

No. 820,151.

PATENTED MAY 8, 1906.

G. T. SUTTERLEY.
ALCOHOL LAMP.

APPLICATION FILED FEB. 3, 1905.

Fig. 1.

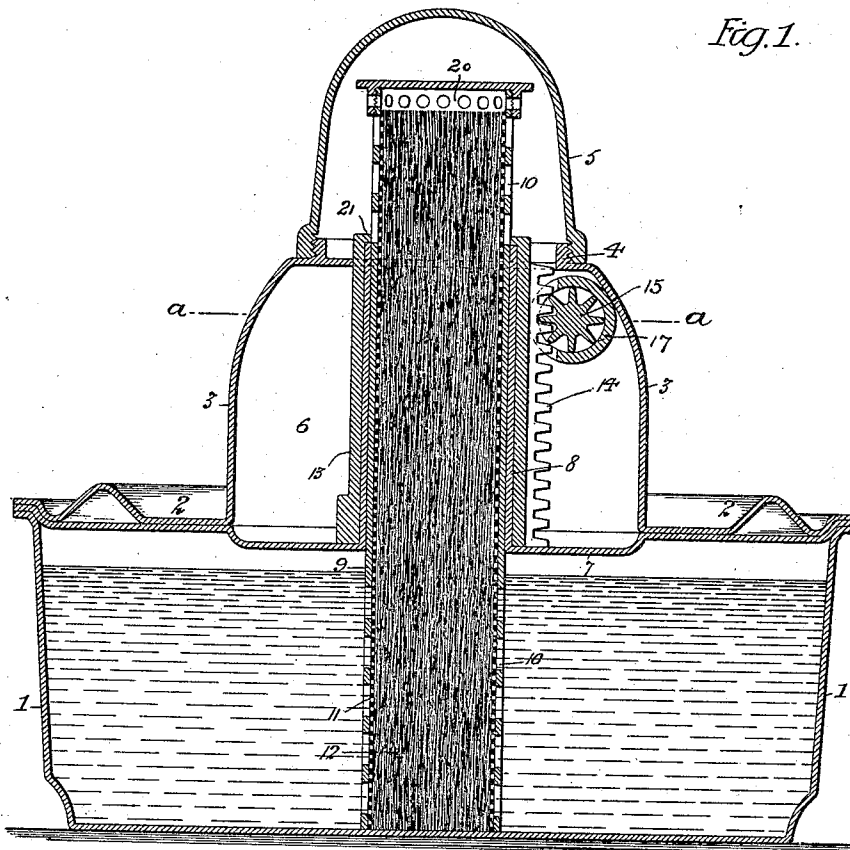
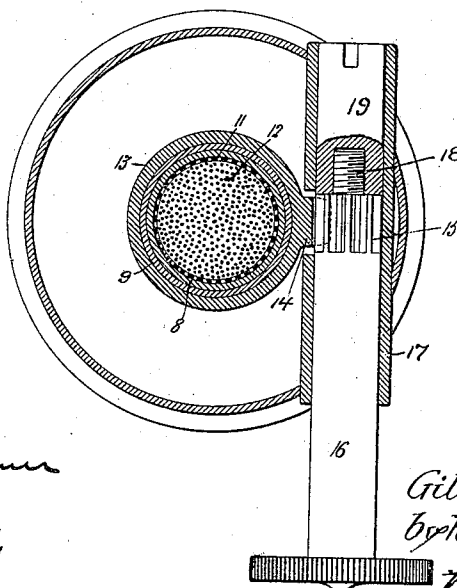


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GILBERT T. SUTTERLEY, OF BORDENTOWN, NEW JERSEY, ASSIGNOR
TO HIMSELF, AND GEORGE H. SUTTERLEY, OF PHILADELPHIA,
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ALCOHOL-LAMP.

No. 820,151.

Specification of Letters Patent.

Patented May 8, 1906.

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To all whom it may concern:

Be it known that I, GILBERT T. SUTTERLEY, a citizen of the United States, residing in Bordentown, New Jersey, have invented certain
5 Improvements in Alcohol-Lamps, of which the following is a specification.

My invention relates to that class of alcohol-lamps in which a stationary wick is combined with a sliding flame-regulator, the object of my invention being to so construct a
10 lamp of this class as to prevent leakage of alcohol from the font while the lamp is being carried about from place to place or in case it should be accidentally overturned and also
15 to prevent the alcohol from rising between the wick-tube and regulator after the flame has been extinguished but while the upper parts are still so hot as to reignite the alcohol if it reaches the same.

20 In the accompanying drawings, Figure 1 is a transverse sectional view, on an enlarged scale, of an alcohol-lamp embodying my invention; and Fig. 2 is a sectional plan view on the line *a a*, Fig. 1.

25 1 represents the font of the lamp, having a cover 2, which is provided with a central dome 3, the top of the latter having a threaded flange 4 for engagement with the threaded lower end of a cap 5, which is applied thereto
30 when the lamp is not in use. The dome 3 contains a chamber 6, which is closed at the bottom by a plate 7, the latter being preferably secured to the body of the font, together with the cover 2, as shown in Fig. 1, although
35 it may, if desired, be soldered or otherwise hermetically secured to said cover 2. The plate 7 has a central vertical tube 8, to the interior of which is snugly fitted the wick-tube 9, the latter projecting both above the top of
40 the tube 8 and below the bottom of the latter, the lower projecting portion extending, preferably, to the bottom of the font. Both the upper and lower projecting portions of the wick-tube have openings 10, and said wick-
45 tube has the usual gauze lining 11 and is filled with wicking 12, of asbestos, cotton, or other available fiber, as may be preferred, the alcohol gaining access to the wick through the lower openings 10 and through the gauze lining of the wick-tube and ascending the wick,
50 so that it can be ignited at the upper openings 10 in the wick-tube when the cap 5 has been removed.

The size of the flame depends upon the ex-

posed area of the upper openings 10, and this 55 is governed by the vertical movement of a tubular sleeve 13, which surrounds and plays freely upon the tube 8, said sleeve being raised and lowered by any suitable means—
60 as, for instance, by means of a spur or star wheel engaging with openings or notches in the sleeve or with a rack thereon, such rack being shown at 14 in engagement with a spur-
pinion 15, which forms part of a spindle 16, the latter being adapted to bearings in a tube 65 17, which passes through the dome, is suitably secured thereto, and is cut away at one side for the reception of the rack 14, as shown in Fig. 1. Projecting from the pinion 15 is a
70 reduced and threaded stem 18, upon which is screwed a threaded plug 19, which has its bearing in the tube 17 and forms, in effect, a continuation of the spindle 16.

In assembling the parts the spindle 16 is first inserted into the tube 17 from one end of 75 the latter until the pinion 15 meshes with the rack 14, whereupon the plug 19 is inserted from the opposite end of the tube and screwed upon the stem 18. The spindle 16 is then retained in position longitudinally by the rack 80 14, the latter engaging on one side with the shoulder on the spindle produced by the formation of the pinion 15 and on the other side with the shoulder presented by the inner end of the plug 19. 85

By locating the sliding sleeve 13 and its operating mechanism in a chamber which is hermetically sealed from the font I prevent leakage of alcohol from the font, such as might otherwise be caused by the splashing 90 of the same as the lamp is being carried from place to place or by the accidental overturning of the lamp, and by the use of the tube 8, to which the wick-tube fits snugly, I prevent that rise of the alcohol which sometimes takes 95 place between loosely-fitting parts after the flame has been extinguished, but while the upper parts of the lamp are still hot enough to ignite the alcohol if it reaches them.

The tube 8 serves as a filling-tube for the 100 lamp when the wick-tube has been withdrawn therefrom, and I prefer this construction, although the wick-tube may be soldered or otherwise permanently secured to the tube 8 or to the partition-plate 7 if the 105 top of the font is provided with a special filling-opening.

The wick-tube 9 has a vapor-chamber 20

above the wick, the walls of this chamber being perforated to permit of the escape of gas or vapor therefrom after the openings 10 have been closed by the sleeve 13, and to insure the extinguishment of the flame by the 5 rise of the sleeve on the wick-tube said sleeve has at the top an inwardly-projecting flange or rib 21, which fits snugly to the wick-tube and effectively prevents any access of air 10 thereto when the sleeve has been fully raised.

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

1. The combination in an alcohol-lamp, of the font, the wick-tube, a sliding regulator-sleeve outside of said tube, said font having 15 a chamber hermetically sealed from the alcohol-chamber and containing the regulator-sleeve, operating mechanism for said sleeve extending into said sealed chamber including 20 a rotatable spindle operatively connected to the sleeve, a tube extending completely through the chamber and serving as a bearing for said spindle, there being an opening in the tube through which connection is made be- 25 tween the spindle and the regulator-sleeve, with means for retaining the spindle in the tube, substantially as specified.

2. The combination, in an alcohol-lamp, of the font having a dome thereon, a plate her- 30 metically sealing the bottom of the outside of said dome and having an upwardly-project-

ing tube, a wick-tube fitted internally to the latter, and a sliding regulator-sleeve, mounted externally upon said projecting tube, and having at the top an inwardly-projecting rib 35 which contacts with the wick-tube, substantially as specified.

3. The combination, in an alcohol-lamp, of the wick-tube, the regulating-sleeve having a rack thereon, a spindle forming a pinion to 40 engage said rack, and having a reduced and threaded stem beyond said pinion, and a plug engaging said stem, substantially as specified.

4. The combination, in an alcohol-lamp, of the font having a dome above the same, the 45 wick-tube, the regulating-sleeve having a rack thereon, a tube passing through the dome and cut away for the reception of said rack, a spindle having its bearing in one end of said tube and having a pinion for engaging said 50 rack, and a threaded stem beyond said pinion, and a plug fitted to the other end of the tube and engaging said stem, substantially as specified.

In testimony whereof I have signed my 55 name to this specification in the presence of two subscribing witnesses.

GILBERT T. SUTTERLEY.

Witnesses:

WALTER CHISM,
JOS. H. KLEIN.