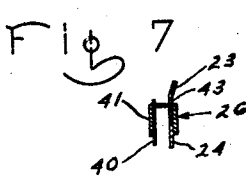
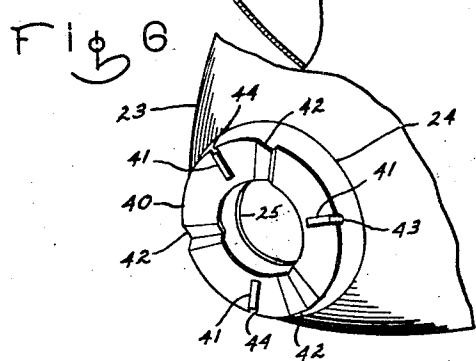
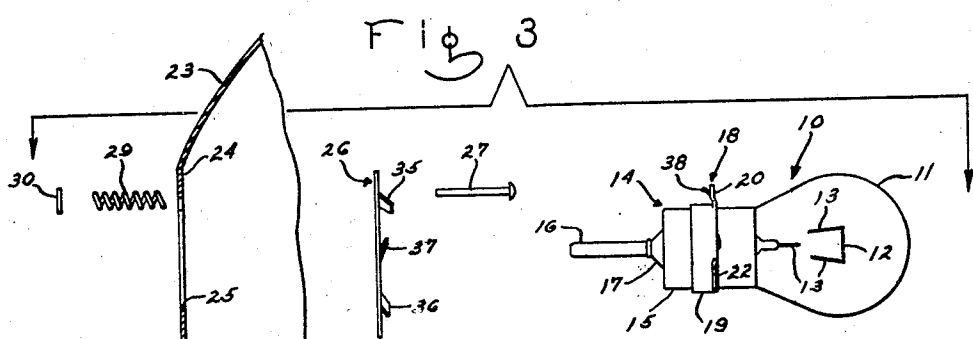
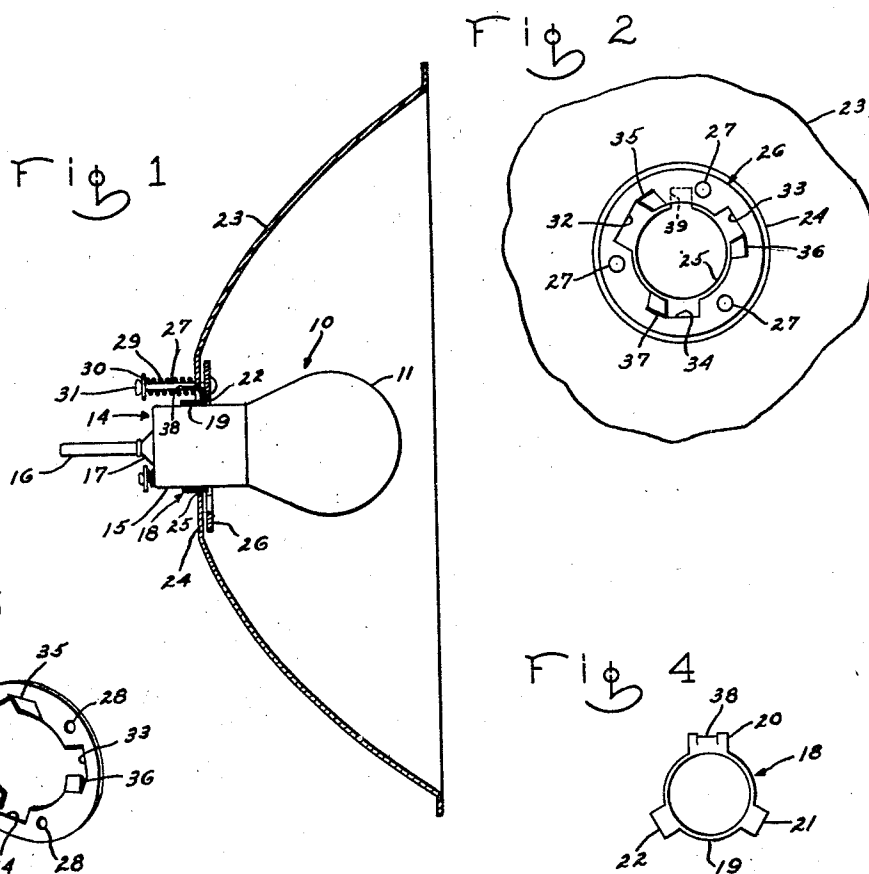


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ELECTRIC PROJECTION LAMP

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ELECTRIC PROJECTION LAMP

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5 Claims. (Cl. 240—41)

Our invention relates to mountings for electric lamps and similar devices and is especially adaptable and useful in cases where the light source should occupy a definite position with reference to some associated part or structure such as a reflector or lens. The invention is of particular advantage for projection lamps such as vehicle headlamps in which an incandescent filament lamp is mounted in a reflector such as the well-known paraboloid reflector.

This invention is a variation of, and improvement in, the type of mounting disclosed in our U. S. patent application Serial No. 662,080, filed March 22, 1933. In the said application we overcome the disadvantages of the present day construction comprising a lamp having "bayonet" pins on its base which is mounted in an adjustable "bayonet" socket which in turn is mounted in an opening at the apex of the reflector, by mounting the lamp base more directly on the reflector, without the intervention of a socket and adjusting means therefor. This we do by providing the lamp base with pre-focused engagement means adapted to engage in a perfectly definite and fixed relation with an accurately located part or engagement means of the reflector, provision also being made for holding said base and reflector engagement means in proper engagement, preferably by spring pressure.

In the construction shown in our said application, the lamp base engagement means engage a portion of the back of the reflector, which requires, of course, that the said back portion of the reflector be accurately fixed with reference to the focal point. It is preferable in constructing the reflector to locate from the front or inside thereof, rather than the back, so our present invention is directed toward a construction wherein the engagement means of the lamp base seats against or engages a portion of the inside of the reflector. Various features and advantages of our invention will appear from the following description of species thereof.

In the drawing, Fig. 1 is an elevation, in section of a headlamp mounting comprising our invention; Fig. 2 is a front view of the reflector mounting; Fig. 3 is a disassembled side view of the various parts of the projector; Fig. 4 is a plan view of a lamp base adapter; Fig. 5 is a perspective view of a retaining or pressure ring; Fig. 6 is a perspective view of the back of a modified mounting; and Fig. 7 is a detailed section of a portion thereof.

Referring to Figs. 1 and 3, the lamp 10 com-

prises a bulb 11 having a filament 12 sealed therein and mounted on leading-in wires 13. The filament 12 in Fig. 3 is shown in a position 90° from the rest of the lamp for the sake of clearness. A base 14 comprising a tubular shell 15 is mounted on said bulb 11 and carries a terminal pin 16 mounted in insulating material 17. One of the leading-in wires 13 is connected to the shell 15 and the other is connected to the pin 16. An adapter 18 comprising a narrow band or shell 19 having a plurality of transversely extending projections such as lugs 20, 21, 22 is mounted on the base shell 15. The adapter 18 is located on said base shell 15 so that the lugs 20, 21, 22 (or their rear surfaces), which determine the longitudinal position of the lamp in the reflector, bear a definite relation to the filament 12, the adapter band 19 being of slightly larger diameter than the base shell 15 so that the lamp base may be rocked and shifted therein to locate the filament both axially and longitudinally. After the filament has been properly located so as to lie at or near the focus of a reflector when the lamp is mounted therein, this focus adjustment is permanently fixed by uniting the adapter 18 to the base shell 15, preferably by solder. The lugs 20, 21, 22 may, of course, be formed out of the shell 15 itself but the separate adapter 18 is preferable.

The reflector 23 comprises a flattened or plane portion 24 at the apex thereof having an opening 25 therein for insertion of the lamp base 14, the front or inner surface of said portion 24 bearing a definite relation to the focal point. A retaining or pressure ring 26 (Figs. 2 and 5) is mounted on the inside of the reflector 23 at the margin of the opening 25. Said retaining ring 26 is mounted on pins 27 which pass through holes 28 therein and through corresponding holes in the flat portion 24 of the reflector. Helical springs 29 are mounted on the pins 27 between the reflector 23 and washers 30 at the ends of said pins, thus pulling the ring 26 firmly against the reflector. The washers 30 are retained on the pins 27 by flattened end portions 31 of the pins. The ring 26 has slots 32, 33, 34 at the inner edge thereof corresponding to the adapter lugs 20, 21, 22 on the lamp base. Raised guide lips or cams 35, 36, 37 are provided at the edges of the slots 32, 33, 34 to permit insertion of the lugs 20, 21, 22 under, or behind, the ring 26 by a rotary motion thereof. It will be apparent to one skilled in the art that the retaining ring 26 may be resiliently mounted in various ways,

it being possible to make said ring itself of a resilient construction.

To mount the lamp 10 in the reflector, the base 14 is inserted in the opening 25, the lugs 20, 21, 22 being placed in the slots 32, 33, 34 of the ring 26 and bearing against the flat portion 24 of the reflector. Then the lamp is rotated in a clockwise direction, the lugs 20, 21, 22 being guided by the lips 35, 36, 37 behind the ring 26, until a rearwardly projecting locking lug 38 on the lug 20 snaps into a slot 39 at the margin of the opening 25. The lug 20 and slot 32 may be made wider than lugs 21, 22 and slots 33, 34 to insure the correct insertion of the lamp. The guide lip 35 is also raised higher than lips 36, 37 to allow for the insertion of the locking lug 38 thereunder. To remove the lamp 10, it is pulled forward until locking lug 38 is disengaged from slot 39, then turned counterclockwise until lugs 20, 21, 22 pass through slots 32, 33, 34 in the ring 26. The lug 38 may also be disengaged by pushing down on the bulb 11 in Fig. 1, thus tilting the lug 20 forward.

The modified mounting shown in part in Figs. 6 and 7 is the same as that just described, except that a ring-shaped spring member 40 is substituted for the individual helical springs 29, and locking lugs 41, formed at the edge of the retaining ring 26, are substituted for the pins 27. The spring 40 comprises a plurality of V-shaped indentations or protuberances 42 which bear against the back of the flat portion 24 of the reflector. The lugs 41 on the retaining ring 26 extend through holes 43 (Fig. 7) in the reflector and are bent over the spring member 40, being locked in slots 44 at the periphery thereof, thus pulling the retaining ring 26 firmly against the reflector. The lugs 41 may be formed at the inner edge of ring 26 instead of the outer edge as shown.

Electrical connection may be made to the terminal pin 16 of the lamp by any suitable means, such as a helical coil spring connector having a number of turns thereof off-set to provide a firm contact with the pin 16 over which it is slipped. Such a connector is disclosed in U. S. patent application Serial No. 663,357, Geiger, filed March 29, 1933.

What we claim as new and desire to secure by Letters Patent of the United States, is,—

1. The combination of a lamp comprising a base having a transversely extending projection

thereon, a reflector having an opening therein for said lamp base, and a retaining ring resiliently mounted on the inside of said reflector at the margin of said opening, said retaining ring comprising means for engaging said lamp base projection and holding it against said reflector. 80

2. The combination of a lamp comprising a base having a transversely extending projection thereon, a reflector having an opening therein for said lamp base, and a retaining ring resiliently mounted on the inside of said reflector at the margin of said opening, said retaining ring having a slot therein and a raised guide lip adjacent said slot to permit insertion of said lamp base projection behind said retaining ring by a rotary motion thereof. 85 90

3. The combination of a lamp comprising a base having a plurality of transversely extending projections thereon, a reflector having an opening therein for said lamp base, and a retaining ring resiliently mounted on the inside of said reflector at the margin of said opening, said retaining ring having slots therein and raised lips adjacent said slots to permit insertion of said lamp base projections behind said retaining ring by a rotary motion thereof. 95 100

4. The combination of a lamp comprising a base having a transversely extending projection thereon and a rearwardly projecting lug on said projection, a reflector having an opening therein for said lamp base and a slot at the margin of said opening, and a retaining ring resiliently mounted on the inside of said reflector at the margin of said opening, said retaining ring having a slot therein and a raised guide lip adjacent said slot to permit insertion of said lamp base projection behind said retaining ring and engagement of the said locking lug with the said slot in said reflector-opening margin by a rotary motion of the lamp. 105 110 115

5. The combination of a lamp comprising a base having a plurality of transversely extending projections thereon, a reflector having an opening therein for said lamp base, and a retaining ring resiliently mounted on the inside of said reflector at the margin of said opening, said retaining ring comprising means for engaging said lamp base projections and holding them directly against said reflector. 120 125

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