

Oct. 29, 1940.

R. N. FALGE ET AL

2,219,770

BULB SUPPORTING AND SEALING DEVICE

Filed Feb. 13, 1939

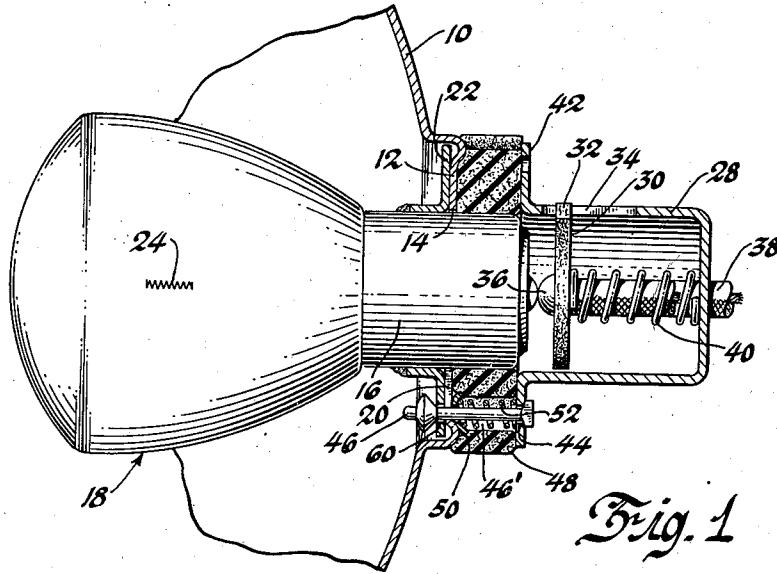


Fig. 1

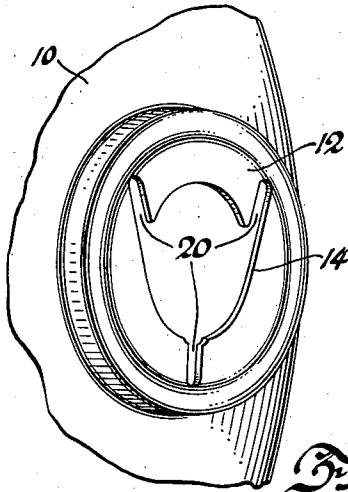


Fig. 2

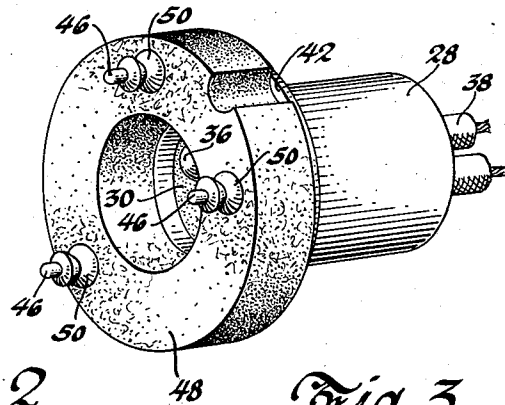


Fig. 3

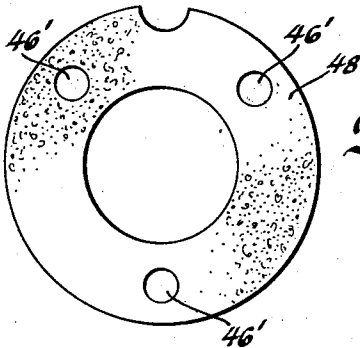


Fig. 4

Inventors
Robert N. Falge &
Howard C. Mead
By
Blackman, Spencer & Flint
Attorneys

UNITED STATES PATENT OFFICE

2,219,770

BULB SUPPORTING AND SEALING DEVICE

Robert N. Falge and Howard C. Mead, Anderson,
Ind., assignors to General Motors Corporation,
Detroit, Mich., a corporation of Delaware

Application February 13, 1939, Serial No. 256,044

2 Claims. (Cl. 240-41)

This invention has to do with means for sealing the connection between bulbs and bulb supports of lamps, such as automobile headlamps, against the entrance of dust and moisture. Present day automobile headlamps are usually equipped with bulbs having so-called "pre-focused" bases, consisting of the usual tubular base to which a radial flange is secured in predetermined relation to the bulb filament or filaments.

10 The flange is provided with bayonet slots which are adapted to be fitted over pins yieldingly mounted in the apex of the reflector and serving to hold the bulb in the reflector. The present invention has to do with a simple arrangement

15 for sealing this and similar sorts of connections between the bulb and the reflector or other support. To accomplish this a resilient gasket, preferably of sponge rubber, is provided for sealing engagement with the base and with the parts in which the pins are mounted. The construction

20 has proven in practice to be very effective as well as simple and cheap.

Figure 1 is a section through the improved bulb mounting.

25 Figure 2 is a rear view of the portion of the reflector in which the bulb is mounted.

Figure 3 is a perspective view of the contact carrier and its associated parts.

Figure 4 is a plan view of the gasket.

30 10 indicates a portion of a bulb support here represented as a part of an automobile headlamp reflector. The reflector is provided with a depressed cup-shaped seating portion 12 apertured at 14 to receive the base 16 of the bulb 18. Extending from aperture 14 are the slots 20. To

35 the bulb base 16 is secured as by soldering the annular radial flange 22 provided with the usual bayonet slots 60. In the manufacture of the bulb this flange is secured in place in accurate fixed relation with respect to the filament 24 so that

40 when the flange is properly seated on the bottom of the cup 12 of the reflector or other support, the filament will be in its proper location with respect to the focus of the reflector.

45 28 indicates a cup-shaped contact carrier within which is slidably secured the insulated disc 30 having a tongue 32 guided in slot 34 in the contact carrier to prevent rotation. Disc 30 carries contact 36 secured to wire 38. Coil spring 40 surrounding the wire yieldingly urges the contact

50 toward the open end of the cup 28.

Cup 28 has a flange 42 apertured as at 44 to receive the usual headed pins 46 which extend through aligned apertures 48 in gasket 48. On

55 the outer ends of each of the pins 46 is provided

a washer 50 of greater diameter than the aperture in the gasket. Coil springs 52 bearing at one end against the flange 42 and at the other end against the cups 50 yieldingly urge the cups and pins outwardly. When the assembly is disconnected from the reflector the parts assume the position shown in Figure 3.

The assembly of contact carrier, gasket and pins, as shown in Figure 3, is secured to the rear of the reflector 10 shown in Figure 2 by inserting the pins 46 in the slots 20. This may be readily done by first moving the pins in toward the center so as to pass through the aperture 14 and then permitting them to move outwardly into the slots 20.

With the contact carrier thus secured to the rear of the reflector 10 the bulb 18 is then inserted in the position shown in Figure 1 with the enlarged ends of the bayonet slots 60 over the heads of the pins and thereafter the bulb is rotated on its axis to cause the parts to assume the position shown in Figure 1. This way of securing the bulb in position in the reflector is well known and is therefore not illustrated or described in detail.

With the assembly as shown in Figure 1 it will be noted that the gasket 48, which is preferably of sponge rubber, is in tight sealing engagement with the base 16 of the bulb 18 but since it is of soft yielding material the bulb may be readily rotated and withdrawn when desired. The gasket also effectively seals the connection between the contact carrier 28 and the back of the reflector as is evident from an inspection of Figure 1. It thus effectively prevents the entrance of dust and moisture to the inside of the reflector and so prevents it from becoming tarnished or otherwise rendered less efficient as a reflector.

The construction is obviously inexpensive. The invention is capable of use where the bulb is supported from other parts than the reflector illustrated.

We claim:

1. The combination of a support having an aperture therein and an annular seat surrounding the aperture, a bulb having a base and a slotted annular flange surrounding the base and secured thereto, said bulb normally being arranged with its base extending into said aperture and its flange engaged in said seat, said seat having openings therein aligned with the slots in the flange, a yieldable gasket engaging the other side of the support and having an aperture therein snugly fitting the base so as to form a dust-proof seal, said gasket having openings therethrough

aligned with the openings in the seat, a contact carrier overlying the gasket and having openings therein aligned with the openings in the gasket, yielding contact means carried by the carrier and adapted to engage a contact on the bulb base, headed pins extending through the said slots in the annular flange on the bulb base, and through the aligned openings in the support, gasket and contact carrier, and resilient means surrounding each of said pins and housed within the openings in said gasket and reacting against the contact carrier and support to yieldingly hold the bulb in the support.

2. The combination of a support having an aperture therein and an annular seat surrounding the aperture, a bulb having a base and a slotted annular flange surrounding the base and secured thereto, said bulb normally being arranged with its base extending into said aperture and its flange engaged in said seat, said seat having openings therein aligned with the slots in the flange, a yieldable gasket engaging the other side

of the support and having an aperture therein snugly fitting the base so as to form a dust-proof seal, said gasket having openings therethrough aligned with the openings in the seat, a contact carrier overlying the gasket and having openings therein aligned with the openings in the gasket, yielding contact means carried by the carrier and adapted to engage a contact on the bulb base, headed pins extending through the said slots in the annular flange on the bulb base and through the aligned openings in the support, gasket and contact carrier, resilient means surrounding each of said pins and housed within the openings in said gasket and reacting against the contact carrier and support to yieldingly hold the bulb in the support, and washers on said pins engaging the rear face of said seat and the adjacent face of the gasket so as to prevent passage of dust through said openings.

ROBERT N. FALGE. 20
HOWARD C. MEAD.