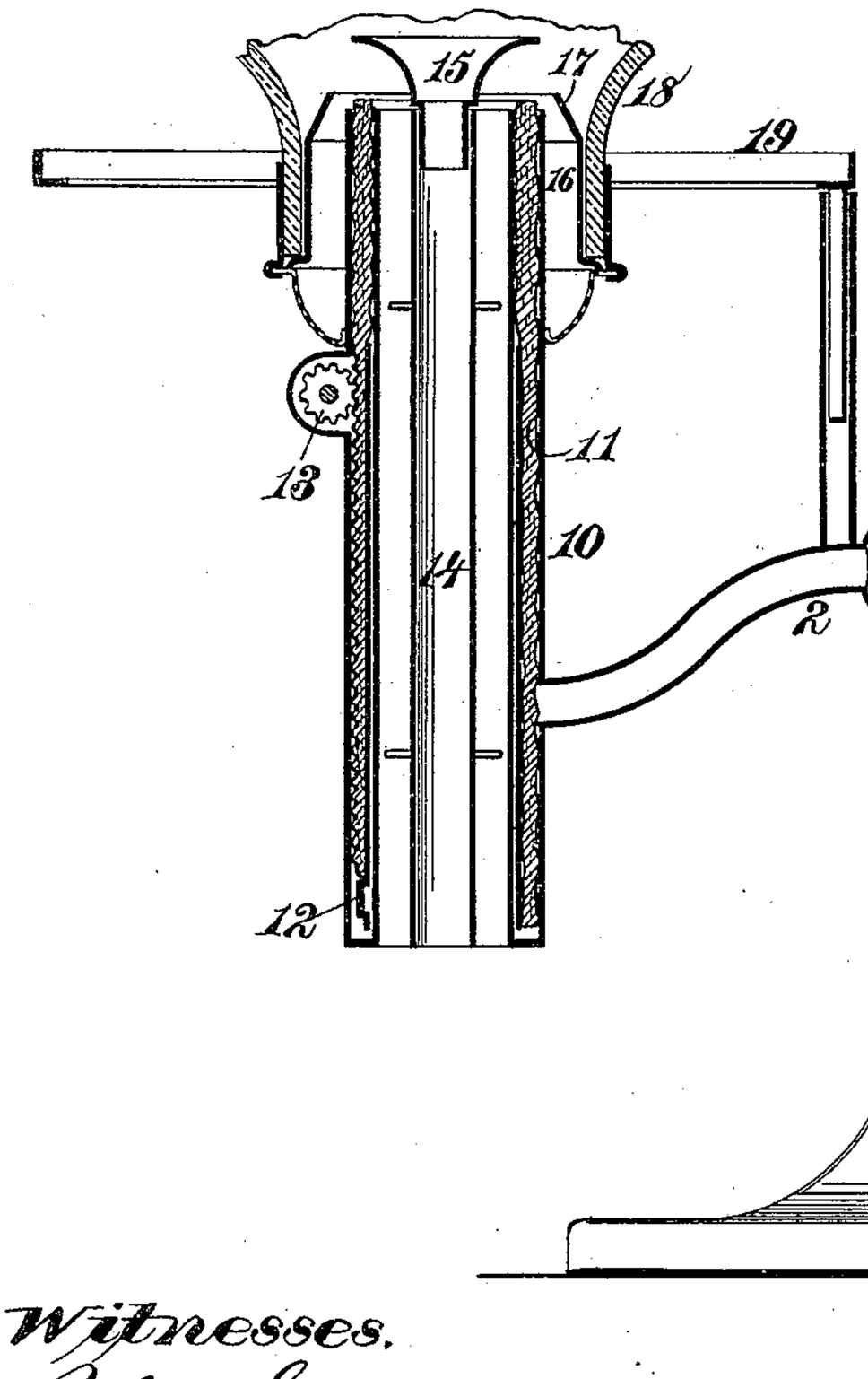
(No Model.)

W. P. BUTLER.

LAMP RESERVOIR.

No. 337,302. Patented Mar. 2, 1886.

Fig. 1.



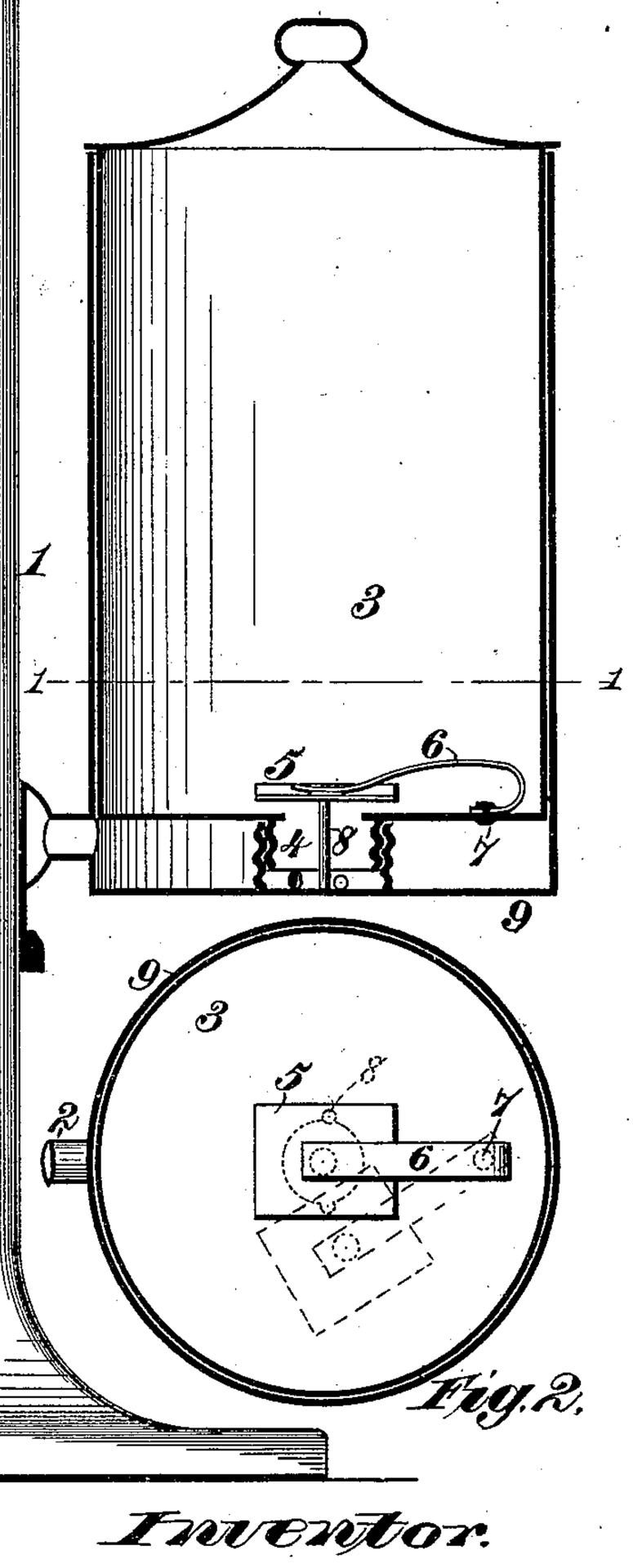


Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM P. BUTLER, OF CHICAGO, ILLINOIS.

LAMP-RESERVOIR.

SPECIFICATION forming part of Letters Patent No. 337,302, dated March 2, 1886.

Application filed April 9, 1884. Renewed July 13, 1885. Serial No. 171,521. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BUTLER, a citizen of the United States, residing at Chicago, Illinois, have invented new and useful Improvements in Lamps, of which the following is a specification.

My invention relates to that class of lamps in which the oil is contained within an inverted reservoir provided with a lower feed-opening, by which the oil is conveyed from the reservoir to the burner, such lamps being generally denominated as "students'" lamps.

It is the object of my invention to provide a simple and cheap cover for the oil-opening in the reservoir, whereby a clear unobstructed passage-way is afforded for replenishing the reservoir, and which when closed will retain the oil while the inverted reservoir is being replaced in the cup.

The object of my invention I accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a central vertical section, and Fig. 2 is a horizontal section, of the reservoir upon the line 1 1, Fig. 1.

In the said drawings the reference-number 1 indicates the frame or standard of the lamp, which may be of the ordinary construction, and which has the illuminating mechanism adjustably mounted thereon by an arm, 2, upon one end of which is rigidly attached the cup which carries the oil-reservoir and upon the other the wick-cylinder. The oil-reservoir 3 is of the usual form, and is provided at its lower end with a central threaded tubular section, 4, leading to the interior of the reservoir. The opening is closed by a cap, 5, mounted upon a spring, 6, which normally throws it down and closes the opening. The opposite end of the spring, which is a flat leaf-spring, is attached by a pivot, 7, to the bottom of the reservoir, so that the spring-plate and the cap can be swung or moved laterally on or with the pivot-pin. The cap 5 is provided with a pin or rod, 8, which is of somewhat greater length than the tubing in which it stands, and in the bottom of the cup 9, which receives the reservoir, is placed a central tube-section having a female thread which receives the section 4. When the parts are in place, as shown in Fig. 1, the end of the pin 8 will strike the bottom of the cup 9 and lift the cap 5 sufficiently to allow the oil to flow to the wick-cylinder.

The advantages of this construction are as follows: In filling the reservoir the opening is unobstructed, as the operator, by means of the pin 8, swings the cap 5 laterally to one side, as shown in Fig. 2, and then restores it to place when the reservoir is filled, in the one case giving a free opening for the admission of oil and in the other a tight joint, which will prevent leakage when the reservoir is inverted to be placed in the cup.

The wick-cylinder 10 is mounted upon the end of the arm 2, and contains the wick 11, which is tied to a feeding-cylinder, 12, the latter being operated by a ratchet, 13.

Located within the wick-cylinder 10, and having central arrangement, is a support, 14, upon the upper end of which is mounted a cap, 15, having its edge flaring outwardly until it is above the end of the wick 11 and substantially within the sphere of combustion. The lower end of the cylinder is open, giving free access to air, which as it passes up therein must be carried between the flame and the edge of the cap 15, thereby insuring more perfect admixture of the two. The cap also spreads the flame outward upon all sides, increasing the size, and thereby the illuminating power of the same. Draft is also provided for exteriorly to said flame by an opening, 16, surrounding the cylinder. The air entering outside thereof is deflected toward the wick by an inwardly-flanged plate, 17, surrounding the upper end of the wick-cylinder.

The chimney 18 is applied in the usual form, and a globe may be mounted upon the support 19, which is of the peculiar construction.

The wick-feeding cylinder 12 may be perforated to form a rack for the feeding-ratchet 13, but in such a construction the wick would necessarily be placed inside the said cylinder.

I do not claim a coiled spring encircling a valve-stem carrying a ball-valve for closing the orifice in the oil-reservoir, the valve-stem being extended so that the valve is moved from its seat when the reservoir is inserted in the cup.

My invention differs from the prior construction in that I provide a laterally-swinging flat or leaf spring which carries the cap to open and close the orifice in the reservoir, said spring by its inherent elasticity serving to hold the cap over the orifice to close the same, whereby I avoid the employment of bridges or guides to support valve-stems, as has heretofore been customary.

Having thus described my invention, what I claim is—

1. In a lamp having a wick supplied from a reservoir, the combination, with the cup and the reservoir having an orifice in its bottom, of a laterally-movable flat or leaf spring in the reservoir, a cap attached to one end of the spring, and a pin or rod mounted on the cap for moving the spring and cap laterally, substantially as described.

2. In a student's lamp, the combination, with the cap and the reservoir having an orifice in its bottom, of a laterally-swinging flat spring pivoted at one end to the reservoir, a cap attached to the other end of the spring, and a pin projecting from the cap for swinging the cap and spring laterally and also opening the orifice in the reservoir, substantially as described.

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

WILLIAM P. BUTLER.

Witnesses:

GEORGE S. MARKHAM,

ALMER H. WELLS.