

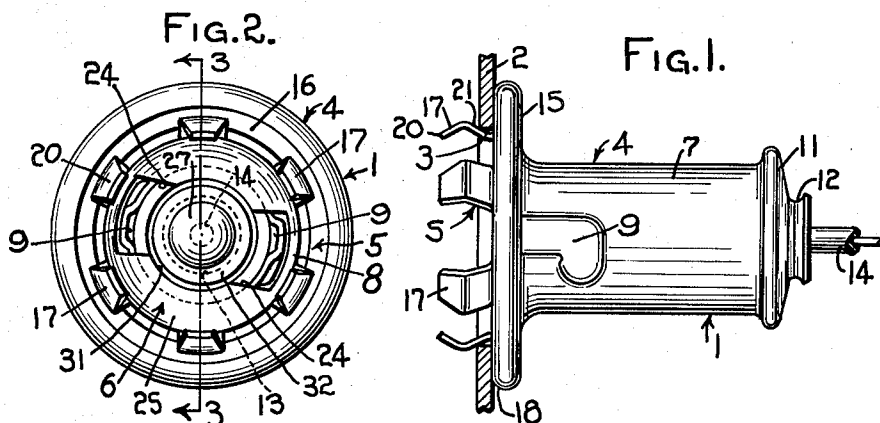
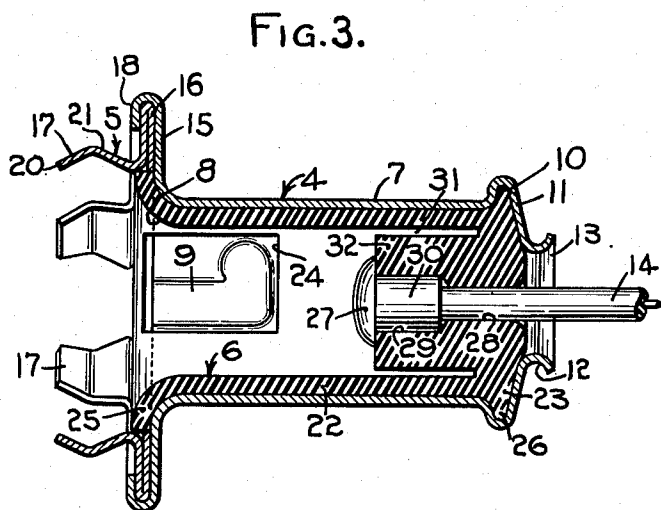
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LAMP SOCKET HAVING A RESILIENTLY MOUNTED CONTACT

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LAMP SOCKET HAVING A RESILIENTLY MOUNTED CONTACT

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1 Claim. (Cl. 339-60)

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This invention relates to lamp sockets, and more particularly to improvements in the construction and arrangement of water-proof and dust-proof lamp sockets such as are generally used for automobile and like types of lighting.

A primary object of the invention is the provision of a water-proof and dust-proof lamp socket of simple and economical construction which may be readily applied to an apertured support by a simple push-in action.

Another object of the invention is the provision of a simplified form of water-proof and dust-proof lamp socket which may be assembled by the manufacturer and shipped to the user as a unit.

A further and more specific object of the invention is the provision of a molded rubber insert for a lamp socket which will completely seal the socket against water and dust and which will mount and support a contact element in pressure engagement with a lamp disposed in said socket, thereby eliminating the need for a molded plunger and coil spring construction usually required in sockets of this general type.

These and other objects and advantages of the invention will be apparent to persons skilled in the art to which the invention pertains 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 a support, the latter being shown in section;

Fig. 2 is an end view of the socket assembly; and

Fig. 3 is a cross-sectional view of the assembly taken on the line 3-3 of Fig. 2.

Referring to the drawings, the invention is illustrated as embodied in a lamp socket assembly 1 of the push-in type adapted for snap fastener engagement with a support 2 having an aperture 3 therein. The support 2 may be a portion of the fender, body or other part of an automobile normally exposed to water, mud, dust and the like, and the socket assembly of the invention is designed to prevent passage of such material thereinto or through the support aperture when the device is assembled therein.

The socket assembly 1 desirably comprises a socket member 4, attaching means 5 and a novel type of molded insert 6 which may be formed and assembled into a unitary device by the manufacturer, thereby decreasing the number of parts which have to be handled and assembled by the user.

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The socket member 4 is preferably made of thin sheet material, such as sheet metal, and may desirably comprise a substantially cylindrical or tubular body portion 7 having an open end 8 in which a lamp of the usual type is designed to be seated. Cut-outs or pressed-out keyways or J-slots 9 may be provided in the walls of the tubular body portion 7 for the reception of the usual pins or projections of a lamp base.

Adjacent its opposite end, the body portion 7 is formed with an annular groove 10 pressed outwardly therein and adapted to seat a cooperating bead on the molded insert 6, as will be more apparent hereinafter. A flange 11 extends inwardly at the end of the body portion 7 and preferably has the inner edges thereof curled outwardly, as shown at 12, to provide a central opening 13 for the passage of a conducting wire 14.

At its open end the socket member 4 is provided with a flanged base portion 15 which extends outwardly from the body portion 7 substantially at right angles thereto and on which the attaching means 5 is secured.

The attaching means 5 may desirably comprise a ring-shaped member 16 provided with outwardly extending support-engaging spring fingers 17. The member 16 rests against the flanged base portion 15 and is retained in assembled relation therewith by curling the peripheral edges of the portion 16 outwardly over and around the member 16 as shown at 18. The spring fingers 17 are adapted for snap fastener engagement with the edges of a support aperture 3 and for this purpose may be provided with diverging-converging portions 20 and 21 as is usual in the art.

In accordance with the invention the molded insert 6 is constructed and arranged to seal the socket assembly against water, dust and the like and to serve as a centering and supporting means for the usual contact element, thereby eliminating the need for centering washers, springs and the like required in prior art devices of this general type.

The insert 6 may advantageously be made of a resilient or elastic material, such as rubber, and formed into the desired shape by suitable molding or other techniques. For most satisfactory results I prefer to use a heat-resistant type rubber, such for example as silicone rubber.

In a preferred construction the insert 6 may comprise a generally cup-shaped member having a substantially tubular or sleeve-like thin walled portion 22 adapted to fit within the body portion 7 of the socket member 4, and a connecting base portion 23 adapted to rest against the end flange 11 of the socket member 4. This pro-

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vides a hollow insert of resilient or elastic material which may readily be assembled into snug engagement with the walls of the body portion 7. The sleeve-like portion 22 is designed to snugly receive a lamp base of usual construction and is provided with cut-outs 24 so that the pins or projections on such a base may have locking engagement with the J-slots 9.

At its free outer end the sleeve-like portion 22 is provided with a laterally extending flanged lip 25 adapted for sealing engagement with the flanged base portion 15 of the socket member 4 as shown more particularly in Fig. 3.

At the base end thereof the cup-shaped insert 6 is provided with an annular bead or flange 26 which nests in the annular bulge or groove 10 of the socket member 4. This assists in holding the insert in place in the socket and in forming a sealed joint therebetween.

In addition to its function of sealing an end of the socket member 4 the base portion 23 is designed to sealingly receive the conducting wire 14 and to support the contact element or rivet 27, connected therewith, in proper centered position to resiliently engage a cooperating contact on a lamp base positioned in the socket. For this purpose the base portion 23 is suitably apertured, as shown at 28 and 29 to snugly receive the wire 14 and base portion 30 of the contact rivet 27, and is formed with an annular cut-out 31 providing a projecting knob or collar portion 32. The portion 32 extends longitudinally inwardly within the sleeve-like portion 22 to an extent such that the contact rivet 27, supported thereby, will engage a lamp base before it is completely seated in the socket. By virtue of the annular cut-out 31, which may be varied as desired, the portion 32 will have the desired resiliency and spring action needed to hold the contact rivet in pressure engagement with a lamp base and in addition the annular cut-out will result in a saving of rubber.

It will thus be apparent that the present invention provides an improved water-proof and dust-proof socket of simple and economical construction which may be assembled by the manufacturer and shipped as a unit to the user. The user merely inserts the conducting wire, contact rivet and lamp and the device is then ready for

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mounting on a support. Various assembling operations and the handling of springs, washers and the like, previously required, are eliminated, thus speeding up the operation and decreasing the cost thereof.

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 following claim.

I claim:

A lamp socket comprising: a tubular casing of rigid conducting material having an open lamp base receiving end and an apertured wire receiving end; an insert of resilient insulating material having a tubular portion in fitted sealing engagement within said tubular casing to provide sealing engagement with a lamp base to be disposed therein, a stud portion disposed within said tubular portion in concentric spaced relation and an annular connecting portion integrally joining said stud portion and said tubular portion adjacent the apertured wire receiving end of said casing, said stud portion extending for a portion of the length of said casing; and a contact member supported by said stud portion centrally within said casing and said tubular portion and having a connecting lead extending through said stud portion and said apertured wire receiving end, said casing having opposed lamp base engaging portions; said tubular portion of said insert having apertures on opposite sides to permit the opposed prongs of a bayonet-type lamp base to engage said opposed lamp base engaging portions, said insert and said casing having co-operating annular rib and annular groove portions.

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