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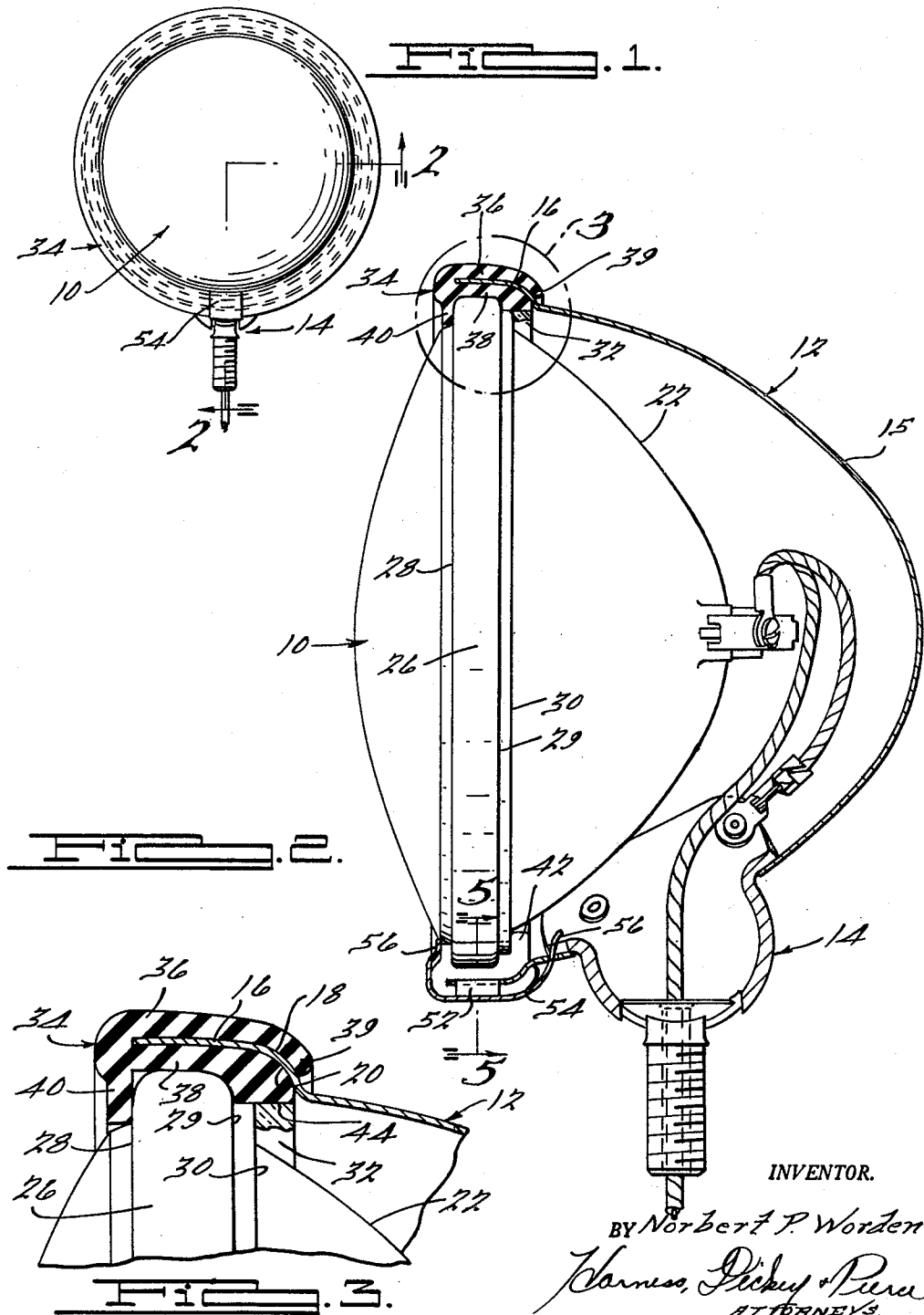
N. P. WORDEN

3,177,356

RESILIENTLY SUPPORTED LAMP

Filed June 22, 1961

2 Sheets-Sheet 1



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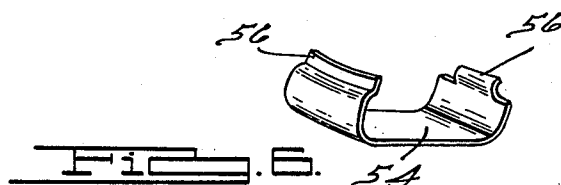
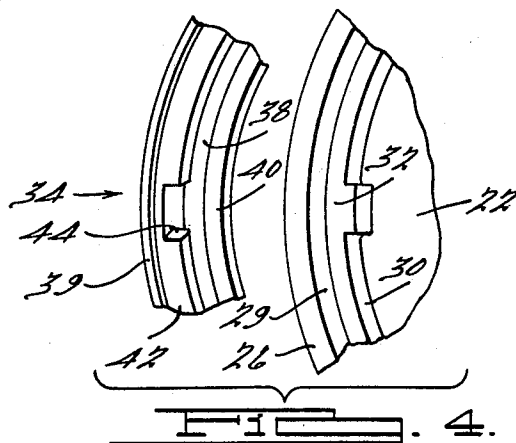
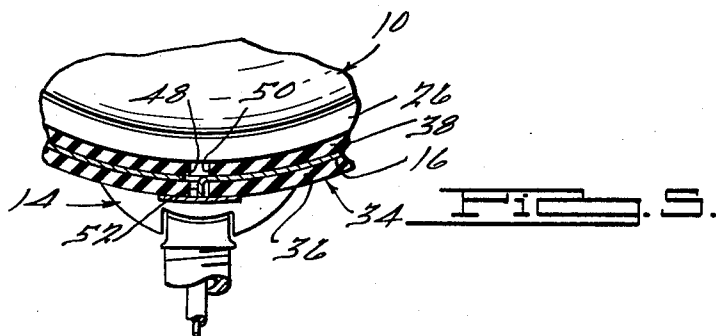
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2 Sheets-Sheet 2



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1

3,177,356

RESILIENTLY SUPPORTED LAMP

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14 Claims. (Cl. 240—41.5)

This invention relates to resiliently supported lamps and more particularly to lamps in which the light unit, such as a sealed beam unit or a bulb assembly, is resiliently supported within a hollow lamp body.

An object of this invention is to improve the resilient mounting of a light unit within a lamp housing.

Another object of this invention is to improve the means for securing a resilient grommet to a lamp body.

Another object of this invention is to improve and reduce the cost of light unit supporting grommets by utilizing extruded grommet material.

Another object of this invention is to improve the establishment of a preselected rotational orientation between a light unit and a lamp body.

Another object of this invention is to secure the two adjacent ends of a discontinuous grommet to a lamp body and to improve the appearance of the exposed discontinuity in the grommet.

The manner of accomplishing the foregoing objects and other objects and features of the invention will become apparent from the following detailed description of an embodiment of the invention when read with reference to the accompanying drawings in which:

FIGURE 1 is a view in vertical section of a lamp assembly embodying the principles of the present invention;

FIG. 2 is a section taken substantially along the line 2—2 of FIG. 1;

FIG. 3 is an enlarged view of the area "3" on FIG. 2;

FIG. 4 is a fragmentary exploded view of certain of the elements of the structure of FIG. 1;

FIG. 5 is a fragmentary sectional view taken substantially along the line 5—5 of FIG. 2; and

FIG. 6 is a view of a cly element employed in the structure of FIG. 1.

While the principles of the above invention may be applied to other types of lamp assemblies, they are illustratively embodied in a unit in which a bulb assembly 10, such as a sealed beam unit, is supported within a lamp body or housing 12 which is relatively non-resiliently mounted upon a vehicle by means including mounting assembly 14.

The lamp body 12 includes a hollow metal shell 15 with a forwardly projecting generally cylindrical flange portion 16, which, in the illustrated embodiment, is actually slightly conical in that it flares outwardly at the forward edge. The diameter of the flange portion 16 is larger than that of the shell portion 15 adjacent thereto and the two parts are interjoined by an angularly disposed portion the outer surface 18 of which forms an exterior circumferential generally rearwardly facing shoulder disposed adjacent and at the rear of the flange portion 16, and the inner surface 20 of which forms an interior generally forwardly facing shoulder portion.

The lamp body 12 supports a bulb assembly 10 including a filament (not shown), a reflector portion 22 and a lens portion 24 all of which are illustratively combined in an integrated assembly in the form of a sealed beam unit. The lens portion 24 (or the lens portion or the reflector portion on a non-integrated unit) is provided

2

with a raised, stepped, circumferential bead 26 having a forward circumferential shoulder 28, an intermediate shoulder 29, and a rearward circumferential shoulder 30. In addition, the bead is provided with one or more discontinuities such as the boss 32 for rotational keying purposes.

In the illustrated arrangement, the bead 26 of the bulb assembly 10 lies within the flange portion 16 of the lamp body 12 and is retained and resiliently supported there- within by means of a grommet 34. Grommet 34 includes an outer circumferential portion 36 and an inner circumferential portion 38 which are formed integrally with one another, being interjoined at their forward edges. The slot between those portions accepts the flange portion 16, with the inner surface of the outer circumferential portion 36 engaging the outer surface of the flange portion 16, and with the outer surface of the inner circumferential portion 38 engaging the inner surface of the flange portion 16.

The rear end of the inner circumferential portion 38 of the gasket 34 abuts the interior forwardly facing shoulder portion 20 of the lamp body 12 and the outer circumferential portion 36 is provided at its rear with a lip portion 39 the inner surface of which engages the exterior circumferential rearwardly facing shoulder 18. The former engagement secures the grommet 34 against rearward movement with respect to that lamp body 12, and the latter engagement limits movement of the grommet 34 against forward movement with respect to the lamp body 12. It is contemplated that the rearward movement of the grommet 34 with respect to the lamp body 12 may also or alternatively be restricted by virtue of the engagement of the forward edge of the flange 16 with the base of the groove in the grommet 34.

The inner surface of the inner circumferential portion 38 of grommet 34 is grooved to define a forward, generally annular, radially inwardly directed flange portion 40 and a stepped rearward flange portion 42. Flange portion 40 engages the forward circumferential shoulder 28 of the bead 26 and flange portion 42 engages shoulders 29 and 30 of bead 26. In this manner, the bulb assembly 10 is secured to the gasket 34 and hence is resiliently held against either forward or rearward of radial movement with respect to the lamp body 12.

As may best be seen in FIGURES 3 and 4, the rearward flange portion 42 of the grommet 34 is provided with a notch, as at 44, to accept the keying boss 32 so as to establish a preselected orientation between the grommet 34 and the bulb assembly 10.

While grommet 34 may be a continuous, molded unit, it is preferred that the grommet be in the form of an extruded strip which is formed into a circle as an incident of the assembly of the grommet to the other elements, with its two ends 48 and 50 (FIG. 5) brought into proximity to one another at one point on the circumference of the bead 26 and flange 16. To locate the grommet 34 in preselected rotational orientation with respect to the lamp body 12, in order to complete the orientation of the bulb assembly 10 with respect to the lamp body 12, a projection 52 is formed in the flange portion 16 at the point on the circumference thereof at which the two ends 48 and 50 of the grommet strip are in proximity and lies between those two ends.

While the grommet 34 will tend to be retained in position throughout its length due to the engagement of the resilient lip portion 39 with the exterior circumferential shoulder 18, it is contemplated that the two ends of the

grommet strip be further retained in position by means of a clip 54 (FIG. 6) which is permanently or removably secured to the lamp housing 12 and which engages both the outer and the forward surfaces of the two end portions 48 and 50 of the grommet strip to clamp them in position. In the illustrated arrangement, the shell 15 is provided with a short transverse slot in which a curved tongue portion 56 of the clip 54 is inserted. Clip 54 is further provided with a resilient forward tongue 56 which is snapped over and into forceful engagement with the forward surface of the grommet 34, tending to move ends 48 and 50 rearwardly. It will be observed that the clip 54 also serves to seal the unit at the channel between the two ends 48 and 50 of the grommet and serves to conceal the joint in the grommet.

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

What is claimed is:

1. In a lamp assembly including a lamp lens having a circumferential bead, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder adjacent said flange portion, said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, and a lip integral with said outer circumferential portion and engaging said rearwardly facing shoulder.

2. In a lamp assembly including a lamp lens having a circumferential bead, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder at the rear of said flange portion; said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, and a lip integral with and at the rear of said outer circumferential portion and engaging said rearwardly facing shoulder.

3. In a lamp assembly including a lamp lens having a circumferential bead, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder at the rear of said flange portion, said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, and a circumferential lip integral with and at the rear of said outer circumferential portion and engaging said rearwardly facing shoulder.

4. In a lamp assembly including a lamp lens having a circumferential bead with forward and rearward circumferential shoulders, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder adjacent said

flange portion, said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, a lip integral with said outer circumferential portion and engaging said rearwardly facing shoulder on said body, and forward and rearward integral flange portions on said inner circumferential portion engaging the forward and rearward circumferential shoulders on the lens bead.

5. In a lamp assembly including a lamp lens having a circumferential bead with forward and rearward circumferential shoulders, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder at the rear of said flange portion, said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, and a circumferential lip integral with and at the rear of said outer circumferential portion and engaging said rearwardly facing shoulder on said body, and forward and rearward integral flange portions on said inner circumferential portion engaging the forward and rearward circumferential shoulders on the lens bead.

6. In a lamp assembly including a lamp lens having a circumferential bead, the combination of a lamp body having a forwardly projecting flange portion and a shoulder adjacent said flange portion having an exterior rearwardly facing portion and an interior forwardly facing portion, said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an inwardly projecting flange portion on said inner circumferential portion engaging said interior forwardly facing portion on said shoulder, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, and a lip integral with said outer circumferential portion engaging said exterior rearwardly facing portion of said shoulder.

7. In a lamp assembly including a lamp lens having a circumferential bead with forward and rearward circumferential shoulders, the combination of a lamp body having a forwardly projecting flange portion and a shoulder adjacent said flange having an exterior rearwardly facing portion and an interior forwardly facing portion, said flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, and a resilient grommet including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, a lip integral with said outer circumferential portion engaging said exterior rearwardly facing portion of said shoulder, a forward integral flange portion on said inner circumferential portion engaging the forward circumferential shoulder on the lens bead, and a rearward integral flange portion on said inner circumferential portion disposed between and engaging

8. In a lamp assembly including a lamp lens having a circumferential bead with a discontinuity thereon, the combination of a lamp body having a forwardly projecting flange portion having an outer surface and having an inner surface adapted to surround the lens bead in spaced relation therewith, an extruded resilient grommet strip having two ends and including an inner circumferential portion disposed between and engaging the inner surface of said flange portion and the bead on the lens and an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, the two ends of said strip being disposed adjacent one another at one point along the circumference of the body, means on said inner circumferential portion engaging the discontinuity on the bead for locating the lens in a rotational sense relative to the grommet strip, and a projection on said body at said one point disposed between said ends.

10. In a lamp assembly including a lamp lens having a circumferential bead, the combination of a lamp body having a forwardly projecting flange portion having an outer surface and having an inner surface disposed in radial spaced relation with and surrounding the lens bead, an extruded resilient grommet strip having two ends and including an inner circumferential portion disposed radially between and occupying the radial space between and engaging both the inner surface of said flange portion and the bead on the lens and an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, the two ends of said strip being disposed adjacent one another at one point along the circumference of the body, and clip means secured to said body adjacent said one point and engaging said outer circumferential portion adjacent both of said ends and exerting forces on both of said ends tending to move both of said ends rearwardly.

11. In a lamp assembly including a lamp lens having a circumferential bead with a discontinuity thereon, the combination of a lamp body having a forwardly projecting flange portion having an outer surface and having an inner surface adapted to surround the lens bead in spaced relation therewith, an extruded resilient grommet strip having two ends and including an inner circumferential portion disposed between and engaging the inner surface of said flange portion and the bead on the lens and an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, the two ends of said strip being disposed adjacent one another at one point along the circumference of the body, means on said inner circumferential portion engaging the discontinuity on the bead for locating the lens in a rotational sense relative to the grommet strip, a projection on said body at said one point disposed between said ends, and clip means secured to said body adjacent said one point and engaging said outer

12. In a lamp assembly including a lamp lens having a circumferential bead with a discontinuity thereon and with forward and rearward circumferential shoulders, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder adjacent said flange portion, said flange portion having an outer surface and an inner surface adapted to surround the lens bead in spaced relation therewith, an extruded resilient grommet strip having two ends and including an inner circumferential portion disposed between and engaging the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, a lip integral with said outer circumferential portion and engaging said rearwardly facing shoulder on said body, and forward and rearward integral flange portions on said inner circumferential portion engaging the forward and rearward circumferential shoulders on the lens bead, the two ends of said strip being disposed adjacent one another at one point along the circumference of the body, means on said inner circumferential portion engaging the discontinuity on the bead for locating the lens in a rotational sense relative to the grommet strip, and a projection on said body at said one point disposed between said ends.

14. In a lamp assembly including a lamp lens having a circumferential bead with a discontinuity thereon and with forward and rearward circumferential shoulders, the combination of a lamp body having a forwardly projecting flange portion and an exterior circumferential rearwardly facing shoulder adjacent said flange portion, said flange portion having an outer surface and an inner surface adapted to surround the lens bead in spaced relation therewith, an extruded resilient grommet strip having two ends and including an inner circumferential portion disposed between and engaging the inner surface of said flange portion and the bead on the lens, an outer circumferential portion engaging the outer surface of said flange portion and integral with said inner circumferential portion, a lip integral with said outer circumferential portion and engaging said rearwardly facing shoulder on said body, and forward and rearward integral flange portions on said inner circumferential portion engaging the forward and rearward circumferential shoulders on the lens bead, the two ends of said strip being disposed adjacent one another at one point along the circumference of the

body, means on said inner circumferential portion engaging the discontinuity on the bead for locating the lens in a rotational sense relative to the grommet strip, a projection on said body at said one point disposed between said ends, and clip means secured to said body adjacent said one point and engaging said outer circumferential portion adjacent both of said ends and exerting forces on both of said ends tending to move both of said ends rearwardly.

5

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