Nov. 16, 1937. J. D. LANGDON 2,099,444

LIGHT CASING

Filed Dec. 4, 1936

Fig. 1.

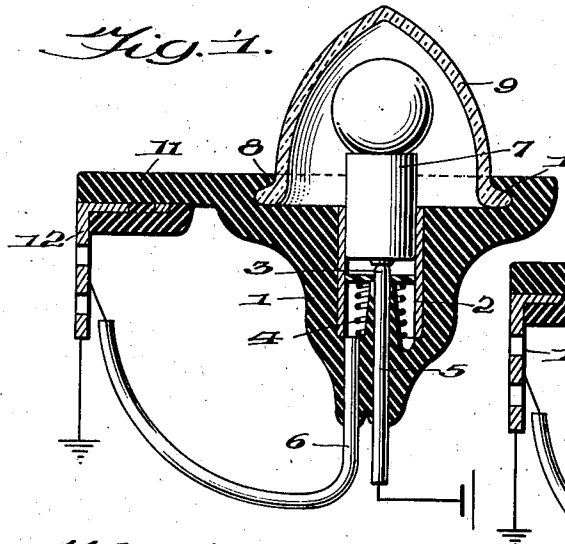


Fig. 5.

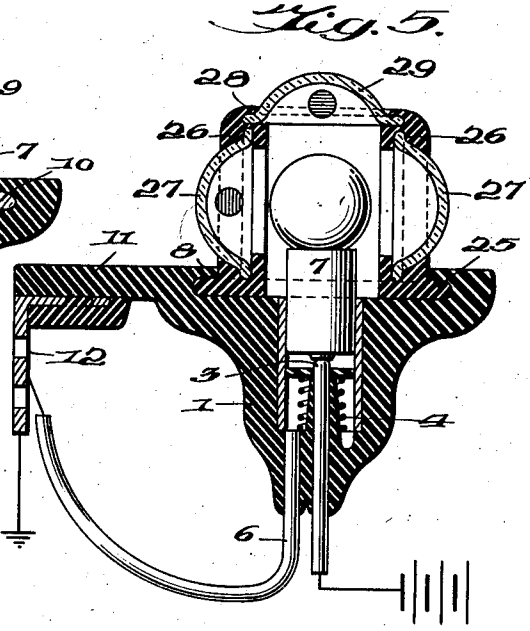


Fig. 2.

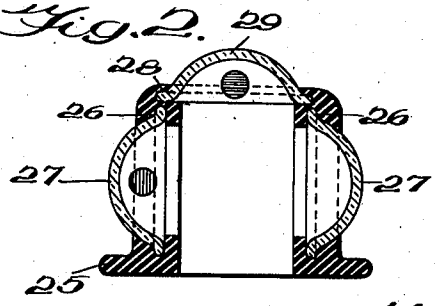
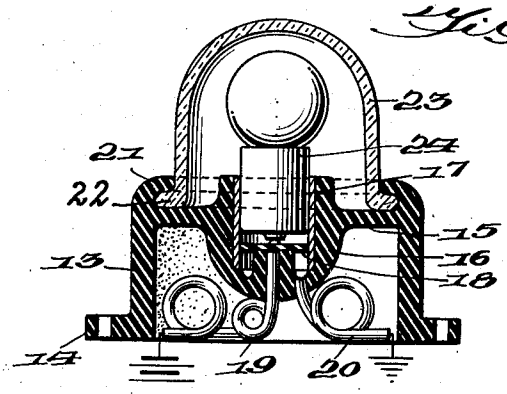


Fig. 6.

Fig. 3.



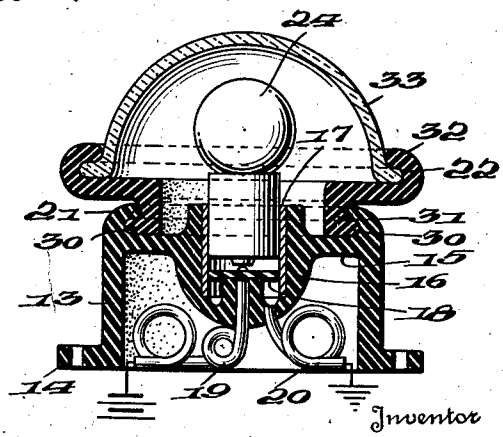
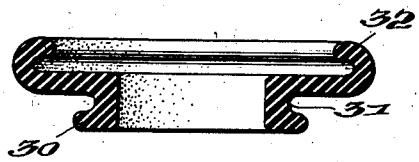


Fig. 4.



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UNITED STATES PATENT OFFICE

2,099,444

LIGHT CASING

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Application December 4, 1936, Serial No. 114,219

10 Claims. (Cl. 240—7.1)

My invention consists in new and useful improvements in signal lights for automotive vehicles and has for its object to provide a structure wherein lenses of various sizes and types may be employed in connection with a lamp casing provided with a standard size lens receiving rim.

Another object of my invention is to provide a structure of this nature wherein the lamp casing is composed of resilient material, such as rubber or the like, which is capable of absorbing impact from any direction so as to alleviate the hazard of breakage.

A further object of my invention resides in the structure of a lamp casing in the form of a substantially hollow body portion of resilient material, the walls of which are sufficiently resilient to give under impact from any direction while maintaining sufficient rigidity under normal conditions to afford full support.

A still further object of my invention is to provide a lamp casing of resilient material having at its outer end a shallow inturned rim forming a lens receiving recess normally adapted to retain a lens of a given diameter, and including a lens adapter provided with a basal flange engageable by said lens receiving rim, having at its opposite end a lens receiving rim for retaining a lens of a different size or type.

It is also an object of my invention to provide in a structure such as just referred to, a lens adapter having a central opening therein to accommodate an electric light bulb retained in the lamp casing and projecting outwardly beyond the shallow inturned rim on the lamp casing.

A still further object is to provide an adapter for use in connection with a lamp casing of the type herein described which is provided with a plurality of lenses of various colors disposed in different directions.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel features hereinafter set forth, illustrated in the accompanying drawing and more particularly pointed out in the appended claims.

Referring to the drawing in which numerals of like character designate similar parts throughout the several views,

Fig. 1 is a longitudinal sectional view of one form of lamp casing with one type of lens in place.

Fig. 2 is a sectional view of one form of lens adapter provided with a plurality of lenses disposed in different directions.

Fig. 3 is a sectional view of another form of lamp casing with a modified shape of lens in place.

Fig. 4 is a sectional view showing a different type of lens adapter.

Fig. 5 is a sectional view showing a combination of the lamp casing shown in Fig. 1 with the adapter shown in Fig. 2, and

Fig. 6 is a sectional view showing a combination of lamp casing shown in Fig. 3 with the lens adapter of Fig. 4.

In the drawing, referring to Fig. 1, numeral 1 designates the body portion proper of the lamp structure preferably composed of resilient material such as rubber, and is provided centrally with a suitable recess for receiving an electric light socket 2, an insulating washer 3, a spring 4, live wire 5, and ground wire 6, all comprising the various attachments for an electric lamp 7 retained in the upper end of said socket 2.

The opposite face of the body 1 is provided with a shallow recess circumscribed by an inturned lens receiving rim 8. A cup shaped lens 9 having a peripheral bead 10 is disposed in said recess with the bead 10 in closely fitting engagement with the rim 8.

The body 1 terminates at one side in an integral supporting arm 11 in the form of a substantially flat resilient strip, the free end of which has preferably molded therein a metal angular bracket 12 for the purpose of mounting the entire structure at the desired point on a vehicle.

As before stated, the entire body structure 1 including the supporting arm 11 is composed of suitable resilient material such as rubber which not only affords flexibility for cushioning impact, but facilitates the insertion and removal of the lens 9 from the lens retaining recess formed by the rim 8.

Referring now to Fig. 3, I have shown a different embodiment of lamp housing which comprises a substantially cylindrical hollow body portion 13 composed of rubber or other suitable resilient material, said body terminating at one end in an out-turned flange 14 which serves as a mounting means. Adjacent the other end, the body portion is provided with a transverse diaphragm 15 provided centrally with a thickened portion 16 which projects beyond the diaphragm in both directions. A recess in the thickened portion 16 receives a lamp socket 17 having an insulating washer and contact 18, a live wire 19, and ground wire 20 which comprise the various attachments for an electric light.

The opposite end of the body portion 13 adjacent the diaphragm 15 is provided with an

inturned rim 21 which forms a shallow lens receiving recess within which the peripheral bead 22 of a cup shaped lens 23 is adapted to closely fit. An electric light bulb 24 is disposed in the socket 17 with its globe extending outwardly beyond the rim 21 and into the cup shaped lens.

As in the case of Fig. 1, the body portion of the lamp casing of Fig. 3 is sufficiently resilient to withstand sudden shocks and jars and also to facilitate the insertion and removal of the lens 23. Furthermore, the structure of the lamp casings in both Figs. 1 and 3 is such that the lamp socket and electrical connections are sealed by the material of the body portion against the entrance of moisture and dust, as clearly shown in the drawing.

In Fig. 2 I have shown one form of lens adapter which may be used in combination with either of the lamp casings of Fig. 1 or 3. This structure comprises a body portion preferably composed of rubber or similar material, having at one end a basal flange 25 adapted to fit into the lens receiving recess of a lamp casing. The body portion is hollow and projects outwardly beyond the basal flange 25, its side walls being provided with openings bounded by lens receiving recesses 26 adapted to receive suitable lenses 27. The end wall of the body portion is also preferably provided with a similar opening bounded by a lens receiving recess 28 for accommodating an end lens 29. These lenses may be of various colors to suit requirements, and due to the resilient nature of the adapter body, are readily removable and interchangeable.

In Fig. 5 I have shown the lens adapter of Fig. 2 replacing the cup shaped lens on the lamp casing of Fig. 1, with the basal flange 25 engaged by the rim 8, and the electric light 7 projecting through the central opening of the hollow body portion of the adapter in alignment with the various lenses.

The lens adapter shown in Fig. 4 is primarily for the purpose of facilitating the use of a lens of different size in connection with either of the lamp casings shown in Figs. 1 and 3. This adapter is also preferably made of rubber or other resilient material and consists of a basal flange 30 at one end of the rubber body portion, said body portion having a relatively short neck 31 which terminates at its outer end in a shallow lens receiving portion in the from of an inturned rim 32. The neck 31 has an opening extending therethrough for accommodating an electric light bulb when the device is in place on a light casing as shown in Fig. 6. It will be noted that the lens receiving portion of the adapter shown in Fig. 4, while illustrated as considerably larger in diameter than the basal flange 30 for accommodating a larger lens than that normally designed for use with a particular lamp casing, it may, if desired, be of smaller diameter than said basal flange to accommodate a smaller lens.

In Fig. 6 I have illustrated the adapter of Fig. 4 in place on the lamp casing of Fig. 3 with a larger lens 33 retained in the lens receiving recess of the adapter.

It will thus be seen that the lens adapters of Figs. 2 and 4 may be used with either the lamp casing of Fig. 1 or of Fig. 3 and are readily interchangeable. In fact, my invention contemplates the use of adapters of this nature with any lamp casing having a peripheral lens receiving recess, and while I have shown specific examples of certain types of lamps and adapters, it is obvious that these are for the purpose of illustration only.

Due to the resilient nature of the material employed in the manufacture of these lamp casings and adapters, the removability and interchangeability of the parts is greatly facilitated in addition to the fact that such material is shock absorbing and waterproof.

From the foregoing it is believed that the construction and advantages of my invention may be readily understood by those skilled in the art without further description, it being borne in mind that numerous changes may be made in the details disclosed without departing from the spirit of my invention as set out in the following claims.

What I claim and desire to secure by Letters Patent is:

1. The combination with a lamp casing forming a supporting base provided on its outer face with an annular inturned rim member forming a flange retaining recess normally adapted to receive a lens, a lens adapter including at one end a basal flange member adapted to fit into said flange retaining recess in engagement with said inturned rim, at least one of said last named member being composed of flexible material to facilitate the insertion of the flange within the recess, a lens retaining rim on the opposite end of said adapter integral with the basal flange, and a lens fitting in said last named rim.

2. The combination with a lamp casing forming a supporting base provided on its outer face with an annular inturned rim member forming a flange retaining recess normally adapted to receive a lens, said base being provided centrally of said recess with an electric lamp socket receiving aperture, an electric lamp socket in said aperture, a lamp in said socket, a lens adapter including at one end a basal flange member adapted to fit into said flange retaining recess in engagement with said inturned rim, at least one of said last named members beiing composed of flexible material to facilitate the insertion of the flange within the recess, a lens retaining rim on the opposite end of said adapter integral with the basal flange, and a lens fitting in said last named rim, said lens adapter being provided with a central opening concentric with the socket receiving aperture in said supporting base, whereby said lamp projects into said lens adapter.

3. The combination with a lamp casing comprising a substantially hollow body portion of resilient material and having a diaphragm extending across one end thereof, an opening in said diaphragm adapted to receive an electric light socket, a socket in said opening, electrical conductors leading to said socket from the underside of said diaphragm, an inturned flange retaining rim formed integral with said body surrounding said socket opening on the outer face of said diaphragm and normally adapted to receive a lens; of a lens adapter retained in said rim, means on said adapter for supporting a lens, and a lens in said supporting means.

4. The combination with a lamp casing of resilient material forming a supporting base provided on its outer face with an annular inturned rim forming a flange retaining recess, a lamp socket in said casing, a lens adapter including a basal flange at one end adapted to fit into said retaining rim, a lens supporting body at the other end of said adapter, a central opening extending through said adapter to accommodate an electric light bulb retained in said socket, and at least one lens mounted in said last named body.

5. The combination with a lamp casing of

resilient material forming a supporting base provided on its outer face with an annular inturned rim forming a flange retaining recess adapted to normally receive a lens of predetermined size, a lens adapter including at one end a basal flange adapted to fit into said flange retaining recess in engagement with said inturned rim, a lens supporting body integral with said basal flange, at least one lens retaining rim integral with said body and of a different diameter than that of the flange retaining rim on said lamp casing, whereby a lens of different size than that normally fitting in said flange retaining rim may be retained in said adapter.

6. The combination with a lamp casing of resilient material forming a supporting base provided on its outer face with an annular inturned rim forming a flange retaining recess adapted to normally receive a lens of predetermined size, said base being provided centrally of said recess with an electric lamp socket receiving aperture, a socket in said aperture, an electric light bulb in said socket, electrical connections leading into said socket, a lens adapter including at one end a basal flange adapted to fit into said flange retaining recess in engagement with said inturned rim, a lens supporting body integral with said basal flange, a central opening extending through said body to accommodate said electric light bulb retained in said socket, a lens retaining rim integral with said body and of a different diameter than that of the flange retaining rim on said lamp casing, whereby a lens of different size than that normally fitting in said flange retaining rim may be retained in said adapter.

7. The combination as claimed in claim 6 wherein the lens supporting body of said adapter is provided with a plurality of lens retaining rims arranged in different planes, and lenses retained in said rims.

8. The combination with a lamp casing provided with an electric light bulb, of a lens adapter of resilient material including means for mounting the same on said lamp casing, an integral body portion projecting outwardly from said mounting means, a central opening in said body portion to accommodate said light bulb, a plurality of openings in said body portion adjacent different sides of said light bulb, lens retaining recesses adjacent said openings, and lenses retained in said recesses.

9. A lamp casing comprising a substantially hollow body portion of resilient material, a diaphragm extending across the outer end of said body, a shallow inturned rim integral with said body and extending radially inwardly over said diaphragm, forming a lens retaining recess, a central opening in said diaphragm adapted to receive an electric light socket, a socket in said opening, an electric bulb in said socket, the globe of which extends outwardly beyond said rim, electrical conductors leading to said socket from the underside of said diaphragm, and a cup shaped lens provided with a circumferential bead fitting in said recess in close engagement with said rim.

10. A lamp casing as claimed in claim 9 including mounting means for said body portion at the end opposite said lens retaining recess.

JESSE D. LANGDON.