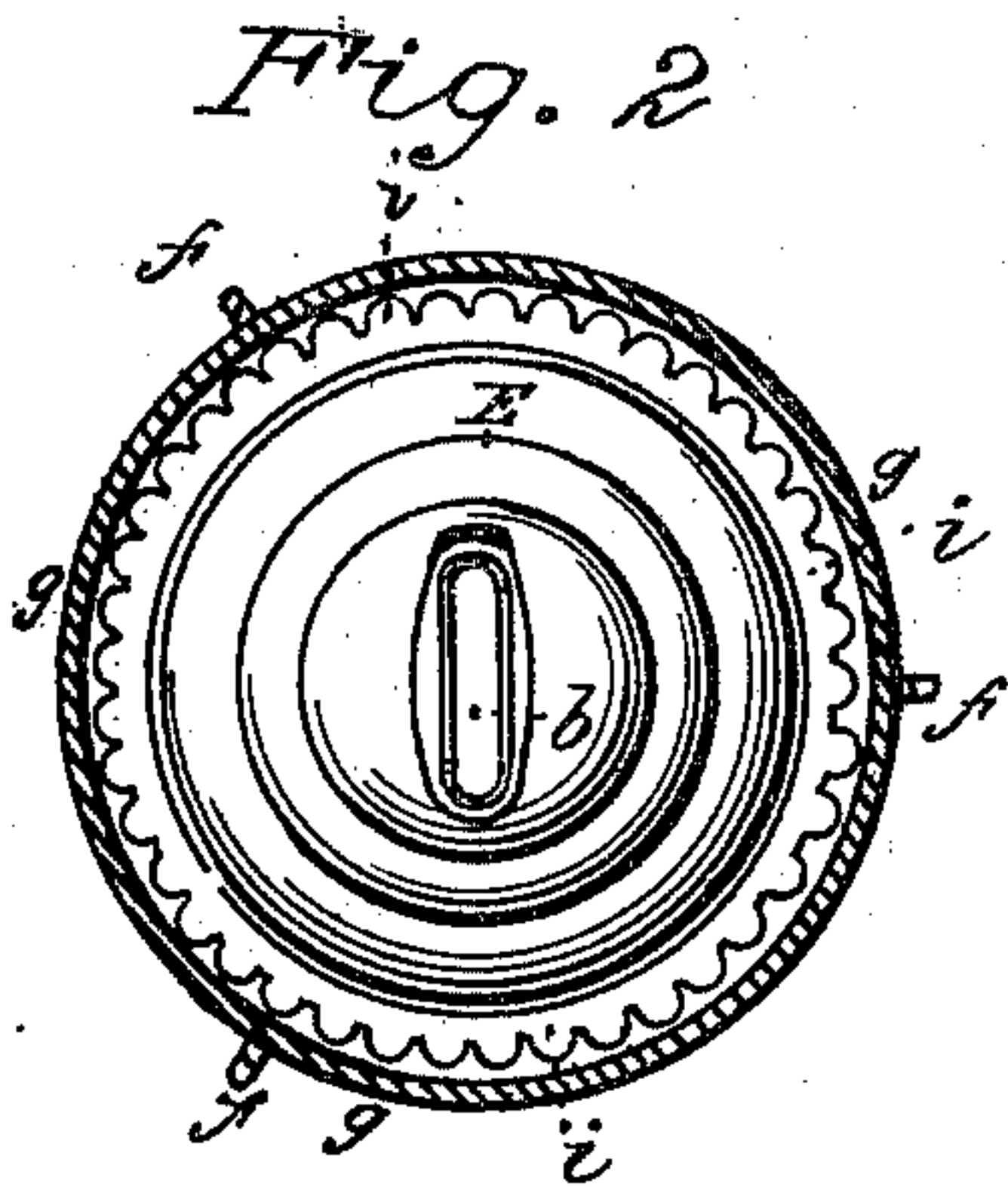
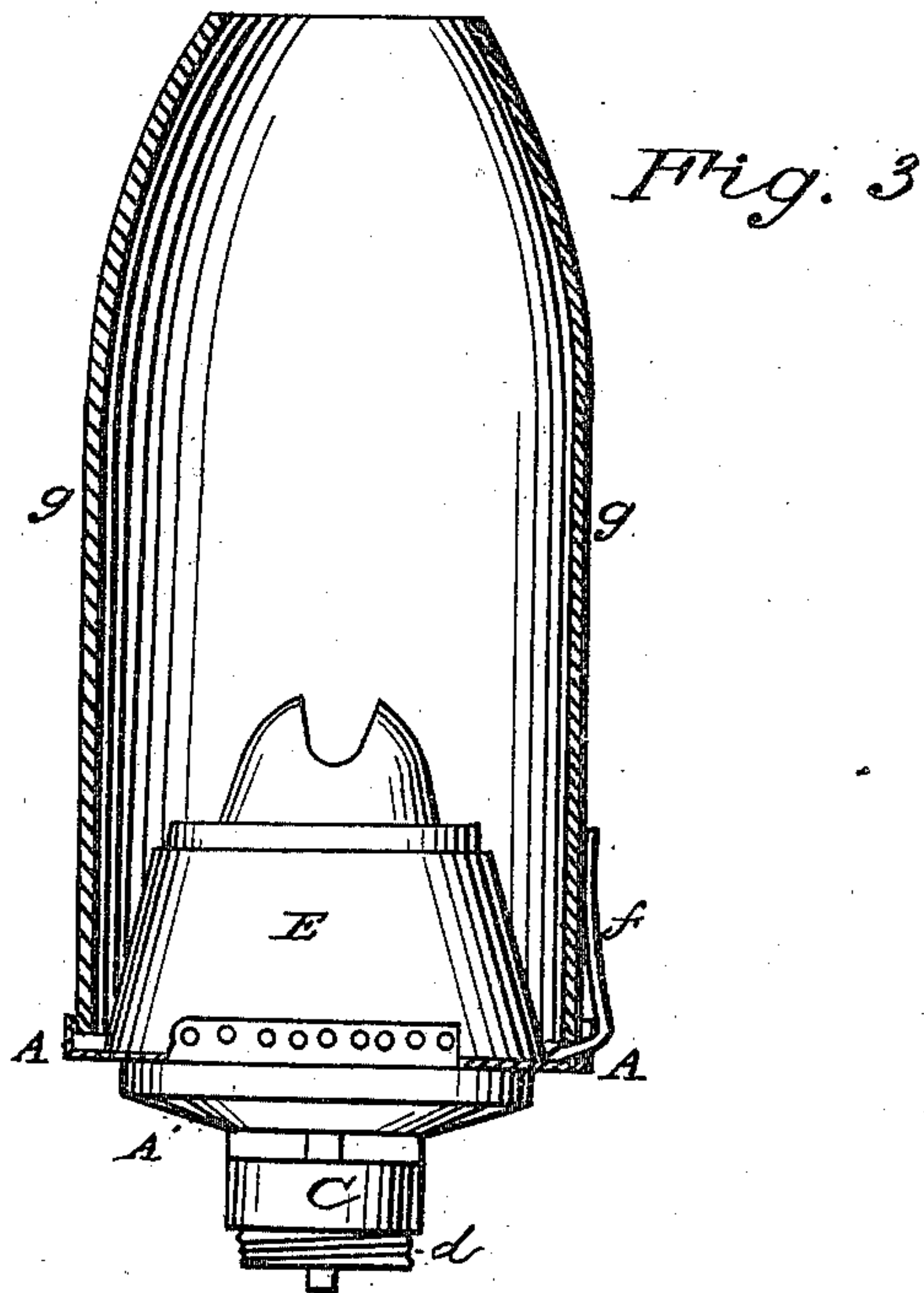
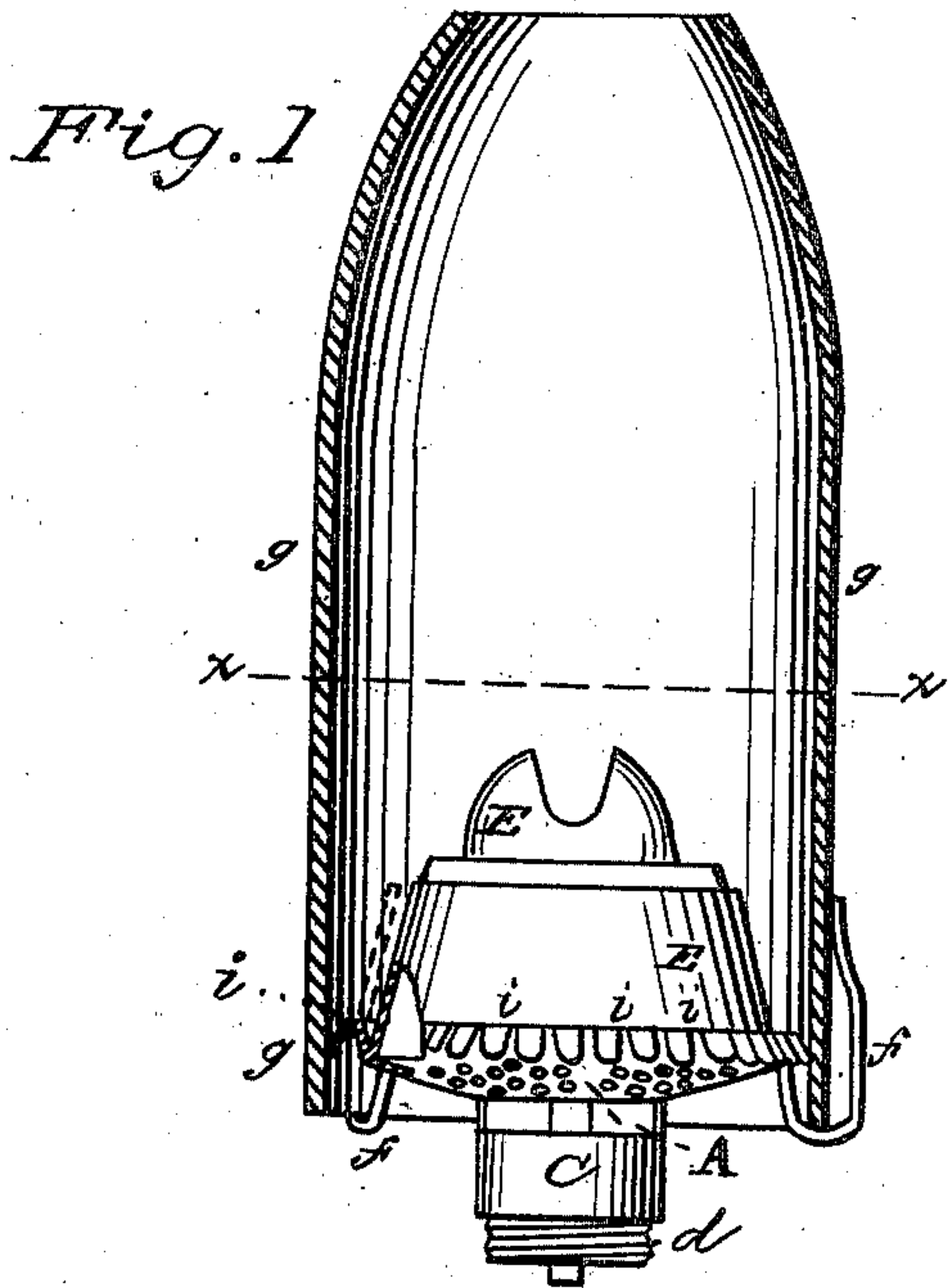


J. E. HEDRICKS.  
Lamp Chimney Holder.

No. 81,370.

Patented Aug. 25, 1868.



Witnesses  
*Am. C. M. Entire*  
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Inventor  
*Joseph E. Hedricks*  
By attorney,  
*J. M. Entire*

# United States Patent Office.

JOSEPH E. HENDRICKS, OF WATERBURY, CONNECTICUT, ASSIGNOR TO  
BROWN AND BROTHERS.

*Letters Patent No. 81,370, dated August 25, 1868.*

## IMPROVEMENT IN LAMPS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSEPH E. HENDRICKS, of Waterbury, New Haven county, in the State of Connecticut, have invented certain new and useful "Improvements in Lamps;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to that class of lamps which are adapted to the burning of liquid hydrocarbon, and has for its objects to render this kind of lamp capable of a more effectual retention of the chimney, while at the same time it shall be simple and economic in its construction, and perform its functions of combustion and illumination perfectly.

Previous to my invention it has been customary to construct or manufacture some lamps (or lamp-burners) with a flat annular rim, on which the base of the chimney rested, and on which it was held by some sort of retaining-spring or catch. Others have been made in which the chimney was supported upon several springs, the bent-up ends of which clasped the exterior of the chimney; others in which the chimney has been supported on a base-rim, and held in position by a series of radial springs pressing against its internal surface, as described in Letters Patent, granted September 19, 1865, to M. H. Collins; and others with the chimney sustained and retained in position also by a series of radial springs pressing against the internal surface of the chimney, and hooked under its lower edge or base, as described in Letters Patent, February 11, 1868, to W. Mullally.

But to all of these several methods of construction or manufacture, there exist in practice serious objections.

There the chimney rests upon an annular rim or flat base support, there is a great tendency and liability in the chimney to become displaced or ride up out of its proper position on account of the unevenness of its bottom edge or base, and this displacement leads either to an undue admission of air (in consequence of the base of the chimney being cocked up on one side) or often, what is worse, to the falling off and destruction of the chimney while carrying the lamp about. And this serious difficulty is encountered, to a greater or less degree, in all the known methods of construction with which I am familiar.

I propose to overcome these objections by my invention, which consists in so constructing or manufacturing the lamp as to afford a rest or support at several points for the base or lower edge of the chimney, and so as to clasp the exterior of the chimney some distance above the base, and also exert a spring pressure against the interior of the chimney, between the points of exterior pressure and base support, as will be hereinafter more fully described.

To enable those skilled in the art to make and use my invention, I will proceed to describe it more fully, referring by letters to the accompanying drawings, in which—

Figure 1 is a vertical section of a lamp-burner and chimney embracing my invention.

Figure 2 is a horizontal section of same at *x x*, fig. 1, and

Figure 3 is a vertical section of a burner and chimney, embracing only a portion of the features of my invention, and as heretofore made.

A is the base of the burner, which, as usual, is made foraminous or perforated. *b* is the wick-tube, which extends up (through the base, A,) from the hollow holder or shell C, which latter carries the ordinary wick-elevator or adjuster, and which is formed with a screw-thread at *d*, and is adapted to screw on to the mouth of the lamp-body. E is the usual cone or deflector which is placed around the wick-tube, and which rests on the perforated base, A, in such manner that suitable currents of atmospheric air can pass up through the perforations *i* of said base, A, both inside and outside of said cone E.

The base, A, in lieu of being formed (in the customary manner) with a turned-up flanch, and so as to support the chimney *g*, as seen at fig. 3, is formed, as shown at figs. 1 and 2, with numerous radial spring-leaves *i i*, &c., between which are left open spaces for the free passage of currents of air to the outside of the cone E and interior of chimney *g*.



These leaf-springs *z z* adapt themselves to the internal surface of the chimney, near its base, and to its diametric irregularities, and press with a proper degree of force outward against the chimney. *f f* are three or more spring-holders. They may be shaped as illustrated, and they not only hold up or support the chimney *g*, which rests at its lower edge on them, but they also clasp the exterior of the chimney above the point at which the springs *z* press outward against the internal surface of said chimney, as clearly shown. At fig. 3, I have shown a lamp in which the spring-clasps *f* are so arranged with the base *A* that the lower edge of the chimney does not touch the said base *A*, (or its rim portion,) but rests wholly on the roots of the springs *f*. By this mode of construction the chimney is more effectually held in position, because its base will rest only on three points, and any protuberances on its lower edge will not cause it to rock, as in cases where the lower edge rests on a continuous surface. But this known mode of construction lacks the advantageous feature of the combined functions of the base-support, internal spring-pressure, and external spring-clasp, made the subject of my invention.

The operation of the burner, with regard to combustion and illumination, is about the same as in other similar apparatus.

The chimney *g*, it will be understood, is inserted in between the clasping-springs *f*, (which have to be slightly pressed apart for its reception,) and then forced down around the spring-lips *z z*, &c., (which yield and adapt themselves to press against the interior of the chimney,) until it rests firmly on the supporting or loop portions of *f f*, as clearly seen at fig. 1.

It will be understood that in an apparatus constructed and operating as described, not only is the lower edge of the chimney *g* (which is often found to have protuberances on it, and to be rough and uneven) afforded a firm rest, being supported merely on a few points, but it is clasped from without by the series of springs *f* some distance above the base, and at a point intermediate between where it is so clasped and the base support. It is held securely by the friction or spring-pressure of the internal springs *z z*, &c. By this combination of holding-devices, not only is the chimney firmly held in position, and effectually retained on the lamp when the latter is jostled or carried about, but these advantages are gained without the employment of a retaining-force or spring-pressure so strong as to cause the breakage of the glass chimney, and without regard to any preciseness or regularity in the diameter and shape of the base and lower portion of the chimney.

It has been found heretofore that if the retaining-springs were made stiff enough to insure the retention of the chimney, then they would cause the destruction of the chimney, (not yielding easily enough as the latter expanded,) but by my combination of devices I am enabled to hold the chimney securely, and at the same time employ a degree of spring force or pressure which permits the free expansion and contraction of the chimney without any danger of breaking it.

Having fully explained the nature and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

The sustaining and clasping-springs *f*, adapted to support the base of the chimney below the base of the burner, in combination with the internal spring-holder, formed on the rim of the base, the whole arranged to operate substantially as shown and described for the purposes set forth.

In testimony whereof, I have hereunto set my hand and seal, this 15th day of July, 1868.

JOSEPH E. HENDRICKS. [L. s.]

Witnesses:

GEO. E. TERRY,  
ANSON F. ABBOTT.