

No. 750,476.

PATENTED JAN. 26, 1904.

J. A. MOSHER & W. D. LEGGE.  
LAMP BURNER.

APPLICATION FILED AUG. 3, 1903.

NO MODEL.

Fig. 1.

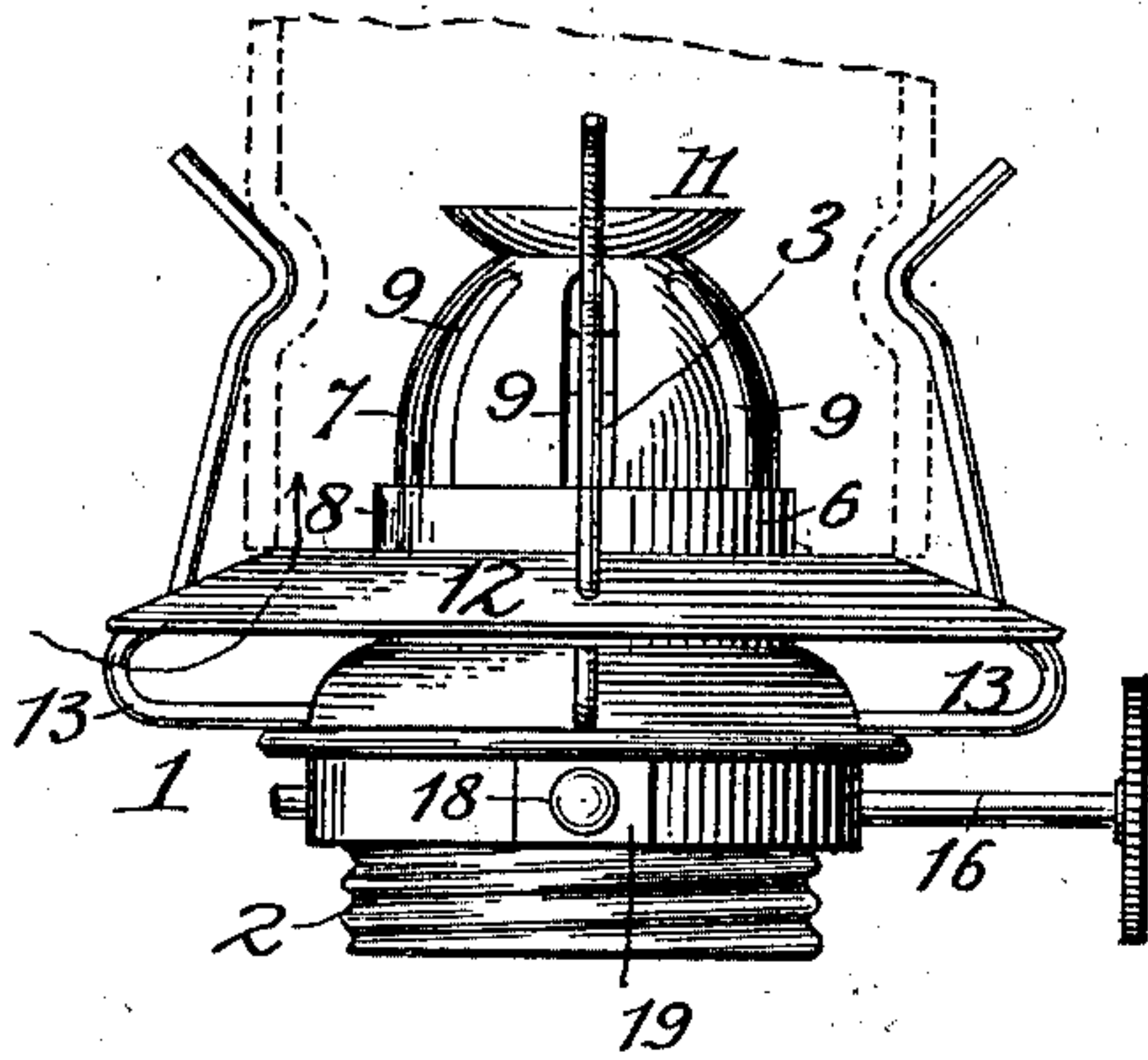


Fig. 3.

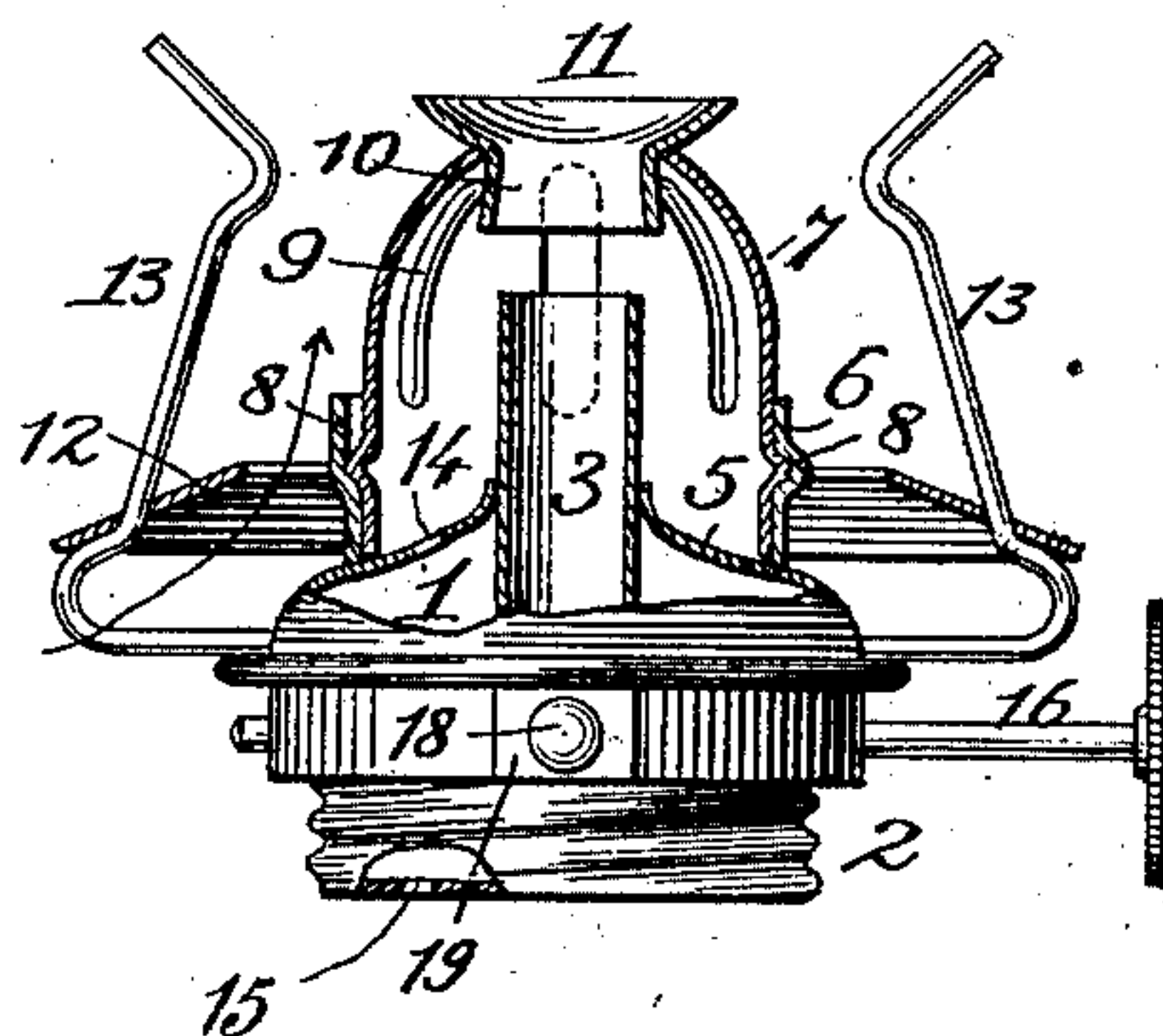


Fig. 2.

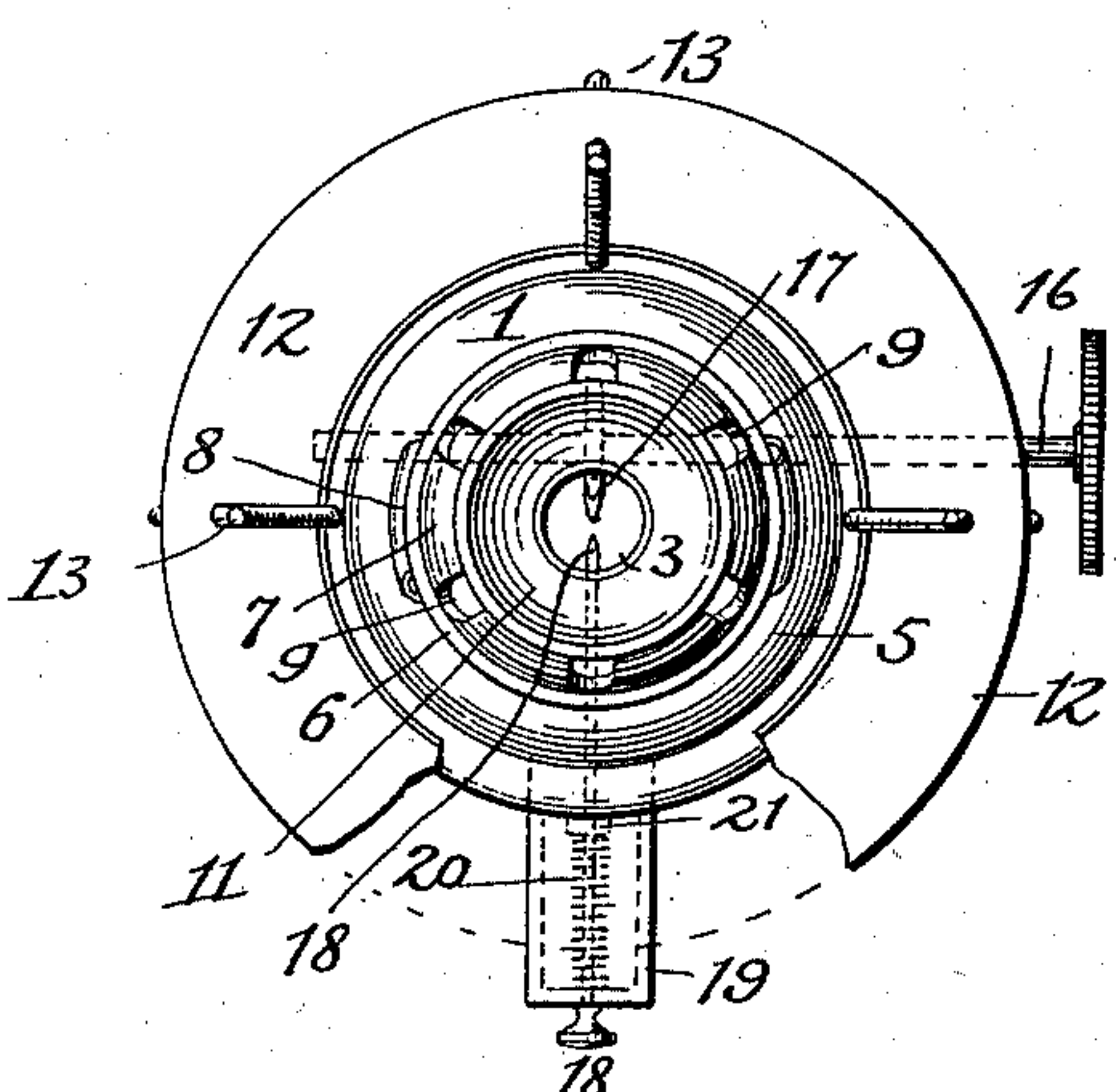


Fig. 4.

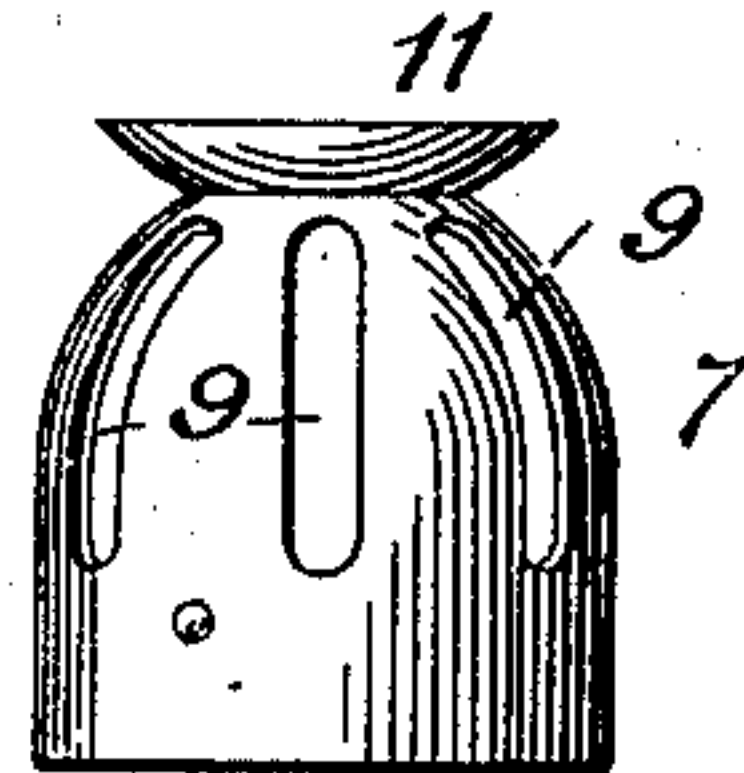
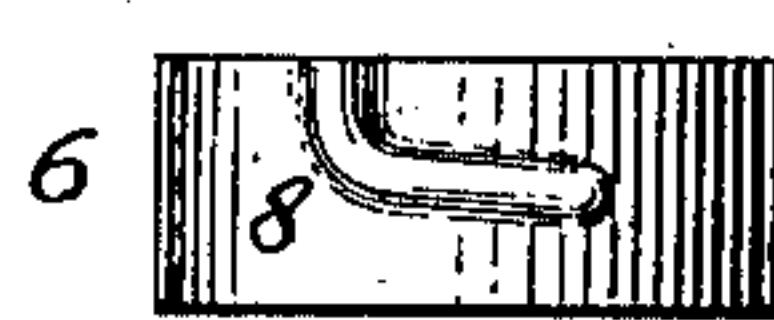


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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## LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 750,476, dated January 26, 1904.

Application filed August 3, 1903. Serial No. 168,092. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN A. MOSHER and WILLIAM D. LEGGE, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

10 This invention is designed for use with such switch, semaphore, and other stationary signal-lamps employed in railroad signaling as are intended to be supplied with oil only at long intervals—say from seven to eight days—  
15 and to remain without attention, such as is required for trimming of the wick, cleaning of the burner, &c., for an equal length of time. Under such circumstances it becomes important that the wick shall be prevented from  
20 charring, that its upper portion shall be kept cool, that there shall be no collection of gas or smoke due to the heating of the oil which shall either by natural means or by the jarring to which the lamp is exposed reach the flame,  
25 and thus cause the flickering of the light and the reduction of the power of the signal. In other constructions known to us the defects have been discovered, and it is our object to avoid them, thereby producing a clear steady  
30 flame and preventing smoke, gases, &c., from settling upon the lens, and thus retarding the rays of light passing through them.

A further object of our invention is to provide for the ready separation of certain parts  
35 of the burner for purposes of inspection, trimming the wick, cleaning, repair, &c.

This burner may be used with any approved form of signal lamp or lantern, and inasmuch as our invention is confined exclusively to the  
40 burner and certain adjuncts as herein described, it is not thought necessary to show the oil-font or the lamp or lantern with which they are employed.

Certain features herein illustrated do not  
45 form parts of the present invention, but con-

stitute the subjects-matter of separate applications filed herewith, as hereinafter more particularly stated.

In the accompanying drawings, Figure 1 is a side view of a lamp-burner embodying our  
50 invention. Fig. 2 is a plan view of the same. Fig. 3 is a vertical section. Figs. 4 and 5 are details hereinafter described.

The base part of the burner is represented by 1, it having a threaded portion 2 of reduced  
55 diameter for attachment to the oil-font. The wick-tube is shown by 3, it passing centrally through the portion 1, the latter being closed at its bottom 4 and having a domed top 5, the wick-tube extending through and above the  
60 latter, as shown. Surrounding the wick-tube and secured to the domed top 5 is the lower and stationary part 6 of the burner-cone, the upper and separable portion of said cone being shown by 7. The two parts 6 7 of the  
65 cone are detachably connected, preferably by means of bayonet-joints 8, as shown more particularly in Figs. 4 and 5.

Heretofore in burners designed to accomplish the ends for which our invention is intended the cone has been closed at its sides, so as to maintain a dead-air space within, whereas in our invention the upper separable portion 7 of the cone is provided with openings  
70 9, so that there shall be free circulation of air around and about the flame. We have discovered that this circulation of air within and throughout the cone is essential to the steady maintenance of the full power of the flame  
75 and to the prevention of such a collection of smoke and gas as retards the rays of light passing through the lens. The top of the separable portion 7 of the cone is provided with a flame-spreader consisting of a tubular  
80 portion 10 and an upper cup-shaped part 11. A space is provided between the wick and the inner wall of the tubular portion 10. In practice the oil drawn up to the flame and not consumed will drain back into the wick below the  
85 tubular portion 10. A free circulation of air  
90



being provided about the flame-spreader it and the wick are kept cool and all gumming of the former prevented. This form of flame-spreader prevents to a considerable degree the  
5 charring of the wick.

The chimney-gallery is shown by 12, it being connected with and supported by the base 1 of the burner through the medium of wires 13, each of which is curved outwardly at its  
10 upper end, said wires fitting in an annular groove in the chimney and serving to hold it in place when resting upon the gallery. This feature constitutes no part of our invention, but forms the subject of an application filed  
15 contemporaneously herewith in the name of William S. Hamm. The space between the inner diameter of the gallery 12 and the exterior diameter of the fixed portion 6 of the cone is such as to freely admit air from with-  
20 out to the cone and through its openings to the flame for purposes hereinbefore specified. The space inclosed by the walls of the burner-base is vented above and below, as at 14 and 15.

The wick-raising shaft 16, with its ratchet  
25 or star wheel 17, is fitted to and journaled in the base in the ordinary manner, and a wick-lock consisting of a pin adapted to be forced into the wick for holding it at a fixed height is shown by 18, it being supported by the base  
30 and a bracket 19 and normally forced inward through the medium of a spiral spring 20, confined between the outer end of said bracket and a collar 21, mounted upon the locking-pin. This lock feature forms no part of our inven-  
35 tion, but is claimed in an application filed herewith, Serial No. 168,082, in the name of said W. S. Hamm.

It will be seen that our invention prevents the formation of a dead-air space inside of the  
40 cone between the top of the burner and the apex of the cone and that means are produced whereby the brightness of the flame is maintained, the wick is prevented from charring, and the upper part thereof is kept in a  
45 cool condition, there being no chamber for the collection of gas or smoke due to the heating of the oil. Heretofore it has been found in burners of different construction and in  
50 which a dead-air space has been formed within the cone that the slightest jar will force this gas or smoke out of the inclosed space through the space around the wick at the apex of the cone or through the vent-hole at the base of the cone. If forced around the wick at the  
55 apex of the cone, the light is caused to flicker and the power of the signal is materially reduced. If it escapes through the vent-hole in the base of the cone, the constant jarring of the lamp causes the smoke to issue from the  
60 vent-hole in such quantities as to affect the signaling power of the light, thus reducing the rays that reach the lens and causing smoke to settle upon the lens, thus greatly diminish-

ing the rays of light which pass through the lens.

By making the upper portion 7 of the cone separable and attaching it to the fixed part 6, preferably by a bayonet joint or joints, said upper portion is rendered readily removable  
70 for the trimming of the wick or for cleaning the interior of the cone for purposes of repair or otherwise.

We do not restrict ourselves to the exact details of construction, combination, and arrangement herein set forth, it being obvious  
75 that minor variations thereof not involving the exercise of invention may be made by the skilled mechanic, and such departures from what is herein described and claimed not involving invention we consider as within the  
80 scope and terms of our claims.

Having thus described our invention, we claim—

1. In a lamp-burner, the combination of a chambered base, a wick-tube passing centrally  
85 therethrough, a cone the lower portion of which is secured to said base and the upper portion of which is provided with openings, and a flame-spreader seated within and extending beyond said cone, substantially as set  
90 forth.

2. In a lamp-burner, the combination of a chambered and vented base, a wick-tube passing centrally therethrough, a cone the lower  
95 portion of which is secured to said base and the upper portion of which is provided with openings, and a flame-spreader seated within and extending beyond said cone, substantially as set forth.

3. In a lamp-burner, the combination of a  
100 chambered and vented base, a lower cone-section secured to the dome of said base, an upper detachable cone-section provided with openings, and a flame-spreader seated within and extending beyond said cone and within  
105 the same to a short distance from the top of the wick-tube proper, substantially as set forth.

4. In a lamp-burner, the combination of a chambered and vented base, a lower cone-section  
110 secured to the dome of said base, an upper detachable cone-section provided with openings, and a tubular flame-spreader seated within and extending beyond said upper section of the cone and having a cup-shaped top,  
115 said spreader also extending into the cone to and within a short distance from the top of the wick-tube proper, the construction being such that a free circulation of air shall be provided  
120 for throughout the cone and around the apex of the wick-tube and said flame-spreader, substantially as set forth.

5. In a lamp-burner, a chambered base, a wick-tube passing centrally therethrough, and  
125 a cone the lower portion of which is secured to said base and whose upper portion is pro-

vided with openings, combined with a flame-  
spreader seated within and projecting beyond  
the cone and also within the same to a short  
distance from the top of the wick-tube proper,  
5 the construction being such that there may be  
a free circulation of air through the cone and  
about the apex of the wick-tube and the flame-  
spreader, substantially as set forth.

In testimony whereof we hereunto set our  
hands and seals.

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WILLIAM D. LEGGE. [L. S.]

Witnesses:

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WARD W. WILLITS.