

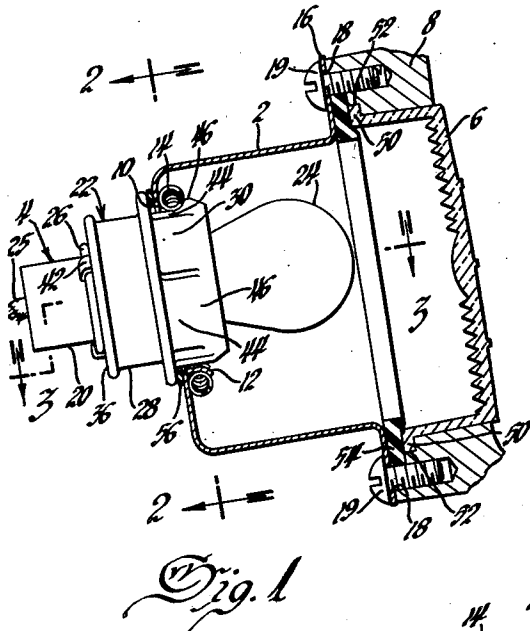
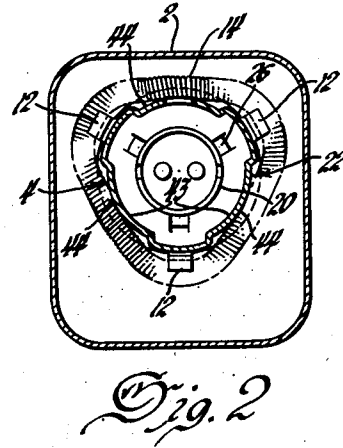
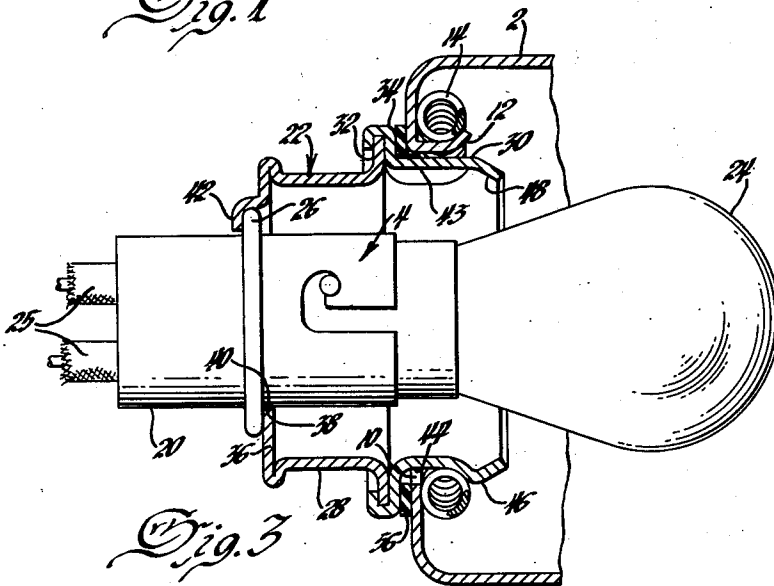
May 25, 1954

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2,679,576

LAMP SOCKET MOUNTING

Filed Dec. 23, 1950



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UNITED STATES PATENT OFFICE

2,679,576

LAMP SOCKET MOUNTING

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Application December 23, 1950, Serial No. 202,522

11 Claims. (Cl. 240—8.3)

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The present invention relates to lamps and more particularly to lamp socket mounting devices for automotive vehicle signaling lamps.

It is the current practice to mount automotive vehicle tail lamp assemblies on the rear body panel of the vehicle. Generally, such lamps are mounted in pairs, one on each side of the trunk lid of the vehicle with the lens and lens frame of the lamp being secured substantially flush with the body panel and the lamp bulb supporting structure of the assembly extending through the body panel and into the luggage or trunk compartment of the vehicle. With such an arrangement it has heretofore been generally necessary to remove the lens and lens frame for access to and removal of defective lamp bulbs.

Accordingly, it is an object of the present invention to provide a lamp adapted for mounting on the body panel of an automotive vehicle and so constructed and arranged as to provide for removal and replacement of the lamp bulb without having to remove the lens and lens frame of the lamp.

Another object is to provide an improved signaling lamp construction which is simple, easy to manufacture and inexpensive.

These and other objects are attained in accordance with the present invention by providing a lamp assembly so constructed and arranged that the lamp bulb and bulb socket assembly may be removed without removing the lens and lens frame.

For a better understanding of the invention reference may be had to the drawing in which Figure 1 is a view partly in cross section and partly broken away of a signaling lamp assembly embodying the present invention; Figure 2 is a view taken along the line 2—2 of Figure 1 and Figure 3 is an enlarged view taken along the line 3—3 of Figure 1.

Referring now to the drawing, there is illustrated a lamp assembly especially suitable for signaling lamps and comprising a lamp housing 2, a lamp socket assembly 4 removably secured in the housing and a lens 6 secured to the housing 2 by a lens frame 8. The lamp housing 2 is generally cup-shaped and may be formed from sheet metal by a stamping operation or from a suitable thermoplastic material by molding. The housing is illustrated in Figure 2 as having a substantially square cross-sectional configuration but it will be obvious that any suitable cross-sectional configuration will be satisfactory. A circular aperture 10 is provided in the bottom of the housing 2 and equally spaced lugs 12 are formed

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integrally with the bottom of the housing at the apertured edge and extend inwardly of the housing. As shown in Figures 1 and 3 the lugs 12 are bent at substantially right angles to the bottom of the cup and extend axially inwardly with the ends of the lugs being curved inwardly toward the sides of the housing. The lugs 12 support a continuous helical spring 14 which is adapted to secure the bulb socket assembly 4 in the housing in a manner which will be described hereinafter. The housing 2 is also formed with a radially extending flange 16 having apertures 18 therein adapted to receive threaded members 19 for securing the housing 2 to the lens frame 8.

As illustrated in Figure 3 the bulb socket assembly comprises a bulb socket 20 having a metal collar 22 secured thereto.

The bulb socket 20 is a conventional bayonet type lamp bulb socket adapted to removably secure a lamp bulb 24 and electrical leads 25 for conducting electrical current to the lamp bulb. The socket 20 is provided with an annular flange 26 which cooperates with means on the metal collar 22 to secure the bulb socket and collar as an assembly.

The metal collar 22 is illustrated in Figure 3 as being formed of two substantially tubular metal members 28 and 30 secured together by providing on each of the respective members radially extending flanges 32 and 34 and spinning or bending flange 34 over the peripheral edge of flange 32, as shown. Tubular member 28 is provided with an inturned flange 36 with a peripheral edge 38 forming an aperture 40. Lugs 42 are cut from flange 36 at equilaterally spaced points about the flange end and with the collar 22 positioned on the bulb socket so that the flange 36 abuts one side of flange 26. The lugs 42 are bent over the edge of flange 26 of the bulb socket 20 to engage its opposite side thus securing the collar 22 on the bulb socket 20. The tubular member 30 is formed with equilaterally spaced inwardly pressed side wall portions 43 to provide indented recesses 44 about the periphery of the member for receiving the spring 14 when the bulb socket assembly 4 is inserted in the housing 2. In this connection, it will be clear that the inwardly pressed walls 43 form correspondingly spaced lips 46 about the periphery of the tubular member which engage the spring and hold the bulb socket in position when the bulb socket is inserted in the housing. To provide for ease of insertion of the socket assembly in the housing against the pressure of spring 14 the tubular member 30 is provided with an inwardly tapered end 48.

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In assembling the signaling lamp the lens 6 is secured in place over the housing 2 by the frame 8. In this connection, the lens is provided with a flange 50 which is received in a recess 52 adjacent the edge of the opening in frame 8. A gasket 54 is interposed between the lens and the housing flange 16 to provide a sealed joint between the lens and housing. The continuous helical spring 14 may be positioned on the lugs 12 before the lens is secured in place. With the spring 14 in position on the lugs 12, the spring assumes a triangular form as illustrated in Figure 2 with spaced portions overlapping the opening 10 in the housing. The socket assembly 4 with the bulb 24 in place and a sealing gasket 56 positioned on the tubular member 30 in abutment with flange 34, may then be inserted into the opening 10. As the tubular member 30 passes into the opening 10, the overlapping spring portions are yieldingly urged radially by the lips 46. As the socket assembly 4 is pressed further into its operative position the overlapping spring portions are urged by the spring tension into the indented recesses and effect a securing of the bulb socket assembly in the housing. To remove the bulb socket assembly 4 for replacement of the bulb, it will be obvious that a reversal of the above described operation will occur.

To secure the signaling lamp to the body panel of an automotive vehicle, it is current practice to provide an opening in the body panel adapted to receive the housing and means on the lens frame adapted to be attached to the body panel adjacent the opening thus securing the lamp in the body panel with the lens and frame in substantially the plane of the panel.

While the embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

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

1. A lamp mounting device comprising a support having an opening therein, a lamp socket for removably securing a lamp bulb, a collar attached to said socket, the wall of said collar being spaced from said socket and in sliding engagement with the edge of the opening in said support, said collar having a plurality of spaced indented walls therein and a continuous resilient member secured at spaced points on said support to provide portions of said member in yielding engagement with said indented walls.

2. A lamp mounting device comprising a housing having an opening therein, a lamp socket for removably securing a lamp bulb, a tubular collar attached to said socket, the wall of said collar being spaced from said socket and in free sliding engagement with the edge of the opening in said housing, said collar wall being continuous and having a plurality of spaced indented portions with lips adjacent thereto and a resilient member secured at spaced points on said housing to provide portions of said member in yielding engagement with said indented wall portions and lips.

3. A lamp mounting device comprising a cup-shaped housing having an opening in the wall thereof, a lamp socket for removably securing a lamp bulb therein, a collar attached to said socket, the wall of said collar being spaced from said socket and in sliding engagement with the edge of the opening in said housing, said collar wall having a flange in engagement with one side of said housing and a plurality of spaced in-

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dent portions adjacent said flange to provide lips on said collar and a continuous resilient member secured at spaced points on the other side of said housing to provide portions of said member in engagement with said wall portions and said lips.

4. A lamp mounting device comprising a cup-shaped housing having an opening in the wall thereof and a plurality of inwardly extending lugs adjacent said opening, a lamp socket for removably securing a lamp bulb therein, a collar attached to said socket, the collar wall being spaced from said socket and in sliding engagement with the edge of the opening in said housing, said collar wall having a flange in engagement with one side of said housing and a plurality of spaced indented portions adjacent said flange to provide spaced ridges on said collar and a continuous resilient member supported on said lugs to provide portions of said member in yielding engagement with said wall portions and said ridges for holding said bulb socket and collar in said housing.

5. A signaling lamp for automotive vehicles comprising a cup-shaped housing adapted to be attached to a body panel of said vehicle, said housing having an opening in the wall thereof, a lamp socket adapted to removably secure a lamp bulb therein, said lamp socket having a collar removably secured in said opening, the collar wall being spaced from said socket, said collar wall having a plurality of spaced indented portions therein and a continuous resilient member secured at spaced points to the interior of said housing to provide resilient portions thereof in yielding engagement with said wall portions to yieldingly secure said lamp socket and collar in said housing.

6. A signaling lamp comprising a cup-shaped support having an opening in the wall thereof of sufficient diameter to pass a lamp bulb, a signaling lens extending across said cup-shaped member, means for securing said lens to said support, a lamp socket for removably securing a lamp bulb, a collar attached to said socket and removably secured in said opening, the wall of said collar being continuous and spaced from said socket and having a plurality of indented portions and ridges adjacent thereto and a continuous resilient member secured to the interior of said support at spaced points adjacent said opening to provide portions in yielding engagement with said wall portions and ridges, said wall being in free sliding relationship with the edge of said opening.

7. In combination with a mounting member having an opening therethrough and a continuous resilient member supported at spaced points on the interior of said mounting member with portions overlapping said opening, a lamp socket assembly including an annular collar and adapted to extend into said opening, said collar having spaced indented wall portions with outwardly extending ridges adjacent thereto for engaging said overlapping portions to removably secure said socket assembly in said mounting.

8. In a signaling lamp a mounting member, a lens secured to said mounting member to provide an enclosed housing, an opening in the wall of said mounting member, a lamp socket assembly including an annular collar and adapted to extend into said opening, the wall of said collar being continuous and having indented portions with outwardly diverging portions adjacent thereto, and a continuous resilient member sup-

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ported at spaced points on the inner wall of said mounting member with portions of said resilient member overlapping said opening to engage the indented and diverging wall portions of said collar for removably securing said socket assembly in said mounting member.

9. A lamp mounting device comprising a housing having an opening therein, a lamp socket for removably securing a lamp bulb, said lamp socket having an enlarged portion in sliding engagement with the edge of the opening in said housing and provided with a plurality of spaced indented side walls, and a continuous resilient member secured at spaced points on the interior of said housing to provide portions of said member in yielding engagement with said indented side walls.

10. A signalling lamp comprising a cup-shaped housing having a lens extending across and covering the open side thereof, an opening in a wall of said housing, a lamp socket having an enlarged portion in free sliding engagement with the edge of said opening and provided with a plurality of spaced indented side walls, and a resilient member secured at spaced points around said opening on said housing to provide portions of said member in yielding engagement with said indented side walls.

11. A lamp mounting device comprising a

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housing having an opening in a wall thereof, a lamp socket for removably securing a lamp bulb in said housing, a collar attached to said socket extending into said opening, the wall of said collar being spaced from said socket and having a plurality of spaced indented portions, a continuous resilient member secured at spaced points on the inside of said housing around said opening in engagement with said indented wall portions to removably secure said socket in said housing and a flange on said collar wall for cooperation with the outside of the wall of said housing to limit the movement of said collar into said housing, said socket and lamp bulb being removable from the rear of said housing by disengagement of said indented wall portions from said resilient member.

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