Dec. 24, 1940. C. W. ANKLAM 2,225,816

LAMP

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FIG.1.

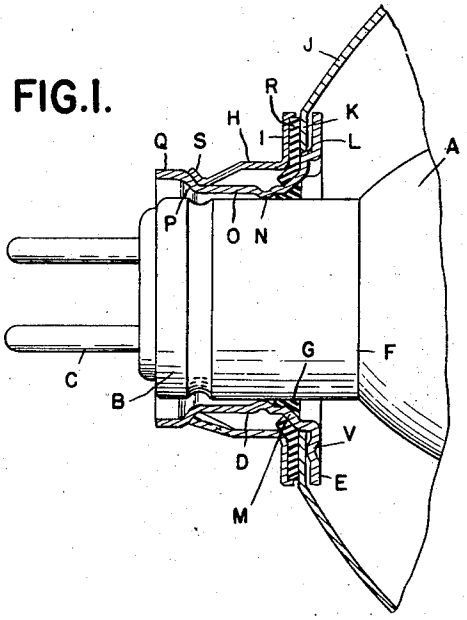


FIG.2.

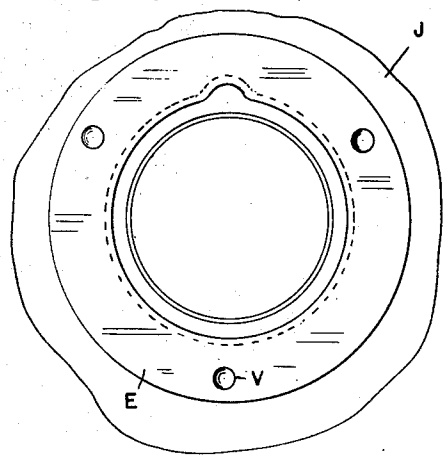


FIG.3.

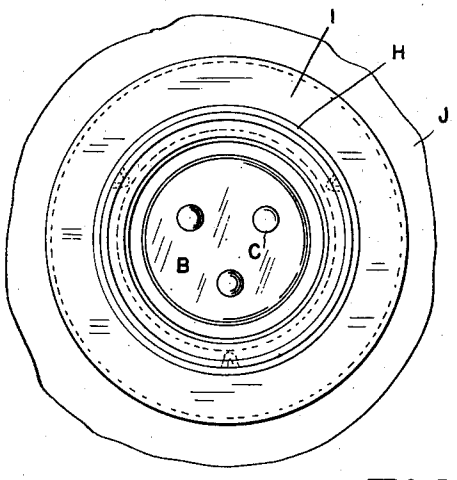


FIG.4.

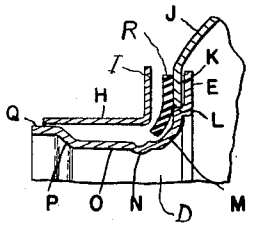
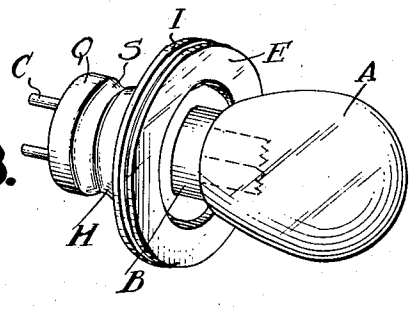


FIG.8.



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FIG.6.

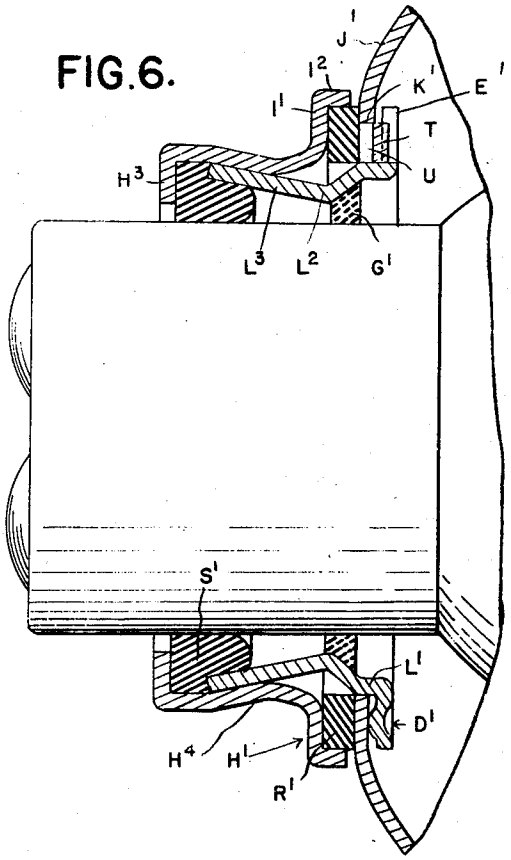


FIG.7.

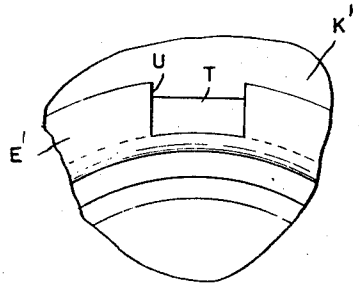
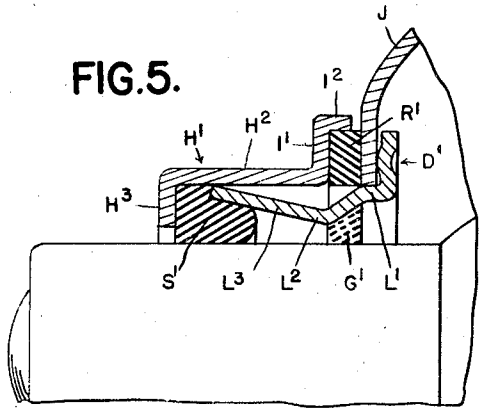


FIG.5.



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UNITED STATES PATENT OFFICE

2,225,816

LAMP

Charles W. Anklam, Detroit, Mich., assignor to C. M. Hall Lamp Company, Detroit, Mich., a corporation of Michigan

Application February 6, 1939, Serial No. 254,943

4 Claims. (Cl. 176—34)

The invention relates to electric lamps such as used on motor vehicles and has for its object the obtaining of a simple construction for permanently mounting the lamp bulb in fixed relation to the light projecting means. Heretofore it has been the practice to detachably mount the bulb in the lamp casing so as to permit of quick exchange. However, this necessitates opening the lamp casing, and frequently results in damage to the polished reflector or some other part of the lamp. Also, at times the bulb is improperly positioned so as to lessen its efficiency in the production of a proper light beam. To overcome these objections I have devised a construction of mounting for the bulb which seals it within the lamp housing in focused relation to the reflector. This mounting is of such a character as to require special tools for the installation of the bulb, and also for its release where exchange is necessary. Consequently, any exchange on the road must be of the entire light projecting unit, the old unit being returned to the shop for reconditioning. The invention, therefore, consists in the novel construction as hereinafter set forth.

In the drawings:

Figure 1 is an axial section through a portion of a lamp casing showing my improved mounting for the lamp bulb;

Figure 2 is a front elevation thereof;

Figure 3 is a rear elevation;

Figure 4 is a view similar to Figure 1, showing the parts before they are clamped in fixed relation;

Figures 5 and 6 are longitudinal sections of a slightly modified construction respectively illustrating before and after contraction of the outer sleeve;

Figure 7 is an end elevation showing the means for rotatively locating and locking the bulb with respect to the casing.

Figure 8 is a perspective view of the lamp with the outer casing omitted.

In recent years certain constructions of electric light bulbs for vehicle lamps have been provided with positioning means in predetermined relation to the filament. This permits of mounting the bulb in exact focal relation to the reflector. With my improved mounting the bulb is provided with such positioning means and has in addition thereto, means for permanently securing and sealing the bulb within the lamp casing. In detail, A is the light bulb having a shank portion B and terminals C projecting from the rear end thereof. D is a sleeve for engaging the shank B and provided at its forward end with a radially outwardly projecting flange E for constituting the positioning means. This sleeve is secured to the shank during the manufacture of the bulb so that the flange E is in exactly predetermined relation to the filament or filaments within the bulb. Preferably, this is accomplished by soldering to the peripheral metallic band F of the shank, as indicated at G, the solder joint extending completely around and forming a seal. H is a second sleeve for telescopically engaging the sleeve D and provided at its forward end with a radially extending clamping flange I. J is a portion of the reflector which is centrally apertured to fit about the sleeve D and has a surrounding seat portion K for the positioning flange E. The sleeve D is preferably fashioned with a cylindrical portion L which extends through the reflector and exactly fits the aperture therein. In rear of this cylindrical portion is an inclined or conical portion M terminating in an inwardly extending annular bead portion N which fits about the band F. O is a substantially cylindrical portion extending rearward from the bead N, and P is a flaring conical portion in rear of the portion O and terminating in a substantially cylindrical portion Q of a diameter to fit within the sleeve H.

With the construction as thus far described, to mount the bulb it is inserted in the reflector with the sleeve D passing through the aperture therein, and the flange E engaging the seat portion K. An annular gasket R is then placed in rear of the reflector and so as to engage the conical portion M of the sleeve D. The sleeve H is then telescoped over the portion Q, so that the flange I will bear against the gasket R. The rear end of the sleeve H is then contracted by the use of a suitable tool or dies conforming a portion S thereof to the flaring portion P, and thereby producing a forward thrust which clamps the flange I and gasket R against the reflector J and flange E. Also, to insure more exact positioning, the flange E is provided with three struck-out projections V on its rear face, which form point bearings against the seat K. When thus assembled, the bulb cannot be detached from the reflector without first cutting and destroying the sleeve H.

Figures 5 to 7 show a slightly modified construction in which extra precaution is taken to hermetically seal the bulb to the reflector. Also, the sleeves D' and H' are slightly modified from the construction previously described. As shown, the sleeve D' is attached to the shank of the bulb by solder G', but this is not depended upon to

form a hermetic seal. The sleeve D' has a cylindrical portion L' for engaging the aperture in the reflector in rear of which is a contracted portion L^2 and an outwardly flaring portion L^3. The outer sleeve H' has at the rear end of its cylindrical portion H^2 an inwardly extending radial flange H^3 for holding a gasket S', while at its forward end the radial flange I' has a cylindrical extension I^2 for holding another gasket R'. Thus, when the cylindrical portion H^2 is contracted, as shown in Figure 6 at H^4, this will lock the two sleeves to each other and will also produce an end thrust for clamping the gaskets R' and S', and thereby form a hermetic seal. To rotatively locate the bulb with respect to the reflector J' a lug T is struck inward from the seat portion K' to engage a notch U in the flange E'. The reflector J' forms a portion of a sealed unit including the lens or other transparent closure (not shown).

What I claim as my invention is:

1. A mounting and sealing means for electric light bulbs in lamp casings comprising two sleeve members surrounding the shank of the bulb each provided with a radially outwardly extending annular clamping flange, said flanges being for engagement with a portion of the lamp casing on opposite sides thereof, the one member being fixedly secured to said bulb with its flange in predetermined relation to a filament in the bulb, and the other sleeve member being telescopically engaged with the first, one of said sleeve members having an end thrust shoulder and the other a portion having crimping engagement with said shoulder to hold said flanges in clamped position.

2. A mounting and sealing means for electric light bulbs in lamp casings comprising two sleeve members surrounding the shank of the bulb each provided with a radially outwardly extending annular clamping flanges, said flanges being for engagement with a portion of the lamp casing on opposite sides thereof, the one member being fixedly secured to said bulb with its flange in predetermined relation to a filament in the bulb, and the other sleeve member being telescopically engaged with the first, one of said members having an inclined annular end thrust shoulder and the other member having a portion for crimping engagement with said shoulder to simultaneously lock said members and to produce clamping end thrust in said flanges toward each other.

3. A mounting and sealing means for electric light bulbs in lamp casings comprising two sleeve members surrounding the shank of the bulb each provided with a radially outwardly extending annular clamping flange, said flanges being for engagement with a portion of the lamp casing on opposite sides thereof, the one member being fixedly secured to said bulb with its flange in predetermined relation to a filament in the bulb, and the other sleeve member being telescopically engaged with the first, the inner sleeve member having an annular recess therein terminating in an inclined end thrust shoulder, and the outer sleeve member having a portion having crimping engagement with said inclined shoulder to simultaneously lock said members and to produce clamping and thrust in said flanges toward each other.

4. A mounting and sealing means for electric light bulbs in lamp casings comprising two sleeve members surrounding the shank of the bulb each provided with a radially outwardly extending annular clamping flange, said flanges being for engagement with a portion of the lamp casing on opposite sides thereof, the inner sleeve member being fixedly secured and hermetically sealed to said bulb with its flange in predetermined relation to a filament in the bulb, and the outer sleeve member being telescopically engaged with the first, the inner sleeve member having cylindrical portions of the same diameter one adjacent to the flange and an intermediate portion of smaller diameter terminating in an inclined end thrust shoulder, and the outer sleeve member having a portion having crimping engagement with said inclined shoulder to simultaneously lock said sleeve members to each other and to produce a clamping end thrust in said flanges toward each other.

CHARLES W. ANKLAM.