

(No Model.)

2 Sheets—Sheet 1.

F. S. CLINTON.
Lantern.

No. 242,814.

Patented June 14, 1881.

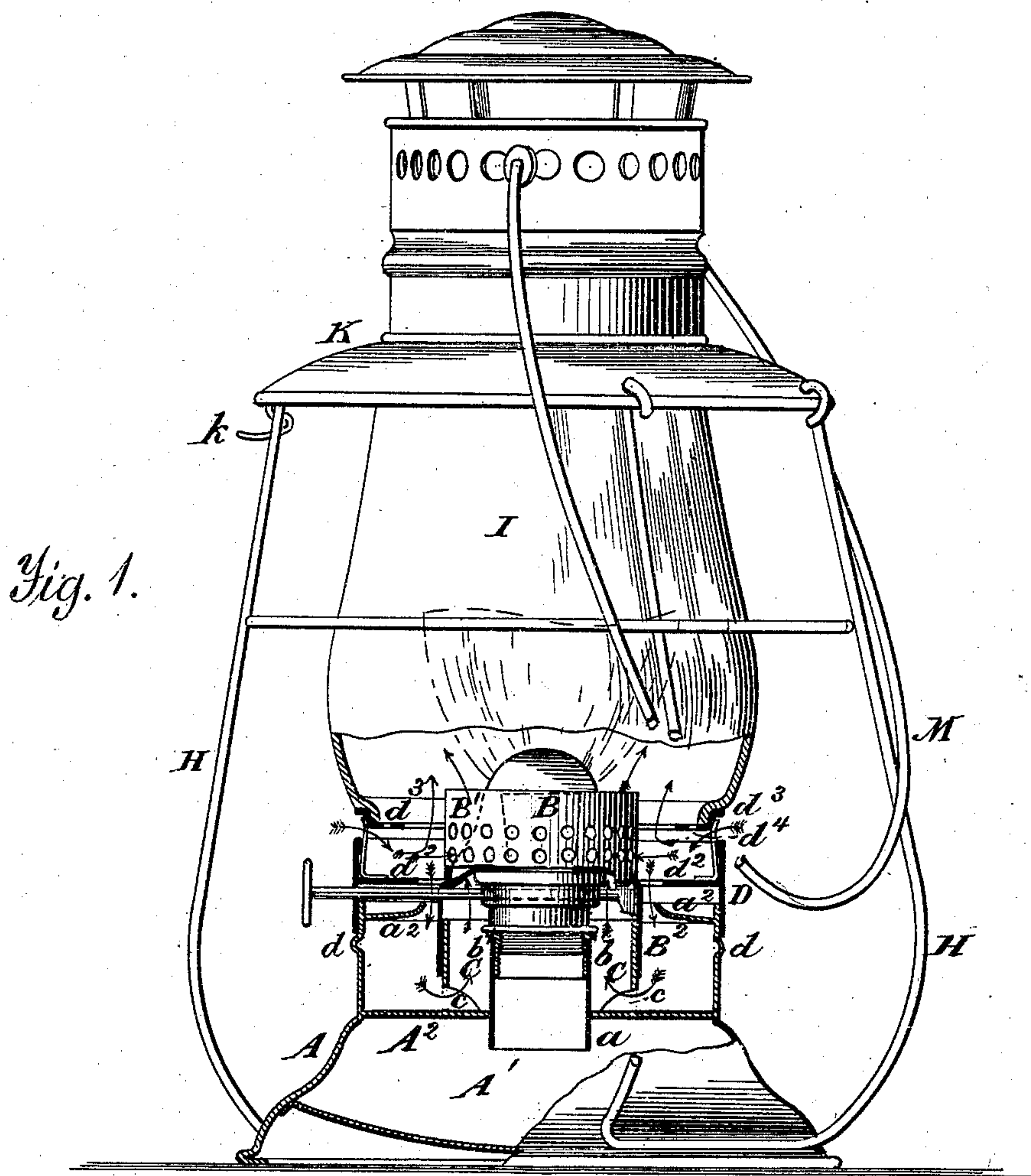
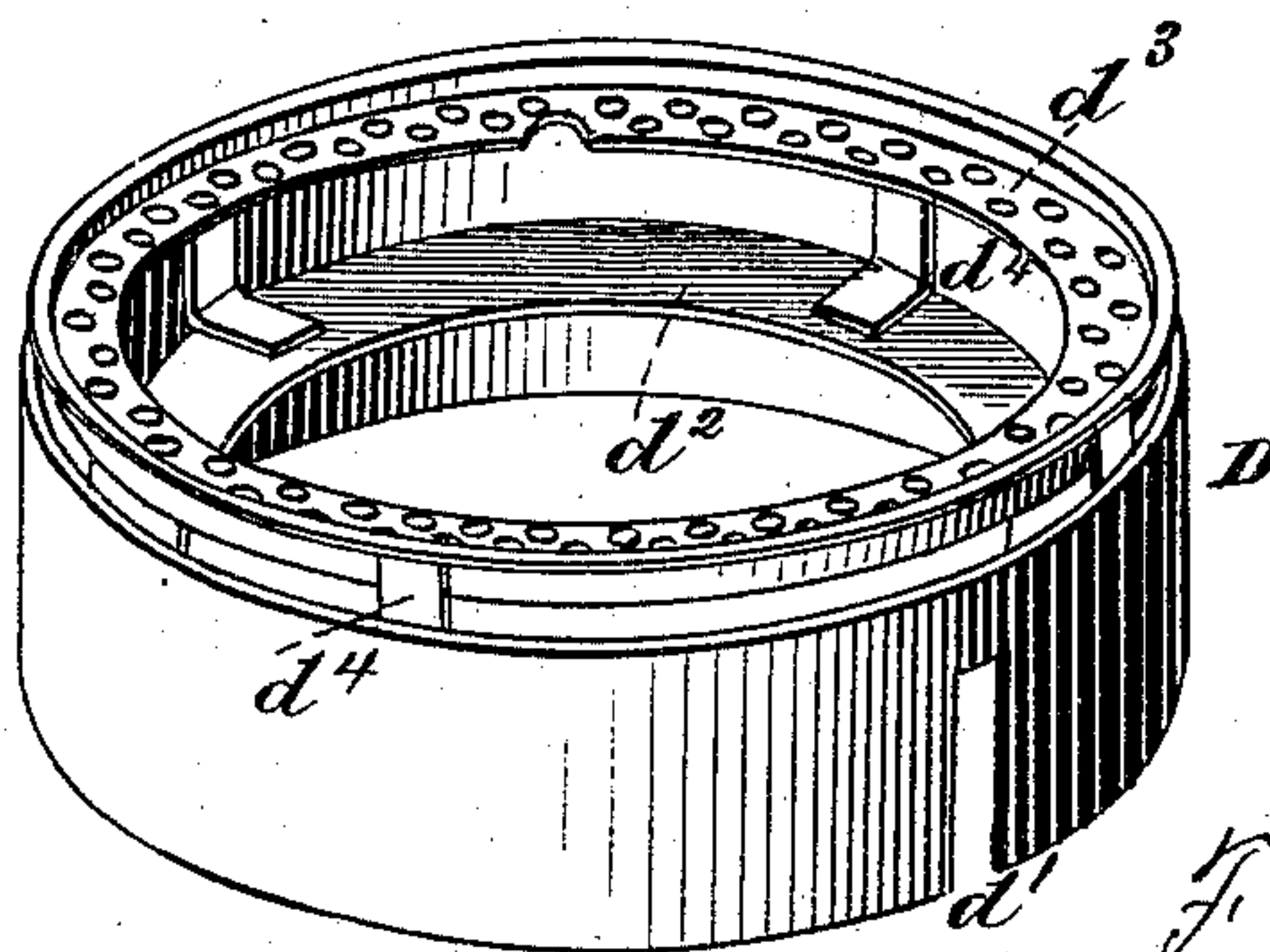


Fig. 2.



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Fig. 3.

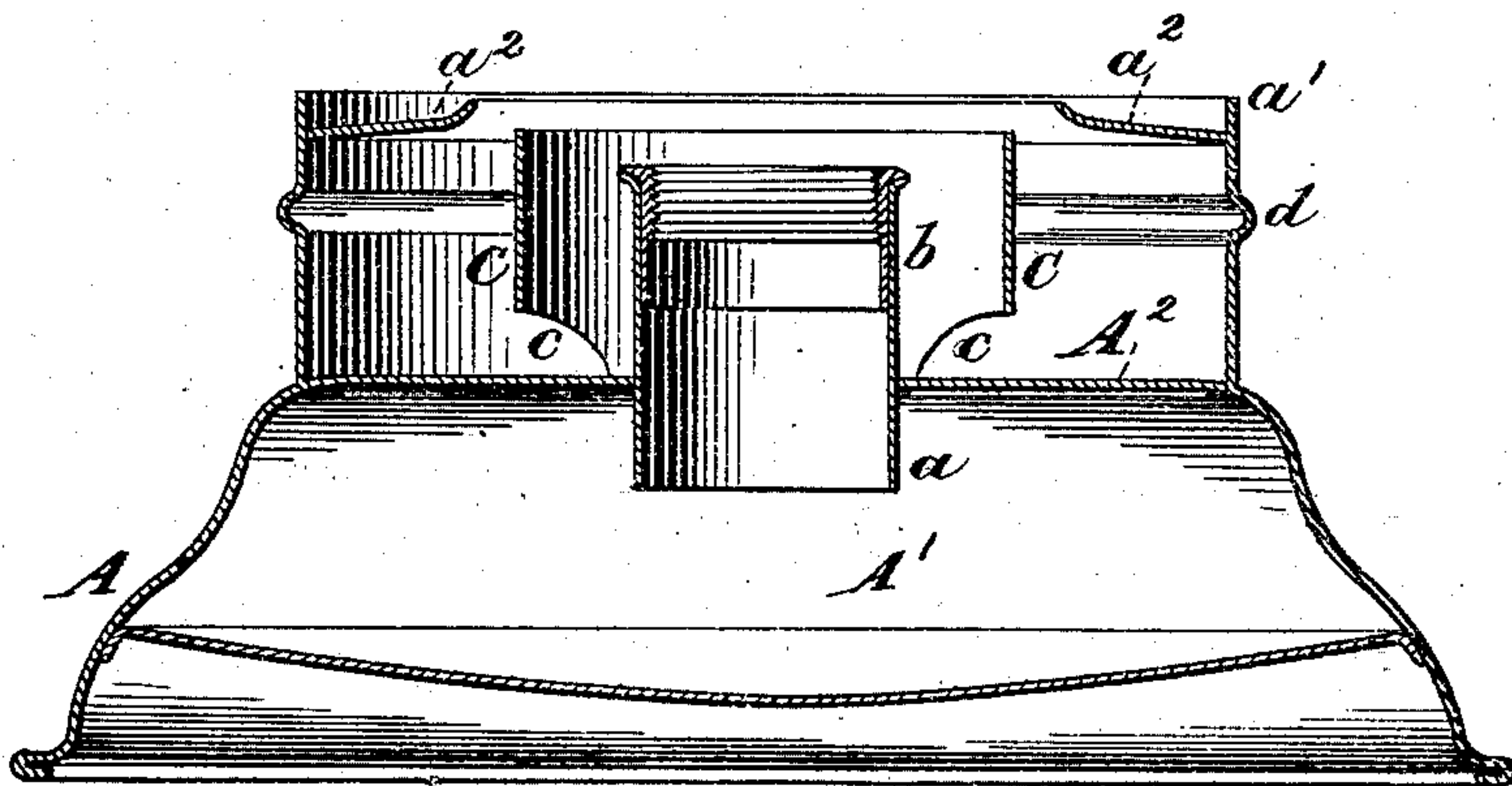


Fig. 4.

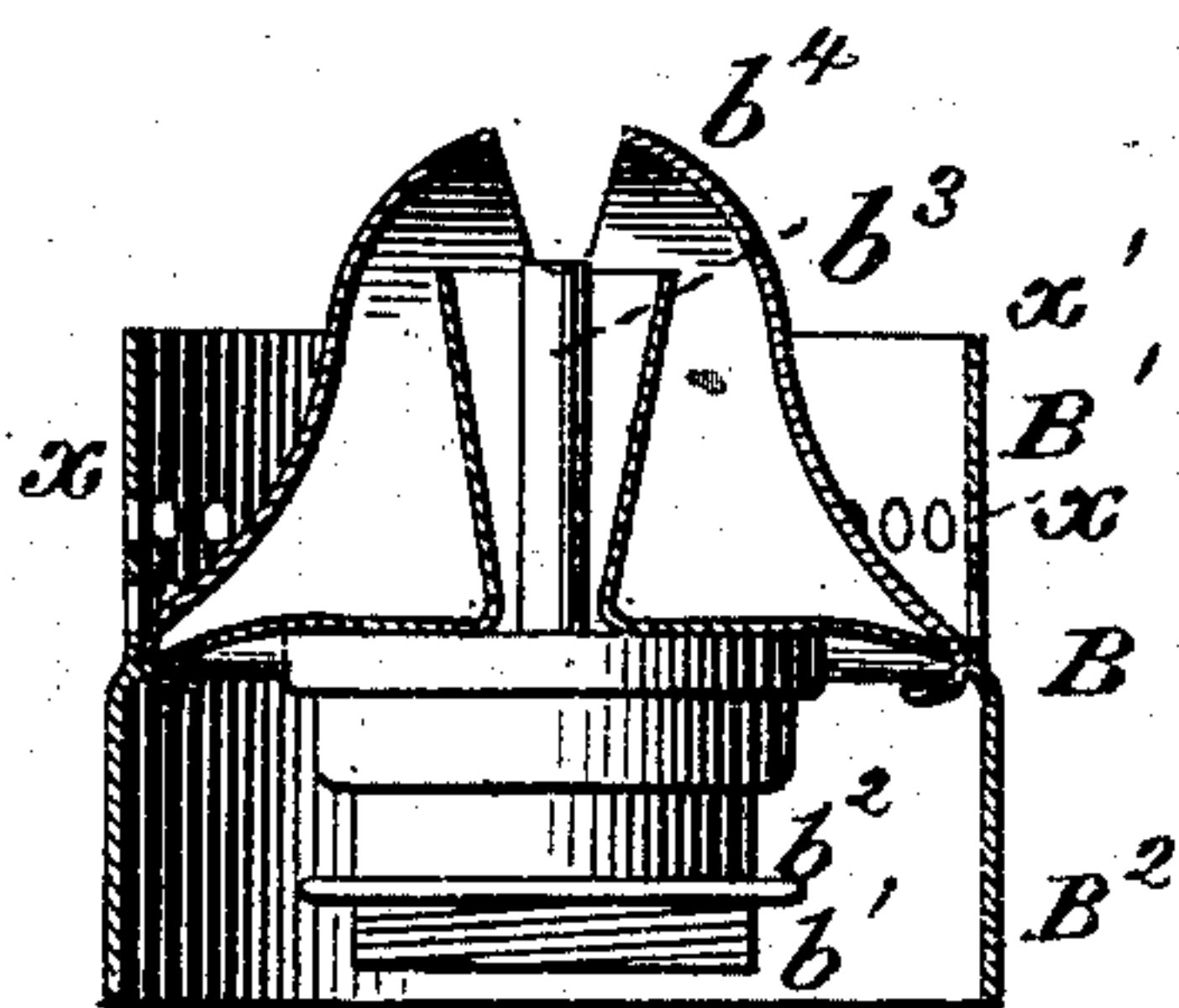
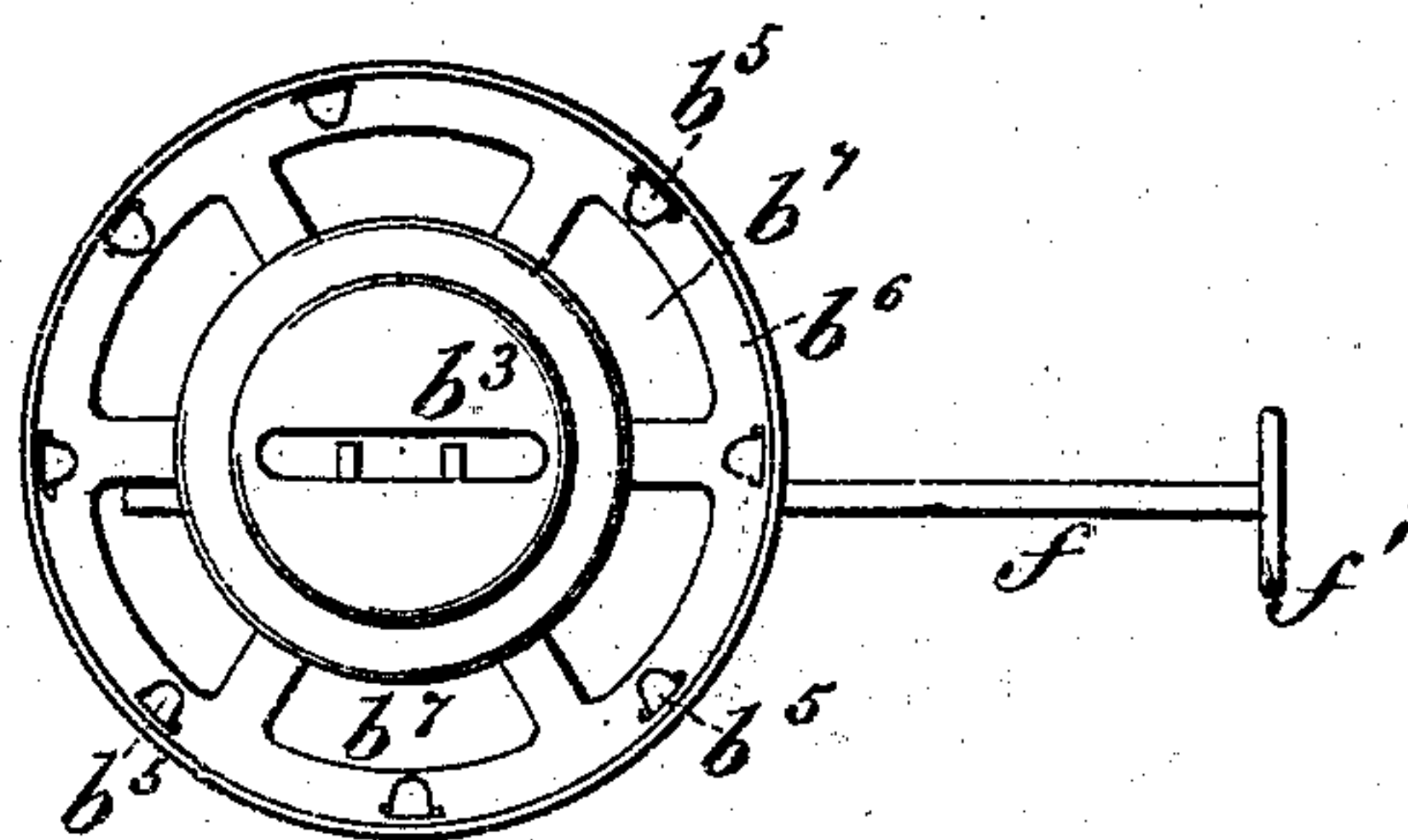


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRED SUMNER CLINTON, OF BELLAIRE, OHIO, ASSIGNOR OF TWO-THIRDS TO
WILLIAM T. RUFER AND ALFRED L. BARON, OF SAME PLACE.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 242,814, dated June 14, 1881.

Application filed December 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, FRED SUMNER CLINTON, a citizen of the United States, residing at the city of Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Lanterns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in hand-lanterns, swinging lamps, or the like adapted to burn hydrocarbon oils and to serve all purposes where a carried lantern for illuminating or signaling purposes is desired; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter described, and specifically set forth in the claims.

The object of the invention is, first, to secure a sufficient supply of oxygen to the flame of the burner by a direct outside draft; second, to prevent smoking of the device when being in motion; third, to protect the flame from lateral disturbance when the lantern is moved sidewise; fourth, to secure an efficient light by protecting the flame in turbulent or gusty weather; fifth, to manipulate and adjust the wick, and consequently the brilliancy of the flame, from the outside—i. e., without disturbing or disengaging any of the parts of the device; sixth, to hold the globe in position without the use of clamps upon its lower bearing; seventh, to decrease heat-giving and odor-distributing by furnishing a current of air direct from the outside down and around the burner and an efficient draft-outlet above, and by dispensing with a chimney as a director of the products of combustion; eighth, to avoid the necessity of a chimney.

It is well known in this art that ordinary swinging lanterns, commonly known as "conductors' lanterns," not only emit a heat from the exit-draft which endangers and injures adjacent paint, &c., but that they also emit an odor of a disagreeable and unhealthy nature, and,

further, that they carbonize and blacken the walls of the room, car, or cab.

It is also well known that the ordinary draft from the perforated plate ordinarily used allows quick action of the lantern or sudden gusts of wind to disturb the combustion and to retard and interfere with the flame.

My invention seeks to overcome these faults and to supply a draft to the flame which will be efficient for the purpose and useful in the art.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation of my invention, partly in section; Fig. 2, a perspective view of the removable disk which supports the globes; Fig. 3, a central section of the oil-reservoir, showing the burner attachment; Fig. 4, a central section of the burner and partly perforated shield, and Fig. 5 a bottom-plan view of the burner.

The arrows in Fig. 1 show the course of the draft from the inlet, distributing itself directly to the flame, to the course of draft from the flame, and tortuously downwardly and upwardly to the flame.

To enable others skilled in the art to make and use my invention, I will describe its construction and mode of operation, and to that end refer to the drawings, in which—

A represents the base-frame, having a contained oil-reservoir, A', and an upper diaphragm, A². A neck-tube, a, having an upper screw-threaded extremity, b, to receive the burner B, arises centrally from the reservoir A' and concentric therewith. Secured to the diaphragm A² is a cylinder, C, perforated at c, as shown. The base-frame A extends above the diaphragm A², and is beaded at d. The threaded portion b' of the burner-tube operates in the female thread b of the neck-tube a to secure the burner in position. The burner-cap b⁴ surrounds the wick-tube b³, and it is secured to a diaphragm, b⁶, by bent nibs b⁵, the said diaphragm being perforated at b⁷, as shown.

A cylinder, B², fits around the cylinder C, and it is secured to the burner-cap and perforated diaphragm b⁶. B' represents an upper cylinder, also a part of the burner, which is

perforated at x , from its junction with the burner-cap b^4 , for a sufficient distance upward to admit sufficient direct air to supply the flame; but a considerable portion, x' , below its upper edge is imperforate, and serves to protect the flame from sudden gusts.

Below the upper edge, a' , of the base-frame A, and secured to its inner surface, is an annular flange, a^2 , which forms between the diaphragm A^2 and the cylinder an open chamber to admit a current of air downward through the apertures c and upward to the burner.

D represents the globe-frame, the lower edge of which has a bearing upon the ledge or bead d , and it is provided with an annular flange, d^2 , near the center, and a vertical slot, d' , to receive the arm f of the wick-raising device, having a thumb-knob, f' . This construction allows the proper manipulation and adjustment of the flame at will without disturbing the globe or any other part of the device. A perforated annular plate, d^3 , is held by brackets d^4 secured to the annular plate d^2 , and it serves as the lamp-support, and between it and the upper edge of the cylinder D a sufficient space is left for the admission of direct-draft air. By this construction I entirely do away with clamps or other globe-holding devices; and in connection with the ring d^3 , which is upon a horizontal plane with the lowest portion of the imperforate cylinder, the said imperforate portion serves to deflect a current of air upward.

It will be observed that the air passes inward below the globe-holder d^3 and the upper edge of the cylinder D into the chamber above the plate d^2 , and formed by the said plate d^2 , the cylinder D, the partially-perforated cylinder B' , and the perforated globe-holding plate d^3 . From this chamber the air divides itself into three currents, one through the perforated plate d^3 , one through the partially-perforated cylinder B' , and one between the inner edge of the plate d^2 and the burner, the latter passing through chamber above the annular plate a^2 , through the apertures c , and upward to the burner.

It will further be observed that the imperforate portion x' of the cylinder B' protects the flame from direct contact or influence of the air thus admitted, and that the air beating against this surface x' passes upward within the globe, while the air which supports and supplies the flame is either sifted gradually through the perforations x or takes the tortuous route described.

H represents a proper guard-frame, which surrounds the globe I, and K the lantern-cap, hinged to two of the standards of the frame H, and provided with a spring-catch, k , which operates, in connection with a cross-bar upon the top of the other two standards of the guard H, to hold the cap in position. The cap K serves to hold the upper rim of the globe in position, and the handle M allows the convenient manipulation of the whole device.

The plates a^2 d^2 d^3 serve a very useful purpose, forming, as they do, chambers which will break the force of any strong gust of wind, and, in connection with the cylinder C c , give a steady flow to the flame.

It will be observed that the removable cylinder D d' will adjust itself to the location of the wick-adjusting arm f , whatever its position, and that the imperforate portion x' of the cylinder B prevents the destruction or collapse of the cylinder by the necessary pressure involved in turning down or removing the burner.

Various modifications may be made in details of construction without departing from the principle or sacrificing the advantages of my invention, the essential features of which are shown in the accompanying drawings and described hereinbefore.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a lantern employing no chimney proper, a chamber having a direct air-inlet, from which chamber are provided one outlet directly upward, another outlet through a perforated cylinder, and another outlet downward, whereby the air is branched in three directions, one of which meets the flame above the base of the globe, another is sifted to the flame direct, and the other tortured into a steady draft and fed to the flame within and under the burner-cap, as specified.

2. The combination of the base A, containing reservoir A' and having diaphragm A^2 , the central neck-tube, a , extending below the said diaphragm, and the burner B, with the perforated cylinder C c , as and for the purposes specified.

3. A removable globe-holding cylinder, D, having annular air-inlet brackets d^4 , and perforated annular plate d^3 above said inlet, and an annular plate, d^2 , below said inlet, combined with a lantern-base, A A' A^2 a^2 , and cylinder C c , as set forth, for the purposes specified.

4. A lantern-burner having a guard-cylinder the lower portion of which is perforated and adapted to sift the air gradually to the flame, and the upper portion imperforate to protect the flame from sudden lateral action of air, the upper perforations of which are in a line opposite the perforated ring d^3 , combined and operating as specified.

5. The combination of a base-frame and reservoir having a central neck-tube with a removable globe-holder held thereto by friction, the base-frame and the globe-holder each provided with a horizontal annular ring or plate to form open air-chambers, and with a perforated cylinder through which the downward current of air is changed to an upward flow toward the flame, as set forth.

6. The base-frame A A' A^2 , having the cylinder C, with perforations c , the bead d , and the plate a^2 , combined with burner B, provided with a neck and a skirt, B^2 , and the re-

movable cylinder D, having the posts d^4 and annular plate d^3 , as and for the purposes set forth.

5 7. In a lantern, the combination of the reservoir-frame A A' A², having the cylinder C c and removable cylinder d , notched as described, and provided with the posts d^4 , and the perforated globe-holding plate d^3 , burner

B, and ratchet-shaft $f f'$, substantially as and for the purposes set forth. 10

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

FRED SUMNER CLINTON.

Witnesses:

GEORGE CRISWELL,
MICHAEL CURRAN.