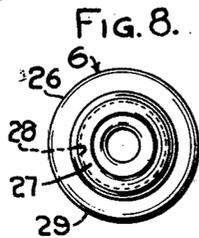
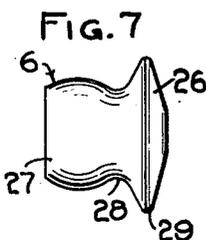
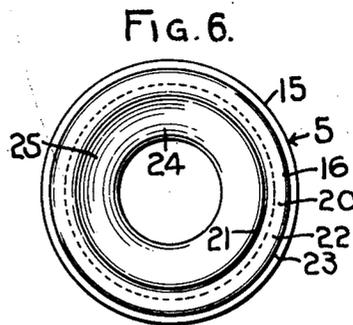
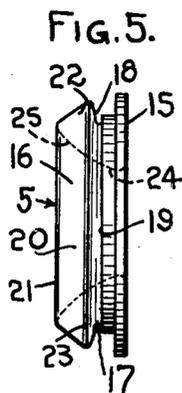
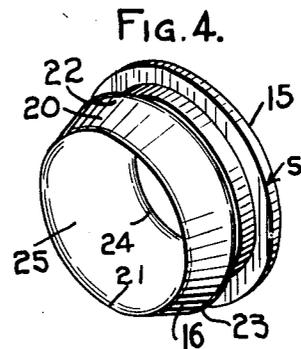
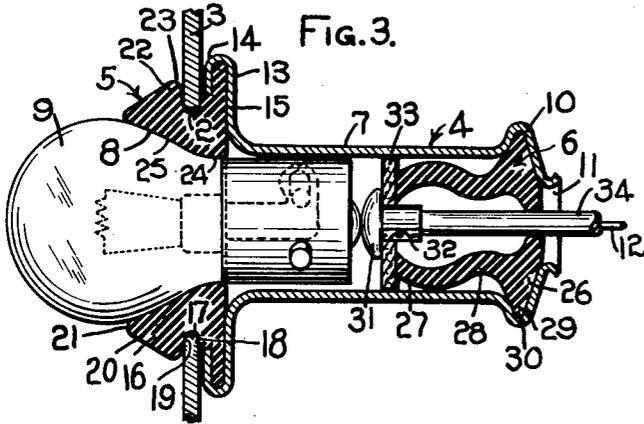
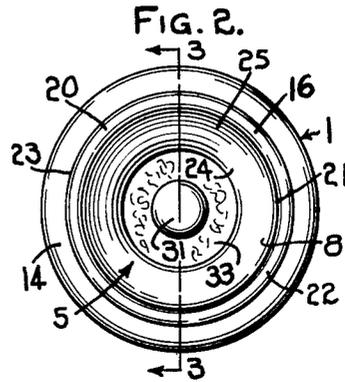
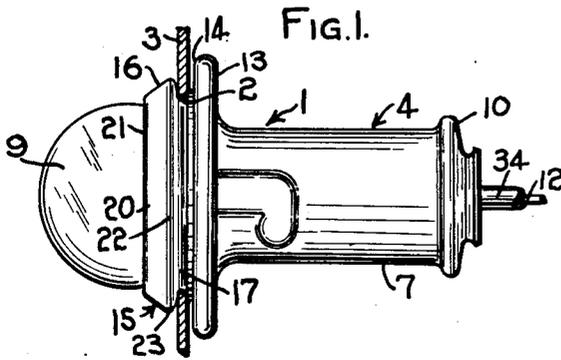


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LAMP SOCKET HAVING MEANS FOR MOUNTING AND
SEALING IT IN AN APERTURED SUPPORT
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2,705,308



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2,705,308

LAMP SOCKET HAVING MEANS FOR MOUNTING AND SEALING IT IN AN APERTURED SUPPORT

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1 Claim. (Cl. 339—94)

This invention relates to lamp sockets, and more particularly to dust-proof and water-proof lamp sockets of the push-in type adapted for snap fastener engagement with an apertured support, and aims generally to improve existing sockets of this type.

A primary object of the invention is the provision of a dust-proof and water-proof lamp socket of improved and simplified construction adapted for push-in sealing engagement with an apertured support.

Another object of the invention is the improvement of the manner and means for sealing a lamp socket against dust and water, attaching it to an apertured support and supporting the contact element for pressure engagement with a lamp base.

A further object of the invention is the provision of a novel construction of lamp socket embodying combined sealing and support-attaching means and combined sealing and contact element supporting means.

In another aspect, the primary object of the invention is the provision of an improved lamp socket adapted for insertion into an aperture of a supporting panel of conductive material and having provision for insulating the lamp socket from the supporting panel.

These and other objects and advantages of the invention will be apparent to persons skilled in the art to which the invention relates from a consideration of the accompanying drawings and annexed specification illustrating and describing a preferred embodiment of the invention.

In the drawings—

Fig. 1 is a side elevational view of a lamp socket embodying the invention applied to an apertured support, the latter being shown in section;

Fig. 2 is an end view of the lamp socket;

Fig. 3 is a cross-sectional view of the lamp socket taken on the line 3—3 of Fig. 2 and showing the support in section;

Fig. 4 is a perspective view of the sealing and attaching member;

Fig. 5 is a side view of the sealing and attaching member;

Fig. 6 is an end view of the sealing and attaching member;

Fig. 7 is a side view of the sealing and contact element supporting member; and

Fig. 8 is an end view of the sealing and contact element supporting member.

Referring to the drawings, the numeral 1 designates a lamp socket assembly of the push-in type adapted for snap fastener engagement with the edges of an aperture 2 of a support 3. The support 3 may be a portion of the fender, body or other part of an automobile normally exposed to water, dust or the like, and the socket assembly 1 is designed to prevent the passage of water, dust and the like through the support aperture, when the device is mounted therein, and is also designed to prevent the entrance of such materials into the socket assembly itself.

Generally described, the assembly 1 comprises a socket member 4, a combined socket sealing and attaching member 5, and a combined socket sealing and contact element supporting member 6.

The socket member 4 is preferably made of thin sheet material, such as sheet metal, and may desirably comprise a tubular body portion 7 having an open end 8 for the reception of a lamp 9 and a closed end 10 apertured at 11 for the passage of current-conducting wires 12.

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At its open end the body portion 7 is provided with a flanged base portion 13 which extends outwardly therefrom substantially at right angles thereto and against which the combined sealing and attaching means 5 may be secured as by curling the peripheral edge of the flanged base portion 13 thereover as shown at 14.

The combined sealing and attaching means 5 of the invention comprises a resilient or elastic ring-shaped member, preferably formed of rubber or rubber-like material, and having a substantially flat base portion 15 and a projecting annular collar-like portion 16. The base portion 15 is designed to rest against the flanged base portion 15 and to be clamped in sealing engagement therewith by the curled edge 14 thereof.

Intermediate the ends thereof the collar portion 16 is formed with a reduced neck portion 17 adapted to receive the edges of a support aperture 2 and providing shoulders 18 and 19 adapted to engage the inner and outer faces, respectively, of the support around the support aperture.

Outwardly of the shoulder 19 the sides of the collar portion 16 slope inwardly in converging relationship to form a beveled end portion 20, the outer smaller end 21 of which is less in diameter than the aperture 2, and the inner larger end 22 of which is greater in diameter than the aperture 2. Desirably the inner larger end 22 of the portion 20 may be rounded, as shown at 23, to facilitate snap fastener engagement with an apertured support.

The collar portion 16 is formed with a central opening 24 of a size to receive a lamp base and having a flared outer end portion 25 designed to receive and sealingly engage a portion of the lamp bulb.

The socket sealing and contact element supporting member 6 is preferably formed of the same material as the member 5, namely rubber or equivalent material, and desirably comprises a sleeve-like tubular member having an enlarged base portion 26 and a smaller body portion 27 connected by a reduced neck portion 28. In a preferred form of construction the walls of the body portion 27 are bowed outwardly and the walls of the connecting neck portion 28 are bowed inwardly to give an undulated or corrugated effect in order to provide the desired spring action for urging the contact element into pressure engagement with the lamp.

The base portion 26 rests against the end 10 of the socket member 4 and is provided with a peripheral bead or annular rounded portion 29 adapted for snug engagement with an annular groove 30 of the socket member to retain the member 6 in proper mounted position.

A contact element 31, which may be the usual rivet or similar type contact element, is mounted in an aperture 32 of a fiber insulating disc 33. The disc 33 is slidably mounted in the socket member 4 and is adapted to move rearwardly against the end of the sleeve-like member 6 to compress it when a lamp is inserted into the socket in pressure engagement with the contact element 31. The contact element 31 is connected to a conductor 34 which passes through the sleeve-like member 6 and outwardly through the aperture 11 in the end of the socket member. The base portion 26 snugly engages the conductor 34 to prevent the entry of dust or water therearound.

It will thus be apparent that the member 6 completely seals one end of the socket member and is constructed and arranged to act as a resilient compression member to hold the contact element 31 in pressure engagement with the base of a lamp, thereby eliminating the need for spring and the like. It will also be apparent that the member 5 completely seals the opposite end of the socket around a lamp positioned therein and that it is adapted for snap fastener sealing engagement with an apertured support.

By slight dimensional changes in the combined sealing and attaching means 5 the curled edge 14 of the flange base portion 13 may be caused to engage the support 3 electrically connecting the socket 4 thereto to permit its use in single wire systems or the curled edge 14 may be held spaced from the support 3 by the resilient insulating member 5 thereby insulating the socket 4 from the support 3 to permit its use in two wire systems. Furthermore, it will be apparent that in certain socket applications the combined sealing and attaching means 5 may be

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used with a conventional or other contact assembly in place of socket sealing and contact element supporting member 6, or that in certain other applications the socket sealing and contact element supporting member 6 of the invention may be used with a conventional or other support attaching means in lieu of the combined sealing and attaching means 5 of the invention.

In mounting the assembly on a support the bevelled end portion 20 is inserted in a support aperture and pushed therein until the edges of the support aperture are seated in the reduced neck portion 17. During this operation the inner larger end 22 of the bevelled end portion 20 is compressed by the edges of the support aperture until it passes therethrough and has cleared the edges thereof, at which time it snaps outwardly behind the support. In this position the edges of the support aperture are disposed in the reduced neck portion 17 and the shoulders 18 and 19 engage opposite faces of the support around the support aperture therein to sealingly mount the assembly on the support.

Although I have illustrated and described a preferred embodiment of the invention, I do not intend to be limited to the specific details thereof as the scope of the invention is best defined in the claim which follows.

I claim:

A lamp socket assembly comprising a lamp base receiving casing of electrically conductive material having a lamp base receiving opening at one end and an integral radially outwardly extending flange surrounding the opening at said one end, a resilient annular sealing member of electrically insulating material, and mounting means at the periphery of said flange of said casing, said sealing member having a rim flange extending radially outwardly from one end and disposed against the flange of said casing and a body portion extending axially out-

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wardly from said rim flange having a passage extending axially therethrough for receiving a lamp base, said body being beveled inwardly at the end thereof opposite said rim flange to facilitate insertion of said body into an aperture in a supporting panel, said body having a pair of opposed annular shoulders defining a radially outwardly opening annular groove intermediate said beveled end and said rim flange for facilitating snap fastener engagement of said sealing member in the aperture of a supporting panel, said mounting means including an inwardly extending flange overlying the outwardly extending rim flange of the sealing member securing the sealing member to the casing, the distance between the rim flange and the adjacent shoulder of the body portion is greater than the thickness of the inwardly extending flange of the mounting means so that the lamp socket assembly may be mounted in an aperture of a conductive panel with the shoulders of the body of the sealing member engaging opposite faces of the panel and spacing the casing from the panel to prevent electrical contact between the casing and the panel.

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