

(No Model.)

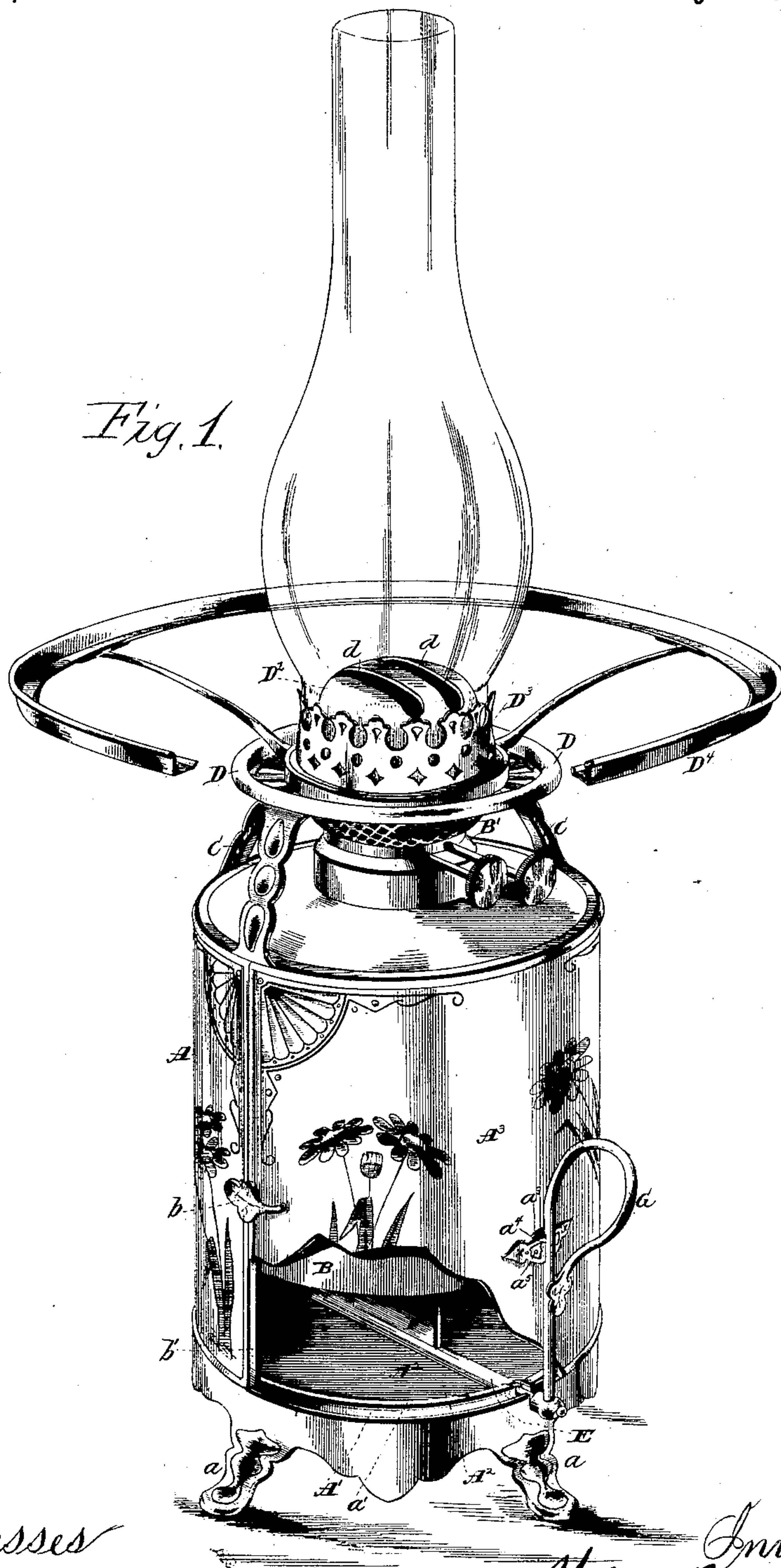
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W. BENNER.
LAMP.

No. 407,153.

Patented July 16, 1889.

Fig. 1.



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Fig. 2.

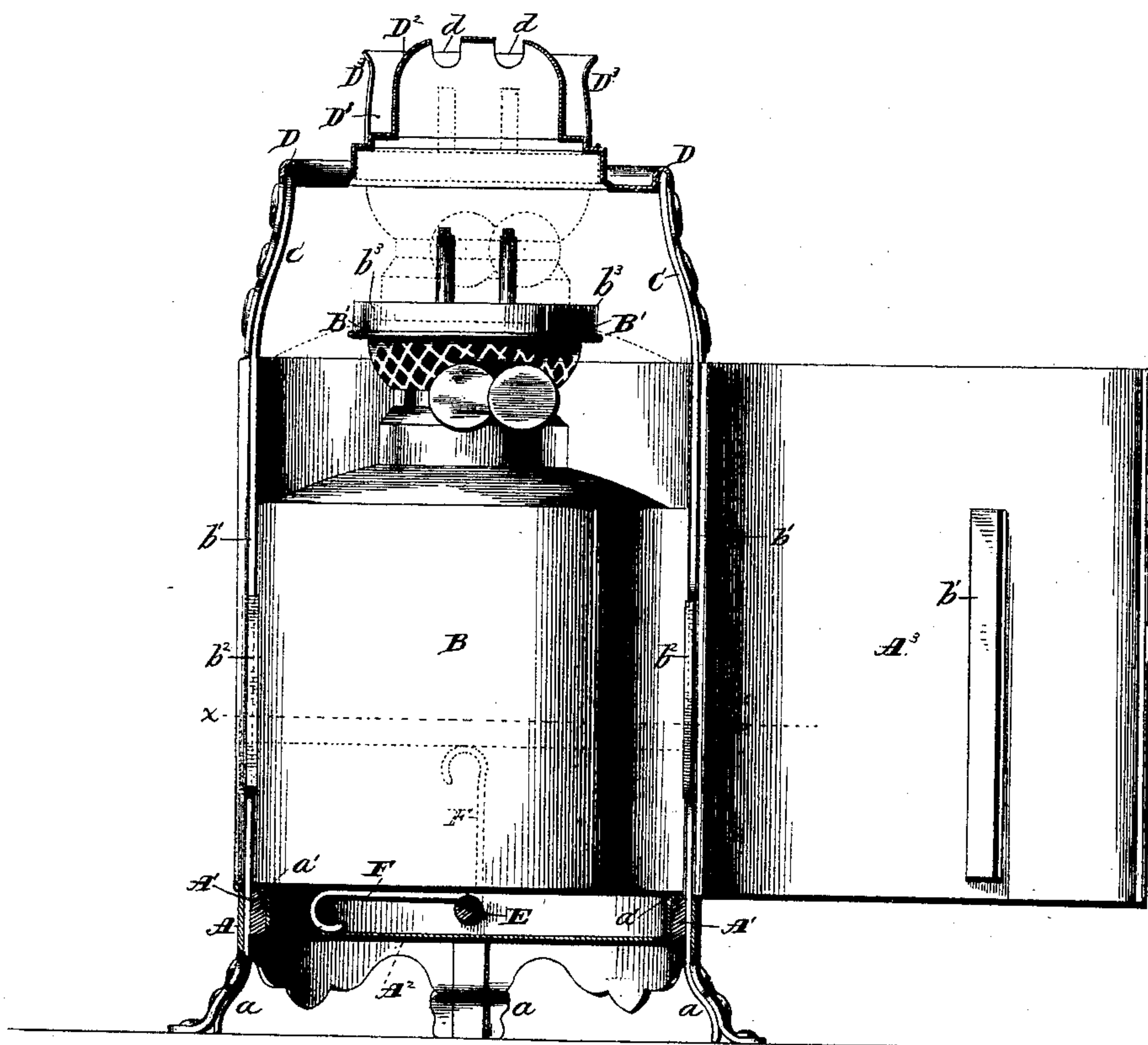
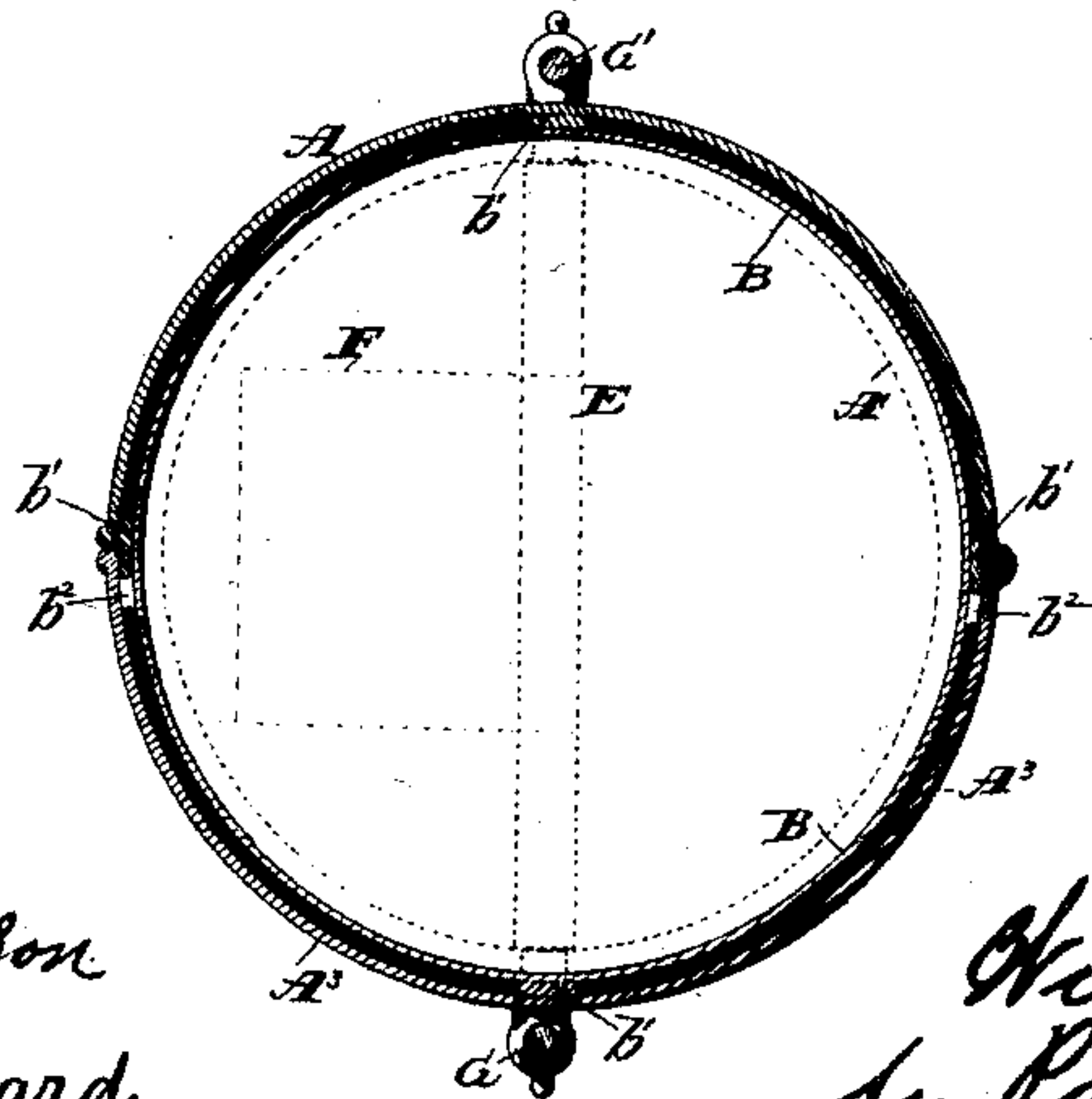


Fig. 3.



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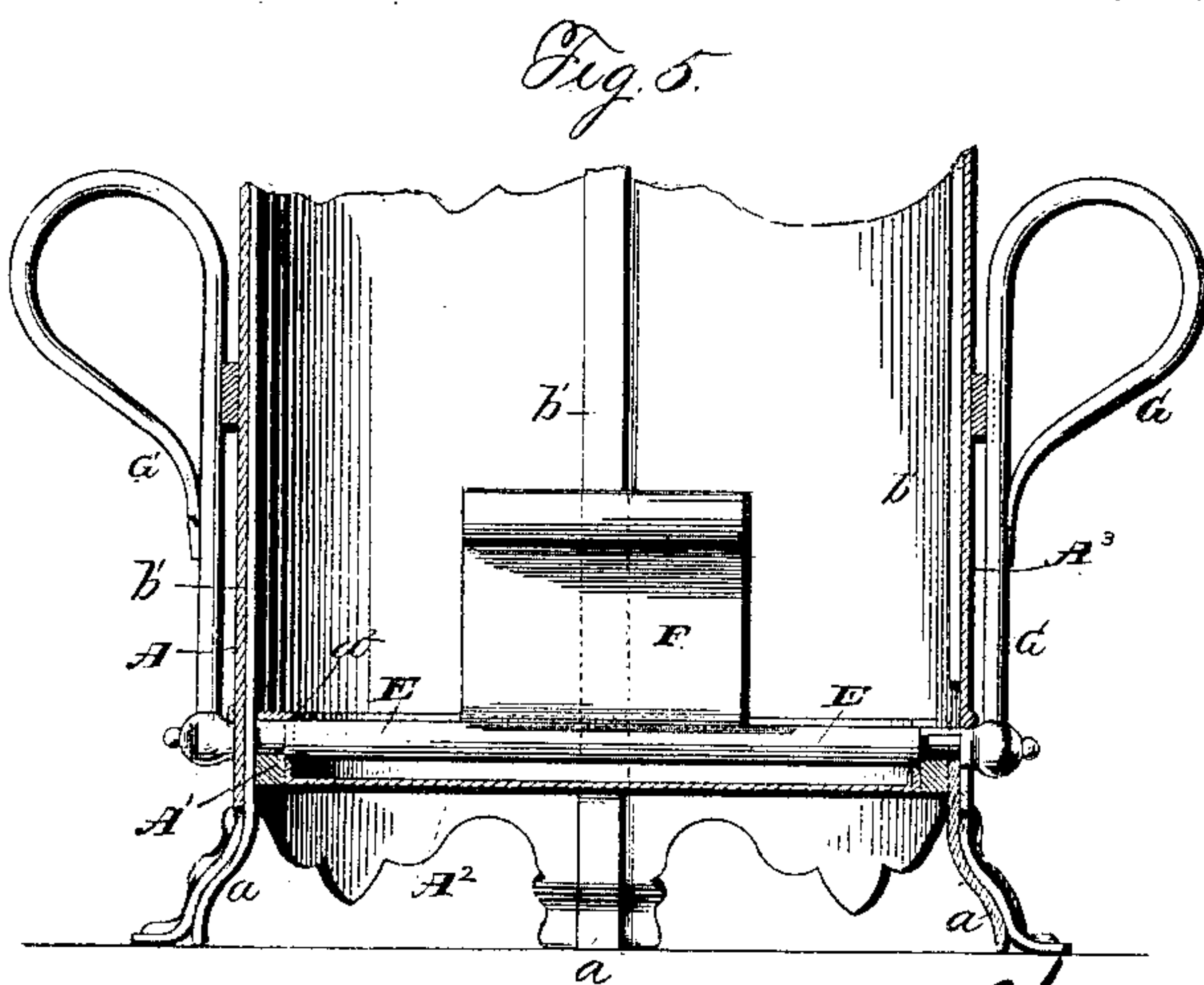
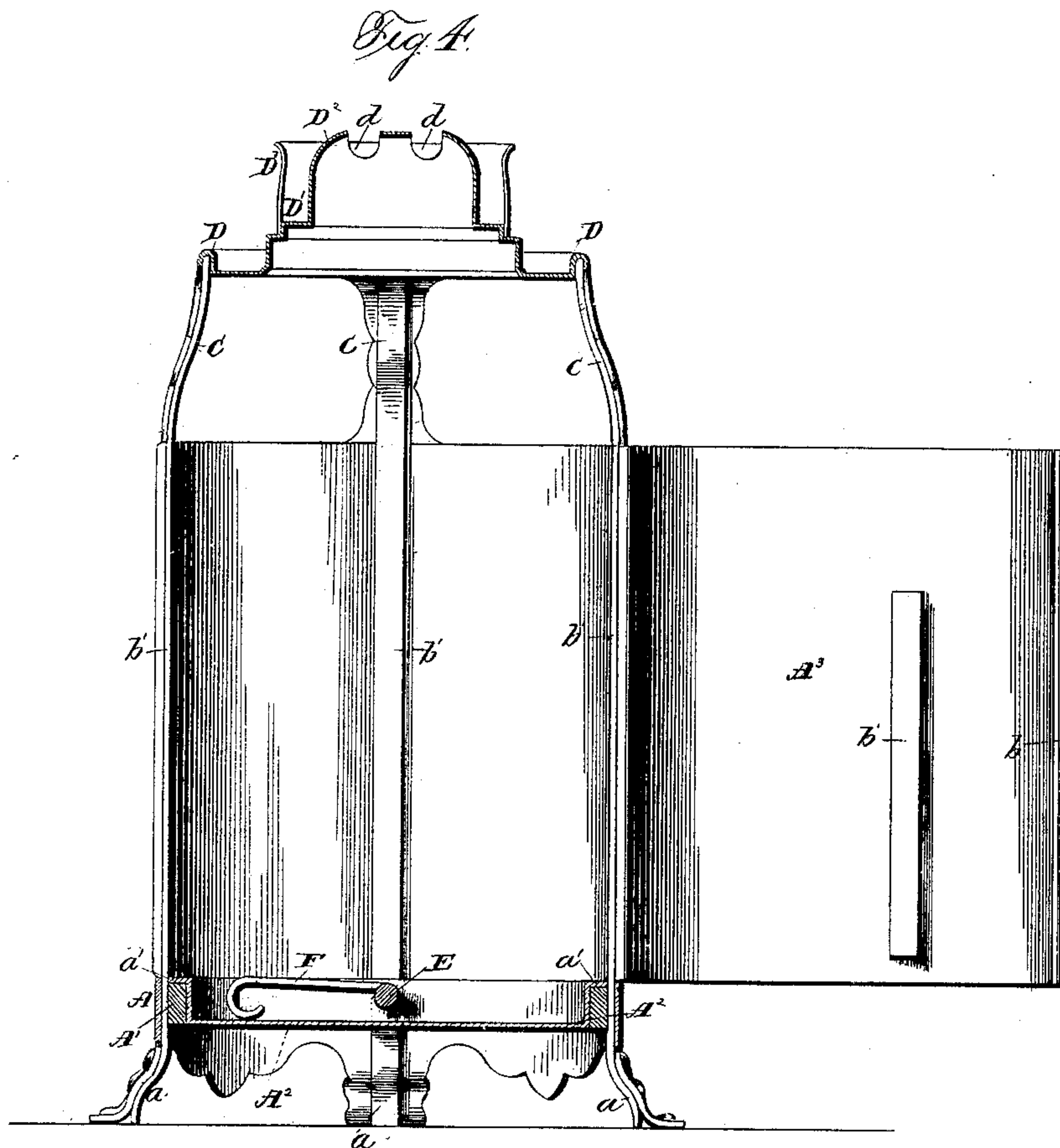
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UNITED STATES PATENT OFFICE.

WILLIS BENNER, OF NEW YORK, N. Y.

LAMP.

SPECIFICATION forming part of Letters Patent No. 407,153, dated July 16, 1889.

Application filed July 28, 1888. Serial No. 281,339. (No model.)

To all whom it may concern:

Be it known that I, WILLIS BENNER, of New York, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 shows a view in perspective of my lamp with part of the casing broken away; Fig. 2, a view of the lamp in side elevation with the casing-door open; Fig. 3, a transverse horizontal section of the lamp on line $x x$ of Fig. 2; Fig. 4, a view in elevation of my lamp with the casing open and the lamp-body removed; and Fig. 5, a detail sectional view showing the manner of journaling and supporting the rock-shaft.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide certain improvements in lamps; and to this end my invention consists in the construction, arrangement, and combination of the parts thereof, as hereinafter specified.

In the drawings, A designates the lamp-casing provided with the feet or legs $a a$ for its support. The shape of this casing and the legs or other means of supporting it form no essential part of my invention, and can be varied as desired. Within the casing, near its bottom or lower end, is fixed the ring A' , upon which rests the outwardly-turned flange a' , around the upper edge of the shallow cup or dish A^2 , serving to close the casing-bottom. One half of the casing above this ring is hinged to the other half-casing, so as to form a door A^3 , adapted, when swung open, as shown in Fig. 2, to allow the lamp-body B to be taken out of and be put into the casing at will. A catch or latch b can be provided to lock or latch the casing-door when shut.

The lamp-body is of such size and shape as to fit within the casing, while being adapted to be moved up and down therein. To guide its movements and prevent it rotating in the casing, I provide the inner wall of the casing with the vertical guides $b' b' b' b'$, preferably four in number, as shown in Figs. 2 and 3. Of such guides one is on the hinged half-cas-

ing, one at the rear, diametrically opposite to the guide on the door, and two on opposite sides of the casing. Two vertical guide-strips $b^2 b^2$ on opposite sides of the lamp-body serve to engage the side strips or guides within the casing when the lamp-body is in place and the casing-door is shut.

The lamp-body is on its top provided with any desired form of burner B' . In the drawings I show the double or two-wick form of burner, but do not limit myself thereto.

Any of the well-known burners preferred can be employed without departure from my invention.

Extending upward from the upper end or edge of the casing A are the uprights C C C, preferably curved or made to extend over and inward, as shown. Upon these uprights, and attached to their upper ends, is the ring D, which carries the chimney-holder D' , adapted to receive and hold the base of the chimney, and also the cone or deflector D^2 . Around the base of this deflector is the annular shoulder or support upon which the lower end of the chimney rests, while extending upward around the outer edge of this shoulder is the chimney-clamping ring D^3 of the ordinary construction. Outside of the chimney-holder the ring D is, as shown in the drawings, adapted to receive and hold the attaching-ring of the shade-supporting frame D^4 .

In my lamp I prefer to make the ring D with its shade-frame and chimney-supporting portions in one piece with the cone or deflector D^2 . Such cone or deflector is, as usual, to be provided with one or more flame-slots $d d$, shaped and arranged to suit the wick tube or tubes of the burner. The ring D is provided underneath with a socket to receive an upright annular flange b^3 on the burner. Such flange is arranged around the outer edge of the burner-body and fits within the socket in the ring D, so as to cause the air for the burner to pass in the usual way up through the foraminous plate surrounding the wick tube or tubes.

For raising and holding the lamp-body or reservoir up in position to bring the burner in proper relation to the deflector, I provide at the bottom of casing A the rock-shaft E, journaled at or near its opposite ends in the

ring A'. Such shaft is preferably arranged, as shown, with one end journaled in the ring at a point about midway of the door-opening in the casing and the other end at the rear side of the casing. The rear or inner end of the shaft passes through a hole a^2 in the side of the cup or dish A² and into a journal-opening in the ring A', while the other end of the shaft passes out through a slot in the dish edge and ring. This slot in the ring forms an open bearing for the shaft, down in which the latter is held by the lower edge of the casing-door when the latter is shut.

Upon the shaft, between its bearings and below the central portion of the lamp-body bottom, is the radial arm or plate F, having its outer end rounded or bent over to offer a rounded surface to engage and cam the bottom of the lamp-body upward when the shaft is turned from the position shown in full lines in Fig. 2 to that shown in dotted lines in the same figure, or in full lines in Fig. 1. With the shaft turned to bring the arm F upright, the lamp body or reservoir will be held up to retain its burner in proper position with relation to the cone or deflector D².

For operating the shaft I provide the latter on its end outside of the casing-door with an arm or handle G, which is upright, as shown in Fig. 1, when the shaft has been turned to raise the lamp-body. Upon the casing-door A³, I place a lug a^3 , having a notch a^4 for engaging and holding the rock-shaft lever or handle G in upright position. This lug is preferably provided with an inclined face a^5 , leading to the notch a^4 , over which the lever G can ride as it is being swung toward the retaining-notch. Such arm or lever is made with sufficient spring to ride easily over the incline and snap into the notch. It is also preferably made of such shape as to correspond with the lamp-lifting handle G' on the diametrically-opposite side of the lamp-casing.

The casing, the legs, and the ring-supporting uprights on top of the casing can be made in one piece of cast-brass or other material; but the construction which I prefer is shown best in Figs. 2 and 4. As shown in such figures, each of the guides $b' b' b'$, which are attached to the stationary part of the casing A, is made in one piece, with one of the legs $a a$ and the corresponding upright C above.

As shown best in Fig. 4, a rod or bar can be fastened to the inside of the casing to form one of the guides, and its ends extending below and above the casing can be bent or shaped to form a foot or leg and the ring-supporting uprights, respectively.

On the door-opening side of the lamp a short rod or bar to form the leg or foot alone is attached, the guide b' on the inside of the door being necessarily separate from the leg. The legs and ring-supporting uprights can be shaped and ornamented as desired.

As indicated in the drawings, portions of the casing can be extended up and down along

the uprights and legs, respectively, to form ornamental facings therefor; but I do not limit myself to such construction.

The ring A' within the bottom of the casing is preferably fixed to the bars or rods forming the guides, uprights, and legs and to the leg below the door-opening of the casing, so as to leave a narrow annular space around between the way and casing to admit of circulation of air up around the lamp body or reservoir. The plate or shallow dish A² within and supported by the ring A', as set forth hereinbefore, serves to prevent any dripping of oil from the lamp-body falling upon the table or support upon which the lamp may be set.

Upon removal of the lamp-body and the lifting of the rock-shaft out of its bearings, this dish or drip-cup can be removed and replaced at will. When the shaft is in place, it locks the dish or cup down in place on the one side by its end passing through the hole in the edge of the plate to its journal-opening in the ring, and on the other side by its portion engaging the bottom of the slot or notch in the plate-edge.

With my lamp arranged and constructed as shown and described, when the wick is to be trimmed, the burner cleaned, or the lamp-reservoir filled, the arm G of the rock-shaft can be disengaged from its retaining-notch and swung down to lower the lamp-body-engaging arm or plate F on the shaft within the casing.

The lamp body or reservoir, with the attached burner, will, as the arm F swings down, descend within the casing, while the ring D, cone or deflector, chimney support and holder, and the support for the lamp-shade remain unmoved. When the lever-arm F of the shaft is swung down to lower the lamp-body, as described, the casing-door can be unlatched and swung open and the lamp body or reservoir taken out, as desired. If it is merely desired to trim the wick, the door need not be opened or the lamp body or reservoir taken out. The lowering of the body or reservoir within the casing will be sufficient to bring the burner into position, where the wick can be trimmed as desired. As soon as the wick has been trimmed or the lamp-body has been replaced within the casing and the door of the latter has been closed the rock-shaft can be turned again to raise and hold up the lamp-body and burner, as before, in proper position with relation to the cone or deflector. With my lamp, then, I avoid all necessity of touching or removing the chimney or shade or the holders of either or disturbing the cone or deflector when the lamp is to be trimmed or filled.

As the chimney need not be handled at all, and does not have to be moved or swung over to allow access to the wick, there is in my lamp an absence of the usual finger-marking and smoking of the chimney so common and objectionable in the lamps as heretofore made.

With the rock-shaft lever or handle made as described and engaging the notched lug or plate on the casing-door, there is no need of the door latch or catch in addition, for the shaft-handle will hold the door shut; but I prefer to have the latch also. When the door is held shut, the guide *b'*, on its inner side, engages the side of the lamp-body B and holds it pressed against the opposite guide on the casing, and causes the guide-strips on the side of the lamp-body to engage squarely the two side guides within the casing, as indicated in Fig. 3. The lamp-body then, while being free to move up and down within the casing, is held most steadily from any rotation or shaking, in whatever position it may be, whether up or down.

With the guide which holds the lamp-body in place with reference to the guides on the interior of the casing arranged on the door, as shown and described, while with the door closed the lamp-body is held steadily and properly guided in all its movements up or down, when the door is open the lamp-body is free to be taken out readily through the opening in the casing-side.

Having thus described my invention, what I claim is—

1. In a lamp, in combination with the casing and the cone or deflector supported therefrom, the lamp-body provided with the burner and made movable up and down in the casing, and means on the casing for positively forcing the lamp-body up in the casing and locking it as raised, substantially as and for the purpose shown.

2. In a lamp, in combination with the casing and the cone or deflector and chimney-holder supported therefrom, the lamp-body made movable within the casing and carrying the burner, guides on the casing and lamp-body to guide the body and prevent its rotation, and positively-acting means on the casing for raising the lamp-body with reference to the cone-deflector and holding it as raised, substantially as and for the purpose described.

3. In a lamp, in combination with a suitable casing or frame and the uprights thereon, the ring supported on the uprights and provided with the cone or deflector, the movable lamp-body carrying the burner, and a cam device on the casing or frame engaging the lamp-body, so as to raise it to bring the burner to the cone or deflector, and holding the body as so raised, substantially as and for the purpose described.

4. In a lamp, in combination with the casing and the stationary cone or deflector, the rising-and-falling lamp-body within the casing, provided with the burner, guides on the casing and lamp-body to guide and steady the latter, and a swinging arm below the lamp-body adapted to raise the same and hold it raised, substantially as and for the purpose shown.

5. In combination with the casing and the stationary cone or deflector, the movable lamp-body provided with the burner, the rock-shaft provided with the arm to engage the lamp-body, and suitable means for rocking such shaft, substantially as and for the purpose set forth.

6. In a lamp, in combination with the casing or frame for supporting the cone or deflector and chimney-holder, the movable lamp-body carrying the burner, the rock-shaft supported in the frame or casing and provided with the lamp-body-engaging arm, the lever on the shaft, and a catch on the casing to lock such lever when the shaft has been turned to raise the lamp-body, substantially as and for the purpose described.

7. In a lamp, in combination with the movable lamp-body carrying the burner, the lamp-casing provided with means for supporting the cone or deflector and with a door to admit of the removal of the lamp-body, the rock-shaft having the lamp-body-engaging arm, the operating lever or handle on the rock-shaft, and a suitable catch on the casing-door to engage and hold the shaft, lever, or handle, substantially as and for the purposes specified.

8. In a lamp, in combination with the movable lamp-body carrying the burner, the casing provided with a door to allow removal of the lamp-body from the casing, guides on the door and casing to engage the lamp-body, guides on the lamp-body adapted to engage some of the guides on the casing to prevent rotation of the lamp-body, and means for raising and lowering the body within the casing, substantially as and for the purpose shown.

9. In a lamp, in combination with the movable lamp body or reservoir carrying the burner, the casing provided with a door to admit of removal of the lamp-body, the stationary cone or deflector and chimney-support, the lamp-body-engaging guides on the casing and casing-door, the guides on the lamp-body, the rock-shaft provided with the arm to engage the bottom of the lamp-body, and the lever or handle for rocking the shaft, substantially as and for the purpose set forth.

10. In a lamp, in combination with the movable lamp-body having the burner, the casing having the door, the upright guide-bars within the casing, having their lower ends continued downward to form feet for the lamp and their upper ends forming supports for the ring carrying the cone or deflector, the guide-strip on the door, and means for raising and holding the lamp-body up within the casing, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of July, A. D. 1888.

WILLIS BENNER.

Witnesses:

CHARLES BENNER,

FRANCIS W. HOLBROOK.