

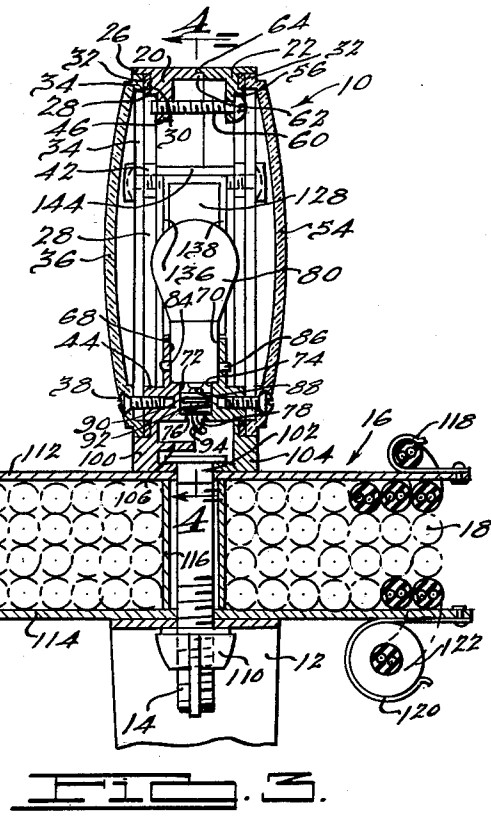
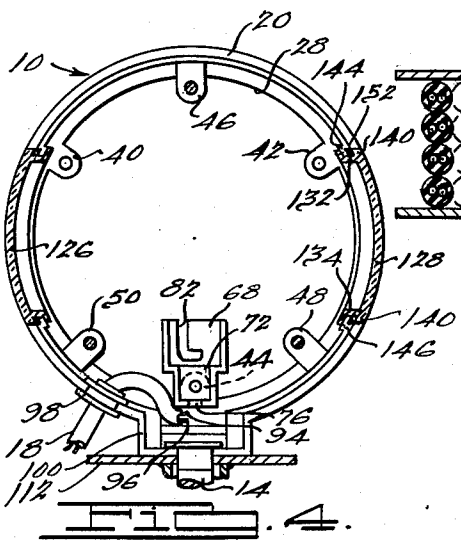
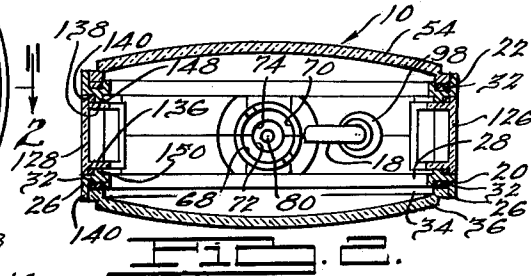
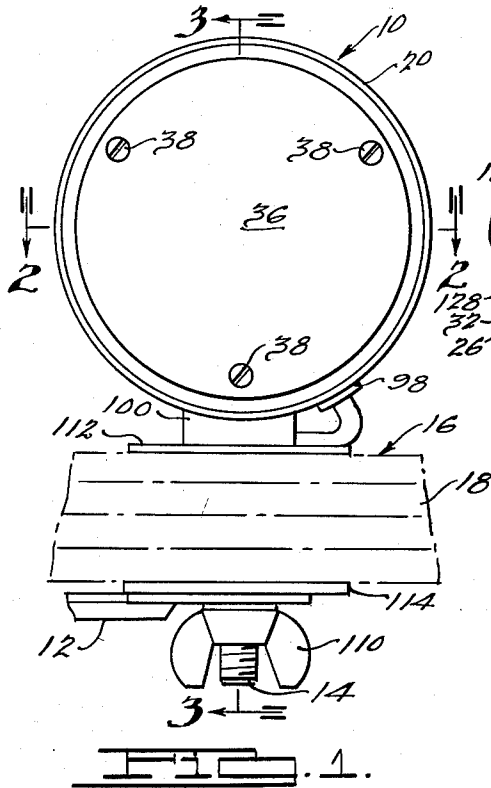
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SAFETY LAMP ASSEMBLY

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SAFETY LAMP ASSEMBLY

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8 Claims. (Cl. 240—8.18)

The principles of the invention are exemplarily embodied in a safety lamp assembly adapted to be demountably associated with an automotive vehicle. The assembly is representatively provided with a length of coiled cable so that in the event of breakdown on the highway or other distress conditions, the lamp assembly may be demounted from the vehicle, the cable unwound, and the lamp placed in an appropriate warning position. To this end, both faces of the lamp are transparent or translucent, the light rays emanating from the rear face of the lamp preferably being red and the light rays emanating from the forward face of the lamp assembly preferably being amber. Additionally, lenses may also be placed on the sides of the assembly so that rays of an appropriate color, such as red, are emitted laterally to be certain that vehicles approaching from any direction will be alerted to the fact that there is a parked vehicle on or adjacent the highway.

Certain of the principles of the invention are broadly applicable to any type of lighting assembly. Thus, in the conventional practice, each lamp assembly adapted to be associated with an automotive vehicle is normally provided with a tubular lamp socket, normally of brass, supported in diverse fashions in a body member. It has been found that the cost of manufacture of a lamp assembly may be simplified, and the cost of manufacture reduced, without impairing either the electrical or mechanical efficiency of the total structure, by forming the lamp socket integrally with the lamp assembly body, and more particularly, by forming the body in two castings, with each casting including a portion which serves as one part of the lamp socket when the two castings are assembled.

It has further been discovered that lenses may be assembled to a body member in an improved fashion by employing plastic lenses provided with projecting flanges which may be peened over portions of the body member by the application of heat during the assembly operation. This method of assembly not only provides a secure inter-attachment between the lens and the body member but also tends to provide a seal against the admission of dust into the lamp assembly, since during the heat peening the flange on the lens is caused to engage the body members intimately and to assume the precise configuration of the body member surfaces which it engages.

The foregoing and other characteristics of the invention will be better appreciated by a consideration of the following detailed description of an embodiment of the invention when read with reference to the accompanying drawings in which:

Figure 1 is an elevational view of a lamp assembly embodying the principles of the invention;

Fig. 2 is a horizontal sectional view, with the bulb removed, taken substantially along the line 2—2 of Fig. 1;

Fig. 3 is a vertical sectional view taken substantially along the line 3—3 of Fig. 1, with the bulb in place; and

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Fig. 4 is a vertical sectional view, with the bulb removed, taken substantially along the line 4—4 of Fig. 3.

The representative lamp assembly disclosed comprises a body assembly 10 affixed to a mounting bracket 12 by means of a stud 14. Mounting bracket 12, fragmentarily represented, is adapted to be mounted interiorly or exteriorly of the automotive vehicle with which the disclosed lamp assembly is intended to be associated. Stud 14 also supports a cable spool assembly 16 around which a cable 18 may be wound so that the lamp assembly may be powered from the vehicle battery and yet be moved a substantial distance from the vehicle in an emergency situation.

As may best be seen in the sectional view, the body assembly 10 comprises a pair of generally annular mating body portions: an outer body portion 20 and an inner body portion 22. For the most part, the two body portions 20 and 22 are mirror images of one another. Zinc base die castings have been successfully employed as the body portion 20 and 22.

The annular outer body casting 20 is provided with spaced-apart, parallel, concentric flanges 26 and 28 (Figs. 2 and 3) defining an annular slot 30 in which, if desired, an annular gasket 32 may be seated. A flange 34 upon the outer convex lens 36 abuts both the gasket 32 (if one be provided) and the flange 26 so as to provide a proper seal. The outer lens 36 is attached to the outer body casting 20 by means of screws 38 (Fig. 1) which engage tapped apertures in individual depending tabs 40, 42 and 44 (Fig. 4) formed integrally with and extending radially inwardly from the flange 28.

Additional tabs 46, 48 and 50 extend radially inwardly from the outer periphery of the outer body portion 20 (Fig. 4). Tabs 46, 48 and 50 may be coplanar with tabs 40, 42 and 44 but are representatively shown (Fig. 3) to be disposed in a plane slightly offset from that of the tabs 40, 42 and 44.

The inner body casting 22 is identical to the outer body casting 20 as far as the outer body casting 20 has been thus far described, being provided with an inner lens 54 attached in the same manner as lens 36 and being further provided with an additional trio of tabs which are counterparts of tabs 46, 48 and 50 on the outer body casting 20 (Fig. 4).

The outer and inner body portions 20 and 22 are held together by machine screws engaging tabs 46, 48 and 50 on the outer body portion 20 and the corresponding tabs on the inner body portion 22. Thus, as may be seen in Fig. 3 of the drawings, tab 56 on the inner body casting 22 is cored to accept the shank of a machine screw 60 and tab 46 on the outer body portion 20 is apertured and tapped to threadedly accept screw 60.

Over the major portion of the body assembly, the junction between the outer body portion 20 and the inner body portion 22 is an annulus. To insure that the positional relationship of the outer and inner body portions is maintained and to provide a seal against the admission into the inner cavity of the lamp assembly of foreign materials such as dust, the outer and inner body portions 20 and 22 are provided with radially offset projections 62 and 64, respectively, which mesh to form a half-lap joint. This joint and the other areas of junction between the two body portions are preferably coated with a viscous adherent or a mastic during assembly to insure an adequate seal.

As may best be seen in Fig. 3, the outer body casting 20 and the inner body casting 22 are provided with upper mating semi-cylindrical concave surfaces 68 and 70, intermediate mating semi-cylindrical concave surfaces 72 and 74, and lower mating semi-cylindrical concave surfaces 76 and 78. When assembled, surfaces 68 and 70 define a cylindrical socket adapted to accept

a lamp 80, each of the surfaces 68 and 70 being provided with an L-shaped slot such as 82 (Fig. 4) to accept bayonet prongs 84 and 86 of the lamp 80.

The mating surfaces 72 and 74 define a well for accepting an assembly including a contact 88, an insulating washer 90 and a spring 92. The lower mating surfaces 76 and 78 define an aperture through which the conductor 94, a constituent element of the cable 18, may extend. The other conductor 96 (Fig. 4) in the cable 18 is connected to the body castings in any appropriate fashion. The cable 18 then passes through an aperture in the body casting, a grommet 98 preferably being provided to insure a seal.

As may best be seen in Fig. 3, the outer and inner body portions 20 and 22 are also provided with downwardly extending portions 100 and 104, respectively, serving to define, when the two portions are assembled, a generally hollow, circular cylindrical neck portion, the base of which is apertured to accept the shoulder portion 102 of the mounting stud 14. A laterally projecting web 106 may be provided on the outer body portion 20 to overlie and limit upward motion of the head portion of the mounting stud 14.

The mounting stud 14 serves to retain the lamp body assembly 10, and the cable spool 16 upon the bracket 12, the assembly being retained in place by a wing nut 110. Spool assembly 16 comprises upper and lower plates 112 and 114 welded or otherwise secured to a tube 116 through which the shank of the mounting stud 14 extends. The shoulder 102 of the mounting stud 14 may be noncircular, such as square, with the apertures in the neck portion of the body assembly 10 and the upper spool plate 112 being similarly configured to inhibit relative rotation among those members.

It will be noted that a clip 118 may be mounted upon the upper spool plate 112 to retain the cable 18 in position as it extends from the spool assembly 16 into the body assembly 10, and a clip 120 may be mounted upon the lower cable spool plate 114 to mount a socket 122 of any appropriate type adapted to engage a mating plug mounted on the vehicular body and supplied with appropriate voltage.

As previously indicated, it is desirable to provide warning illumination laterally of the assembly as well as fore and aft. To this end, outlet lenses 126 and 128 may be provided in the sides of the body assembly 10. Each of the outlook lenses such as lens 128 (Figs. 2, 3 and 4) is primarily in the form of a rectangular plate curved to the cylindrical configuration of the body assembly 10. Interjoined upper, and lower side ridge members 132, 134 (Fig. 4) 136 and 138 (Figs. 2 and 3) extend perpendicularly to the main plate portion of the lens 28 and around its perimeter, but this ridge is spaced from the plate edges to define a peripheral lip 140 (Figs. 2 and 4).

Each of the outlook lenses, such as lens 128, seats within an apertured recess in the body assembly 10. The recess is of the same size and shape as the plate portion of the outlook lens 28 including the peripheral lip 140. The aperture is of similar form but is of appropriate size to accept and engage the ridge portions 132 to 138. Thus, the upper and lower edges of the recess are defined by flanges 144 and 146 (Fig. 4) while the sides of the aperture are formed by flanges 148 and 150 (Fig. 2). It will be appreciated that side flange 136 is actually part of the outer body casting 20, that side flange 138 is actually a part of the inner body casting 22 and that the upper and lower flange portions 144 and 146 are actually roughly medially divided, a portion of each appearing on each of the body portions 20 and 22.

As may best be seen in Fig. 4, a generally rectangular gasket 152 may be interposed the peripheral lip 140 on the outlook lens 128 and the flanges 144 to 150.

The side ridge members 136 and 138 on outlook lens 128 are shown in Fig. 2 in their normal form as they

are when lens 128 is inserted in the body assembly 10. The outlook lens 128 may be affixed in this inserted position in any suitable fashion such as by an appropriate adhesive. However, it is preferred that the inwardly protruding edges of the peripheral ridge be peened over the casting flanges such as by the use of a soldering iron or other appropriate tool. Thus, as is represented in Fig. 4, the inner end of the upper ridge portion 132 is heat peened upwardly over flange 144 and the inner end of the lower ridge portion 134 is heat peened downwardly over flange 146 to form a tight seal and to firmly retain the outlook lens 128 in place. It is also contemplated, though for clarity is not shown, that ridge portion 138 (Fig. 2) be heat peened over flange 148 and that ridge portion 136 be heat peened over flange 150.

It will be appreciated that outlook lens 126 may be identically formed to outlook lens 128 and attached to the body assembly 10 in an identical fashion.

The unit may be conveniently assembled by positioning the electrical elements, other than the bulb 80, as well as the mounting stud 14 in either the outer body casting 20 or the inner body casting 22, placing those two body portions in proper relationship and inter-attaching them by the three machine screws including screw 60, by then inserting and heat peening the outlook lenses 126 and 128, by then inserting the bulb 80, and by then attaching the lenses 36 and 54 in place by means of their screws, such as screws 38. Subsequent bulb replacement may be readily accomplished by removing lens 36 or 54.

While it will be apparent that the embodiment of the invention herein disclosed is well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without department from the proper scope or fair meaning of the subjoined claims.

What is claimed is:

1. In a lamp assembly including a lamp, a lens, two similar, metallic cast, frame-shaped body portions generally conforming to the shape of said lens, means inter-connecting said body portions end to end to form a frame-shaped body, said lens being peripherally supported by said frame-shaped body, and a half lamp socket cast integrally with each of said body portions and aligned to define a lamp socket electrically connected to the lamp and supporting the lamp centrally of the frame-shaped body and centrally of said lens.

2. In a lamp assembly including a lamp, a lens, two similar, metallic cast, frame-shaped body portions generally conforming to the shape of said lens, means inter-connecting said body portions end to end to form a frame-shaped body, said lens being peripherally supported by said frame-shaped body, a half lamp socket cast integrally with each of said body portions and aligned to define a lamp socket electrically connected to the lamp and supporting the lamp centrally of the frame-shaped body and centrally of said lens, an electrical contact assembly, and a two-section well accepting said contact assembly, one section of said well being integral with each of said body portions and disposed radially outwardly from said half lamp socket.

3. In a lamp assembly including a lamp, a lens, two similar, metallic cast, frame-shaped body portions generally conforming to the shape of said lens, means inter-connecting said body portions end to end to form a frame-shaped body, said lens being peripherally supported by said frame-shaped body, a half lamp socket cast integrally with each of said body portions and aligned to define a lamp socket electrically connected to the lamp and supporting the lamp centrally of the frame-shaped body and centrally of said lens, said means for interconnecting said body portions comprising a plurality of radial tabs on each of said portions, said radial tabs being aligned in pairs, and a plurality of screws each engaging a corresponding pair of said tabs to interattach said body portions.

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4. In a lamp assembly including a lamp, two similar cast, generally ring-shaped body portions, means interconnecting said body portions end to end to form a generally ring-shaped body, a half lamp socket cast integrally with each of said body portions and aligned to define a lamp socket electrically connected to the lamp and supporting the lamp centrally of the ring-shaped body, said means for interconnecting said body portions comprising a plurality of radial tabs on each of said portions, said radial tabs being aligned in pairs, a first plurality of screws each engaging a corresponding pair of said tabs to interattach said body portions, a second plurality of radial tabs on one of said body portions each having a tapped aperture, an apertured lens, and a second plurality of screws passing through the apertures in said lens and engaging the tapped apertures in said second plurality of tabs.

5. In a lamp assembly including a lamp, two similar cast, generally ring-shaped body portions, means interconnecting said body portions end to end to form a generally ring-shaped body, a half lamp socket cast integrally with each of said body portions and aligned to define a lamp socket electrically connected to the lamp and supporting the lamp centrally of the ring-shaped body, an electrical contact assembly, and a two-section well accepting said contact assembly, one section of said well being integral with each of said body portions and disposed radially outwardly from said half lamp socket, a headed mounting screw for the lamp assembly extending radially outwardly from said body, and a half screw-head socket cast integrally with each of said body portions and aligned to define a screw head socket disposed radially outwardly from said two-section well.

6. In a lamp assembly, two similar cast, generally ring-shaped body portions, means interconnecting said body portions end to end to form a generally ring-shaped body, said body portions having aligned recesses extending from the mating ends to form a single lens-receiving aperture, a lens larger than said aperture and abutting the outside of both of said body portions adjacent said recesses, and means for locking said lens to said body member comprising flange means on said lens insertable in said aperture and engaging edges of both of said body portions at said recesses, and lip means on said flange engaging the inner side of both of said body portions adjacent said recesses.

7. In a lamp assembly including a lamp, a body mem-

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ber enclosing the lamp and having a generally rectangular aperture therein, supporting means for supporting the lamp within said body member, a generally rectangular rigid lens larger in width and height than the width and height, respectively, of said aperture and abutting one side of said body member around the entire periphery thereof, said lens permitting light from the lamp to pass therethrough, and means for locking said lens to said body member and for fixing said lens against movement relative to and against removal from said body member comprising a flange on said lens insertable in said aperture, and lips on said flange engaging the other side of said body member adjacent said aperture.

8. In a lamp assembly including a lamp, a body member enclosing the lamp and having a generally rectangular recess therein and a generally rectangular aperture in but smaller than said recess, supporting means for supporting the lamp within said body member, a generally rectangular rigid lens seated in said recess and larger in width and height than the width and height, respectively, of said aperture and engaging the surface of the recess around the entire periphery thereof, said lens permitting light from the lamp to pass therethrough, and means for locking said lens to said body member and for fixing said lens against movement relative to and against removal from said body member comprising a peripheral flange extending generally perpendicularly to said lens and through said aperture, and lips on said flange engaging the other side of said body member.

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