April 10, 1928. 1,665,799

A. B. SMITH

INCANDESCENT LAMP

Filed Oct. 26, 1925 2 Sheets-Sheet 1

Fig. 1.

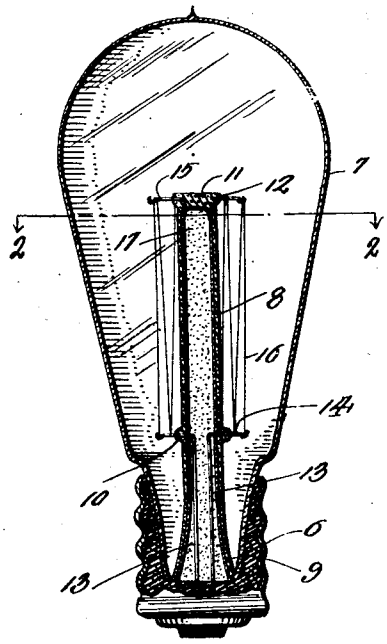

Fig. 3.

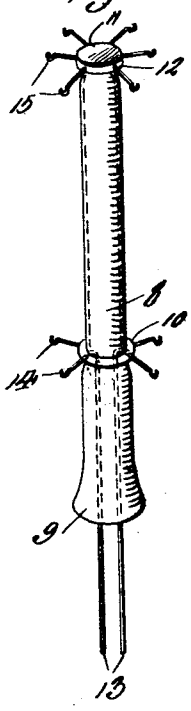

Fig. 2.

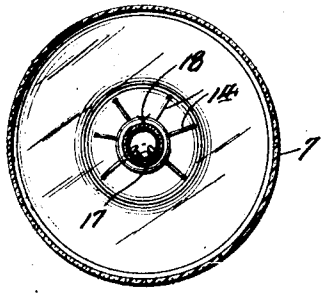

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Fig. 4.

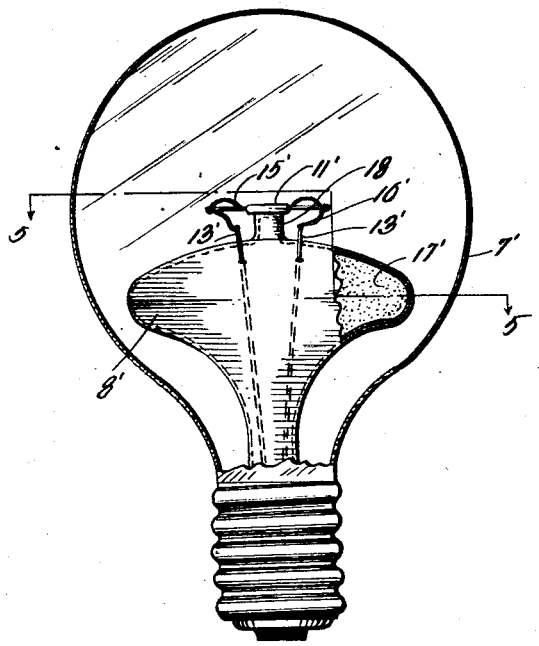
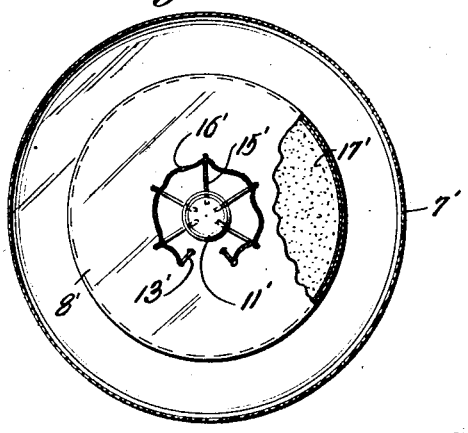


Fig. 5.



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UNITED STATES PATENT OFFICE.

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INCANDESCENT LAMP.

Application filed October 28, 1925. Serial No. 65,437.

The present invention relates to incandescent lamps.

The principal object of the present invention is to equip the filament supporting stem with suitable reflective material in order to augment the volume of the light ray.

A further object of the invention is to make the filament supporting stem hollow throughout and to apply a reflective material thereto in order to effect increased illumination notwithstanding the use of standard filaments made from carbon, tungsten, tantalum, etc.

A further object of the invention is to provide means for magnifying the light ray emanating from the filament which is adaptable for use in electric bulbs of standard construction mountable in a socket in the usual manner.

Other objects of the invention will be understood from the following description taken in connection with the accompanying drawings, wherein:—

Fig. 1 is a longitudinal sectional view of an elongated type of incandescent lamp embodying the present invention.

Fig. 2 is a cross sectional view taken on the line 2—2 of Fig. 1 looking in the direction of the arrows;

Fig. 3 is a perspective view of a filament stem constructed in accordance with the present invention;

Fig. 4 is a longitudinal sectional view of a modification of the present invention; and

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 4 looking in the direction of the arrows.

The form of invention illustrated in Figs. 1 to 3 consists of a base or plug 6 of substantially standard construction which is adapted for engagement in a socket in a manner well known in the art. A bulb 7 of the elongated type is mounted in the socket 6 and has concentrically arranged therein a stem 8 constructed in accordance with the present invention. The base of the stem is preferably flared outwardly so as to provide a bell shape terminal, as indicated at 9, which impinges against the bottom of the recess formed in the plug 6. At a point just beyond the end of the plug from which the bulb 7 extends, the stem is thickened, as indicated at 10, in order to provide an annulus for a purpose hereinafter described. The stem is hollow throughout its length but is closed at its outer end 11 and is thickened to provide a ring or annulus 12 similar to the annulus 10.

Leading in wires 13 extend from the base 6 in the usual manner and project outwardly through the inner end of the stem 8. The outer terminals of these wires are engaged with a spider generally designated 14 which in the present instance consists of a series of supporting hooks, of the type now used in the art, which radiate from the annulus 10. The spider may be connected to the leading in wires by platinum or other suitable metal having a coefficient of expansion equal to the coefficient of expansion of the glass at a point where the wires extend through the annulus 10. A similar spider generally designated 15 and also comprising a series of hooks, radiates from the annulus 12. The spiders 14 and 15 are engaged by a filament 16 which may be composed of any metal now used in the art in this capacity.

In order to magnify the volume of light ray emanating from the filament I coat the inner surface of the stem 8 with a film of silver 17, which, as shown in Fig. 1, covers the entire interior of the stem. The stem is, of course, made of plain, clear glass and, consequently, acts as a mirror, for reflecting the light rays, in a manifest manner.

Where it is desired to use a round type of bulb it is generally preferred to use a complemental stem structure in order to bring the light reflector into closer proximity to the bulb. Consequently, in Figs. 4 and 5 of the drawings I have illustrated a round type of bulb, designated 7′, which has mounted therein a stem 8′. The inner end or base of the stem is mounted in the base of the bulb in the same manner as the stem 8, but the outer end thereof is flared so that it is of substantially elliptical contour in side elevation, as shown in Fig. 4 and of substantially circular configuration in plan, as shown in Fig. 5. In this form of invention, the leading in wires 13′ extend outwardly beyond the outer terminal of the body portion of the stem in close proximity to a mount 18 which issues from the outer end of the stem and has its outer terminal thickened to provide an annulus 11′. The annulus has a spider 15′ radiating therefrom which supports a cylinder 16′. This cylinder is carried by the spider and has its terminals engaged with the leading in wires 13′. The interior of the stem 8′ is coated with a film of silver 17′, this film extending

outwardly into the mount 18, as shown by the dotted lines in Fig. 4. Consequently, the mirrored reflecting medium herein employed is brought into as close proximity to the filament as possible. It is apparent that the configuration of the stem 8′ and the manner of mounting the same in the bulb affords a maximum reflection from the filament.

From the above it is apparent that the principle of the present invention embodies associating a reflective medium with the filament in order to augment the volume of light obtained without appreciably increasing the cost of the bulb because of the fact that the reflecting means forms a part of the stem which is necessary to support the filament. It is, of course, to be understood that various changes may be made in this device within the scope of the claim hereto appended.

What is claimed is:—

An incandescent lamp of the character described, including a plug having a recess therein, comprising a bulb mounted in said recess, a hollow filament supporting member, comprising a circular head having the upper surface thereof convexed and having the under side drawn downwardly to provide a supporting stem of relatively small diameter and secured in said plug, a filament mount comprising a short upstanding member arranged centrally upon the upper surface of said head, means carried by said mount for supporting the filament in close proximity to the head, and reflector means coating the interior surface of the head and stem.

In testimony whereof I affix my signature.

ARTHUR B. SMITH.