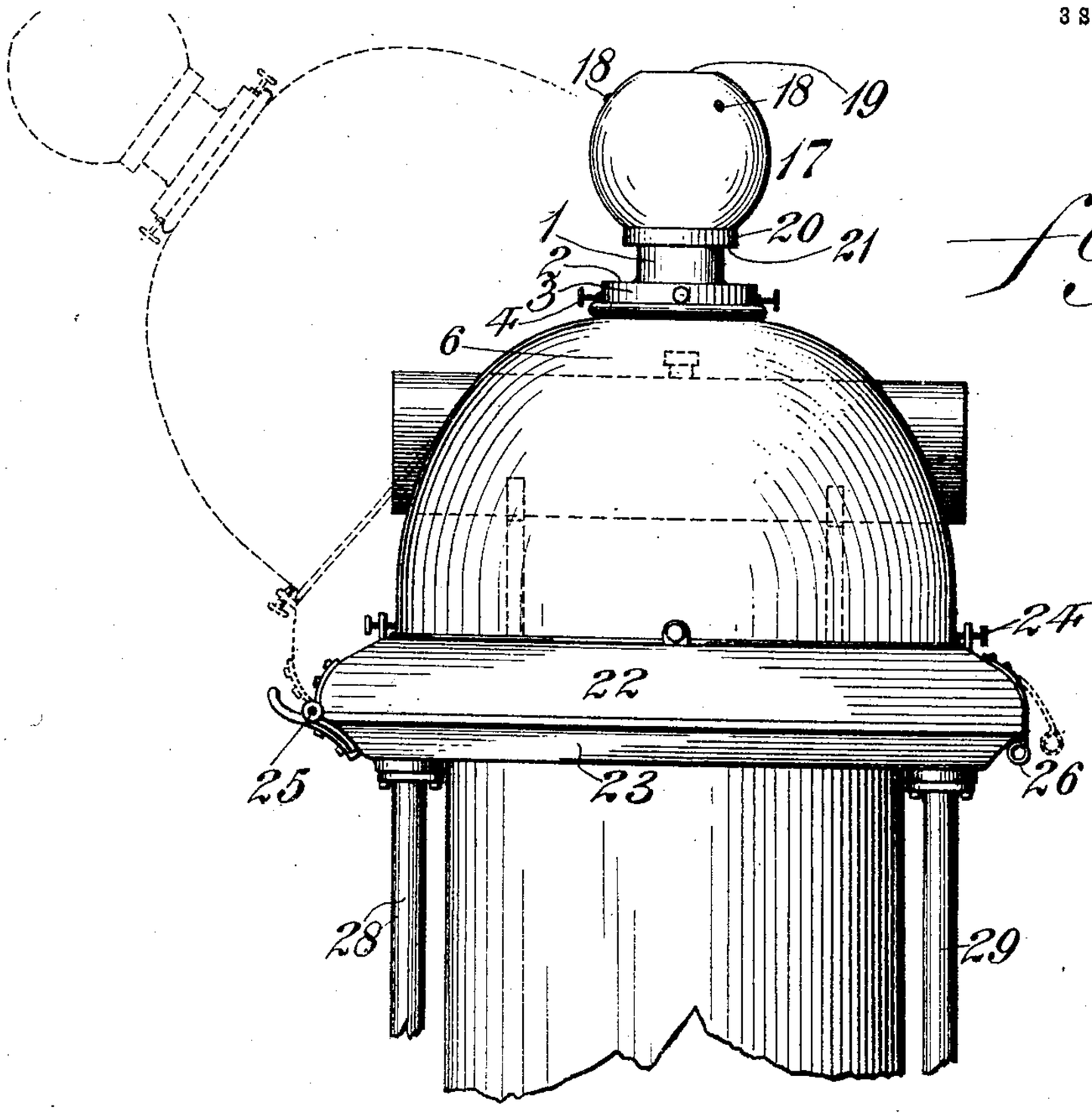

fig. 2.

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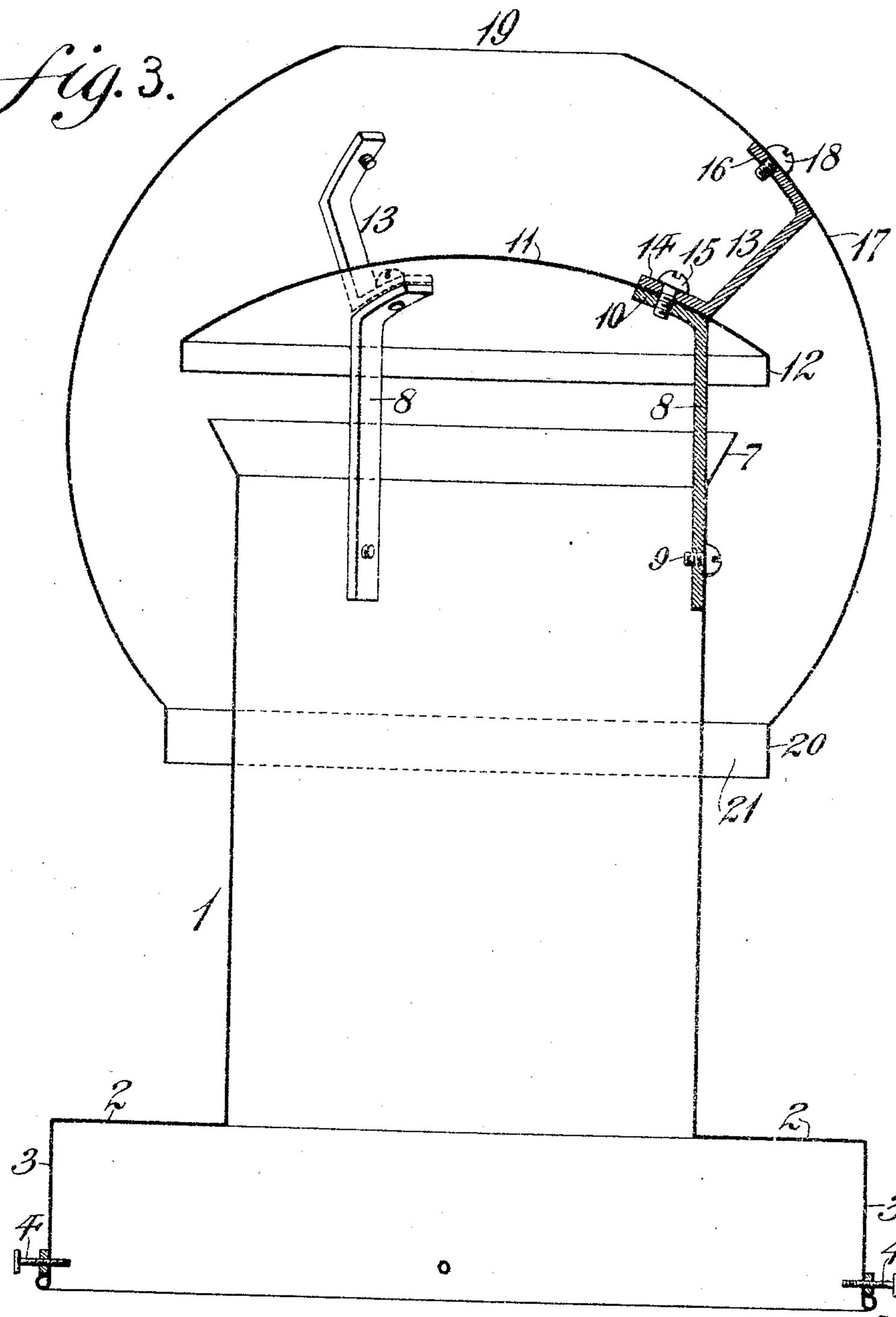
3 SHEETS—SHEET 3.

Fig. 3.



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No. 779,745. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

HARPER F. SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO GEORGE S. GANDY AND CHARLES H. ZINK, OF PHILADELPHIA, PENNSYLVANIA.

LAMP.

SPECIFICATION forming part of Letters Patent No. 779,745, dated January 10, 1905.

Application filed June 2, 1903. Serial No. 159,769.

To all whom it may concern:

Be it known that I, HARPER F. SMITH, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Lamps, of which the following is a specification.

My invention relates to lamps; and it consists more particularly of novel features designed to perfect the draft appliances whereby a more perfect draft is obtained and provision is made for preventing the ingress of the elements—as rain, hail, or snow—so that the flame of the lamp will be clear and devoid of flickering or variations of candle-power, such as are liable to occur where the draft is imperfect or affected by the improper ingress of air to the draft-flues which convey the product of combustion from the lamp, which is the case with the devices now on the market with which I am familiar.

It further consists of a novel combination of a hot-air cylinder or flue by which the products of combustion are conveyed from the burner proper, a cap or shield preferably curved and suitably supported above the upper extremity of said flue, and an exterior spherical or other-shaped hood suitably supported above said shield and flue and adapted to deflect the drafts of air which might injuriously affect the flame of the burner.

It further consists in the novel manner of combining and supporting the dome, globe, and their adjuncts, whereby all the parts are readily accessible for the purposes of inspection or repairs.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a vertical sectional view of a lamp embodying my invention. Fig. 2 represents an exterior view of the upper portion of Fig. 1. Fig. 3 represents, on an enlarged scale, a sectional view of the hot-air cylinder or flue, a cap or shield above the latter, and the exterior hood surrounding said flue and cap.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a hot-air cylinder or flue, the lower portion of the same being provided with a laterally-extending flange 2 and a downwardly-extending flange 3, through which the screws or other fastening devices 4 are adapted to pass to engage the lip 5 on the upper portion of the dome 6. The upper portion of the flue 1 is provided with the diverging or outwardly-flaring flange 7, and to the upper portion of the flue 1 are attached the arms 8 by means of a screw or other fastening device 9, the upper portion of said arm being laterally deflected at 10 and adapted to support the cap or shield 11, which is preferably curved, oval, or arc-shaped and is provided with the depending annular flange 12, which is of such diameter that it overhangs and extends exteriorly to the outer edge of the outwardly-flaring flange 7.

13 designates brackets having the lower arm 14, which is adapted to be secured to the arm 10 by means of the screw or other fastening device 15, it being apparent that the cap or shield 11 is held in position between said arms 10 and 14 by said screw.

16 designates an arm projecting from the upper portion of the bracket 13, to which the exterior hood 17 is secured by means of the screw or other fastening device 18.

19 designates an opening in the upper portion of the hood 17, which, it will be noted, is of less diameter than the peripheral portion of the cap or shield 11, while the lower portion of the hood 17 is provided with the downwardly-extending lip or flange 20, which terminates in the opening 21.

It will be understood that in Figs. 1 and 3 I have shown the various elements in the preferred embodiment of my invention; but it will be apparent that the contour of the hood 17 may be slightly changed, as well as the contour of the cap or shield 11, and that other slight changes may be made in the manner of supporting the cap 11 and the hood 17 from

that shown without departing from the spirit of my invention.

The lower portion of the dome 6 rests upon the top section 22, which is supported upon the lower section 23, said dome being held in position by the screws 24 and said top section being hinged to said lower section by suitable means, as 25, whereby the dome and its adjuncts can be turned upon said hinge, as will be understood from the dotted lines seen in Fig. 2, the upper and lower sections 22 and 23 being normally held in assembled position by a suitable clip, spring, or other device 26, as will be understood from Fig. 2.

27 designates a socket which is adapted to be supported upon the lamp-post and is provided with the upwardly-extending arms 28 and 29, whose upper extremities support the lower section 23.

30 designates suitable supports having their lower extremities attached to the socket 27, while their upper extremities are attached to the base-plate 31, which has an opening 32 therein for the insertion of the lighting-torch, said opening being normally closed by means of the slide 33, which is movable in the ways or guides 34, as will be understood from Fig. 1.

I deem it unnecessary to enter into a detailed description of the burner and its adjuncts, since it will be understood that my present improvements are capable of being used with any approved form of burner, although I prefer in practice to employ the burner known as the "Smith incandescent burner," which I have found in practice to produce results superior to any other.

It will be apparent to those skilled in the art that when the air strikes the hood or sphere 17 or its equivalent its spherical shape will cause the air to be diffused around the sphere, so that the air is forced upwardly and around the upper portion of said sphere, making a practically perfect suction from the orifice or opening 19 in the upper portion of the sphere. It will further be apparent that when the air strikes the lower portion of this sphere 17 and descends the protecting-rim 20 at the bottom of the sphere wards off the air from the outside of the hot-air cylinder or flue 1, thereby normally preventing any air from effecting an entrance to or through the bottom opening 21 to the interior of the sphere or hood 17, owing to the counter-draft. Again, it frequently happens that air-currents are driven in at the upper opening 19 of the shield 17. In this case they are effectually prevented by the cap 11 from passing down the flue 1. As the inner surface of the shield 17 presents a true unbroken curve, no eddies are created, and the air-currents entering from above, together with the products of combustion, are carried out at the lower opening 21 of the shield. It will also be apparent that this opening 21 performs another important function in permitting and effecting the withdrawal of hail, rain, snow, or other products of the elements which might possibly enter at the top opening 19.

It will be apparent that while I have shown herein the preferred manner of constructing and assembling the various parts which I have found in practice to give the best results I do not desire to be limited in every instance to the exact construction herein shown and described, but reserve to myself the right to make all such changes as will come within the scope of my invention and which will be apparent to those skilled in the art. Thus by the term "spherical" as applied to the shield 17 I intend to include a shield of any equivalent form, having an unbroken curved contour.

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

1. In a lamp, a hot-air flue suitably supported and having at its upper portion an outwardly-flaring lip or flange, a cap or shield located above said flue and of greater diameter than the upper portion of the latter and having a depending peripheral flange, an exterior curved or spherical hood supported above said cap and flue, having at its upper portion an opening of less diameter than said cap and at its lower portion an opening of greater diameter than said flue, and a depending flange upon the lower portion of said hood.

2. In a lamp, a hot-air flue suitably supported and having at its upper portion an outwardly-flaring lip or flange, a curved cap or shield located above said flue and of greater diameter than the upper portion of the latter and having a depending peripheral flange, an exterior curved or spherical hood supported above said cap and flue, having at its upper portion an opening of less diameter than said cap and at its lower portion an opening of greater diameter than said flue, a depending flange upon the lower portion of said hood, in combination with an arm secured to the upper portion of said flue and having a deflected portion to which said cap is secured, and supporting devices common to said arm, cap and exterior hood whereby the latter is supported.

3. In a lamp, a hot-air flue having at its upper extremity an outwardly-flaring lip or flange, an arm 8 secured to the upper portion of said flue and having a laterally-deflected portion 10, a cap or shield having a curved top and a depending lip or flange 12 and secured to said deflected portion 10, a bracket 13 having a lower deflected arm 14 and an upper deflected arm 16, an exterior spherical hood secured to said upper deflected arm and having an opening 19 at its upper portion of less diameter than the top of said cap, said hood having at its lower portion a depending lip or flange 20, and a lower opening 21 in said hood of greater diameter than said flue.

4. In a lamp, a dome suitably supported, a

hot-air cylinder or flue secured to said dome by suitable fastening devices, the upper extremity of said flue having an outwardly-flaring portion 7, an arm 8 secured to said flue and having a deflected portion 10, a bracket 13 above said arm having a deflected portion 16, a cap 11 held between the deflected portions 10 and 14 of said arm and bracket and having a peripheral flange 12, and a spherical hood 17 supported upon said arm, and having an opening 19 in its upper portion, an opening 21 in its lower portion, and a flange 20 depending from its lower portion.

5. In a lamp, a hot-air flue, a convexed cap located above said flue and of greater diameter than the mouth thereof and a flange depending from said cap, and an exterior spherical shield surrounding said cap and the upper end of said flue having an upper opening of less diameter than said cap and a lower opening of less than its own greatest diameter.

6. In a lamp, a hot-air flue having an outwardly-flaring lip; a convexed cap located above and of greater diameter than said lip and an exterior spherical shield extending substantially above said cap and below said lip and having upper and lower openings of reduced diameter.

7. In a lamp, a hot-air flue, a convexed cap located above and having a depending flange of greater diameter than said flue and an exterior spherical shield surrounding said cap and the upper end of said flue and having an upper opening of less diameter than said cap and a lower opening of less than its own greatest diameter.

8. In a lamp, a hot-air flue, the walls of which are substantially vertical, an outwardly-flaring lip or flange on the upper portion of said flue, a convexed cap located above said flue and of greater diameter than the outwardly-flaring lip or flange, a flange depending from said cap, an exterior spherical shield surrounding said cap and the upper end of said flue and having an upper opening of less diameter than said cap and a lower opening of less than its own greater diameter.

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