

(No Model.)

E. HUMPHREY.
OIL BURNER FOR LAMPS OR STOVES.

No. 539,813.

Patented May 28, 1895.

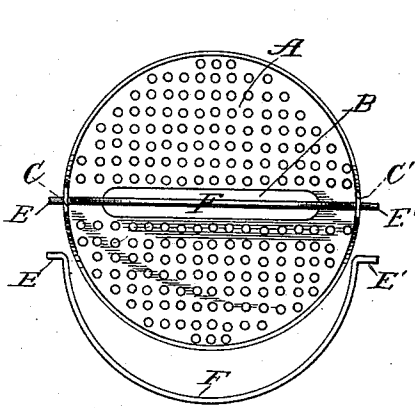


Fig. 1.

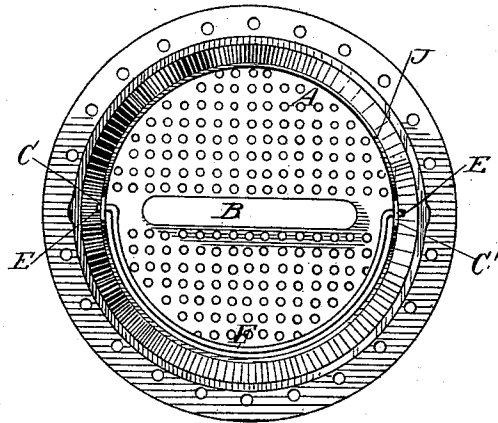


Fig. 2.

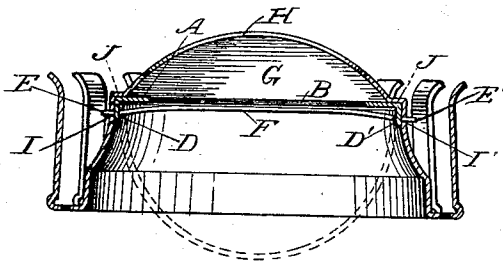


Fig. 3.

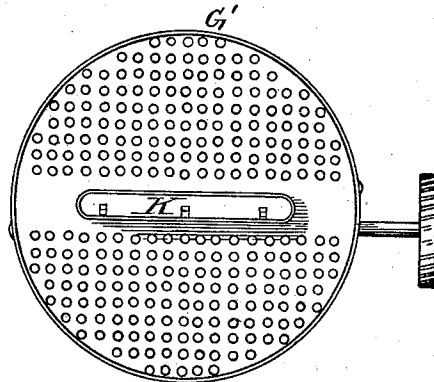


Fig. 4.

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OIL-BURNER FOR LAMPS OR STOVES.

SPECIFICATION forming part of Letters Patent No. 539,813, dated May 28, 1895.

Application filed February 4, 1895. Serial No. 537,198. (No model.)

To all whom it may concern:

Be it known that I, EUGENE HUMPHREY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Oil-Burners for Lamps or Stoves, which will, in connection with the accompanying drawings, be hereinafter fully described and specifically defined in the appended claims.

My invention has for its object to provide a detachable platform or flame-support in place of the fixed supports such as are employed in the burners described in Letters Patent of the United States, to Charles Trench, Nos. 418,427 and 498,198, granted December 31, 1889, and May 23, 1893, respectively, in which such flame rest or support is variously termed a "perforated platform," a "foraminous apertured insulator," and the "seat of the flame;" its principal purpose in both patents being to serve, instead of the top of the wick tube, as the seat of the flame when the wick is ignited, and to act as an insulator in cutting off the flame from the top of the wick tube and thereby preventing the heat of combustion from descending by conduction through the tube to the oil fount. The second of the above patents refers to the first, and states its object to be "to obviate radical defects of construction existing in said patent." In both said patents the "insulator" is secured to the cone, or deflector, by means of arms terminating in tongues which project through slots in the wall of the cone and are "securely clinched." The "firm adjustment within the cone or deflector" of the insulator in the manner stated, renders it impractical to detach the same temporarily for purposes of cleaning, and it is therefore objectionable, in that it is inaccessible for such purpose, and affords no opportunity to get at the interior of the dome of the deflector to remove therefrom any smut or dirt which may accumulate thereon.

My invention, hereinafter described, obviates that objection and difficulty while simplifying the construction and facilitating the application of the insulator to the cone.

In the accompanying drawings, Figure 1 is a plan of my detachable insulator and the spring-fastening by which it is secured to the cone of the burner. Fig. 2 is a view of the

cone inverted and showing my insulator detachably secured therein. Fig. 3 is a sectional elevation of the cone right side up with the insulator in position therein, the section being vertical and taken longitudinally through the flame-slot in the cone. Fig. 4 is the base of the burner from which the cone shown in Fig. 2 is removed, disclosing the usual wick-tube, the foraminous platform surrounding the same, and the means for raising and lowering the wick in the tube.

The burner illustrated, to which my improvements are attached as shown, is styled "the solar," and is common and well known. It is not deemed necessary to further describe the same in detail beyond the parts to which my invention applies; it being understood that when the cone is in its proper position upon the base of the burner, the flame platform, or insulator, attached thereto will rest above the top of the wick tube, as set forth in the patents above referred to, and for the purposes therein stated. In my present invention said platform or insulator A. consists of a perforated disk having a diametrical wick-slot B. therein, the sides of which are stiffened by turning their edges at right angles to the plane of the disk. It also has two ears C. C'. on the periphery of the disk, one opposite each end of slot B., and turned at right angles to the plane of the disk in a direction opposite to the turned edges on the sides of slot B. The ears are perforated at D. D'. to receive the bent ends E. E'. of the spring F., the body of which is bent to a semicircular form in practical conformity to the circumferential outline of the insulator A., while its ends are bent diametrically outward forming short suspension points by which the insulator is detachably connected with the cone as will be explained. The cone G. has the usual flame slot H. below the ends of which are perforations I. I'. arranged in a vertical plane extending longitudinally through the center of said slot. When the insulator is placed properly in the cone the holes in its ears will coincide with the holes I. I'. in the cone, and will receive the suspension points which when compressed into the cone will be thrust through the perforated ears and cone and retained therein by the elastic force of the spring F., thereby securely, but detachably connecting

the insulator and cone; the spring being suspended in the holes in the cone, and the insulator being suspended by its ears on the points E, E'. It will be readily seen that the operation of attaching the insulator to the cone and detaching it therefrom, by the means of said spring is very simple and expeditious. The spring points being self-retaining in the ears and cone, no clinching or other means is necessary to render it sufficiently stable. To remove the insulator, it is only necessary to press the ends of the spring inwardly until they are withdrawn from the perforations in the cone and the holes in the ears C, C', when the insulator, being thus deprived of all support in the cone, is free to drop out by its own weight; or, if the insulator fits tightly within the cone, by exerting only a gentle pressure on one or both ends of the spring, pressing the end or ends inwardly only far enough to free the perforations in the cone, but without withdrawing them from the holes in the ears, the insulator may be pulled out by the spring without taking hold of the insulator itself, using the spring as a bail or handle, and thus avoiding soiling the fingers by contact with said insulator. To facilitate this operation of attaching and detaching the insulator, the bow of the spring should be swung outward from the insulator platform into the position indicated by dotted lines in Fig. 3.

The bow, when the spring is in place and the burner upright, usually lies against the under side of the rim of the disk, on one side or the other of the wick slot, being held in that position against its gravity by the friction caused by the expansive force of the spring at the ends. When the insulator is thus suspended upon the spring points within the cone, it bears against the wall of the cone which narrows or tapers above the insulator so that it prevents its oscillating or rotating upon the spring points, which points hold it firmly against displacement in any other manner, and with its wick slot in proper alignment with the opening in the wick tube K., and with the flame slot H. in the top of the cone.

In the style of burner shown, the cone abruptly narrows at the point where the insulator is located, forming a circular seat J. against which the rim of the insulator bears, and is supported all around against oscillation. A gradually tapered cone would laterally support a properly fitted disk against such oscillation.

It will be understood that when the insulator is to be detached the cone portion of the burner is removed from the base G' in the usual way, according to the construction of the parts forming the burner.

It is not necessary that the ears C, C',

should be located opposite the ends of slot B. They may be arranged diametrically opposite each other on any part of the rim of the insulator, provided corresponding holes are made in the wall of the deflector; but it is essential that the slots B. and H. should be in vertical alignment with each other and with the opening in the wick tube. The arrangement shown is preferred.

By my improvements the construction of the insulator is simplified. The labor of preparing the cone to receive the same is lessened; and the operation of attaching it to the cone is greatly facilitated, besides the principal important advantage of its being conveniently detachable, at will, for the purposes stated.

I claim—

1. The combination of a burner cone, a flame support and insulator located interiorly of the cone slightly above the level of the end of the wick tube, and a locking device for securing the support in place within the cone, said locking device being releasable so as to permit the removal of the support for cleaning and to afford access into the top of the cone from beneath; substantially as described.

2. The combination of a burner cone, a flame support and insulator located interiorly of the cone slightly above the level of the end of the wick tube, and a spring locking device for detachably securing the support within the cone, said spring being removable with the support so as to leave the interior of the cone entirely unobstructed; substantially as described.

3. The combination of a burner cone having an interior shoulder, a flame support and insulator resting upon or against said shoulder and occupying a position slightly above the level of the end of the wick tube, and a releasable locking device engaging the support on the opposite side from the shoulder and acting to hold said support against the shoulder and detachably lock it in place within the cone; substantially as described.

4. The combination of the burner cone G, having perforations I in its side walls, the flame support and insulator A, having ears C, C', provided with perforations corresponding with those in the walls of the cone, and a spring F located within the cone, the ends of the spring being adapted to pass outwardly through the perforations in the ears and the cone wall to detachably lock the support in place within the cone; substantially as described.

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