

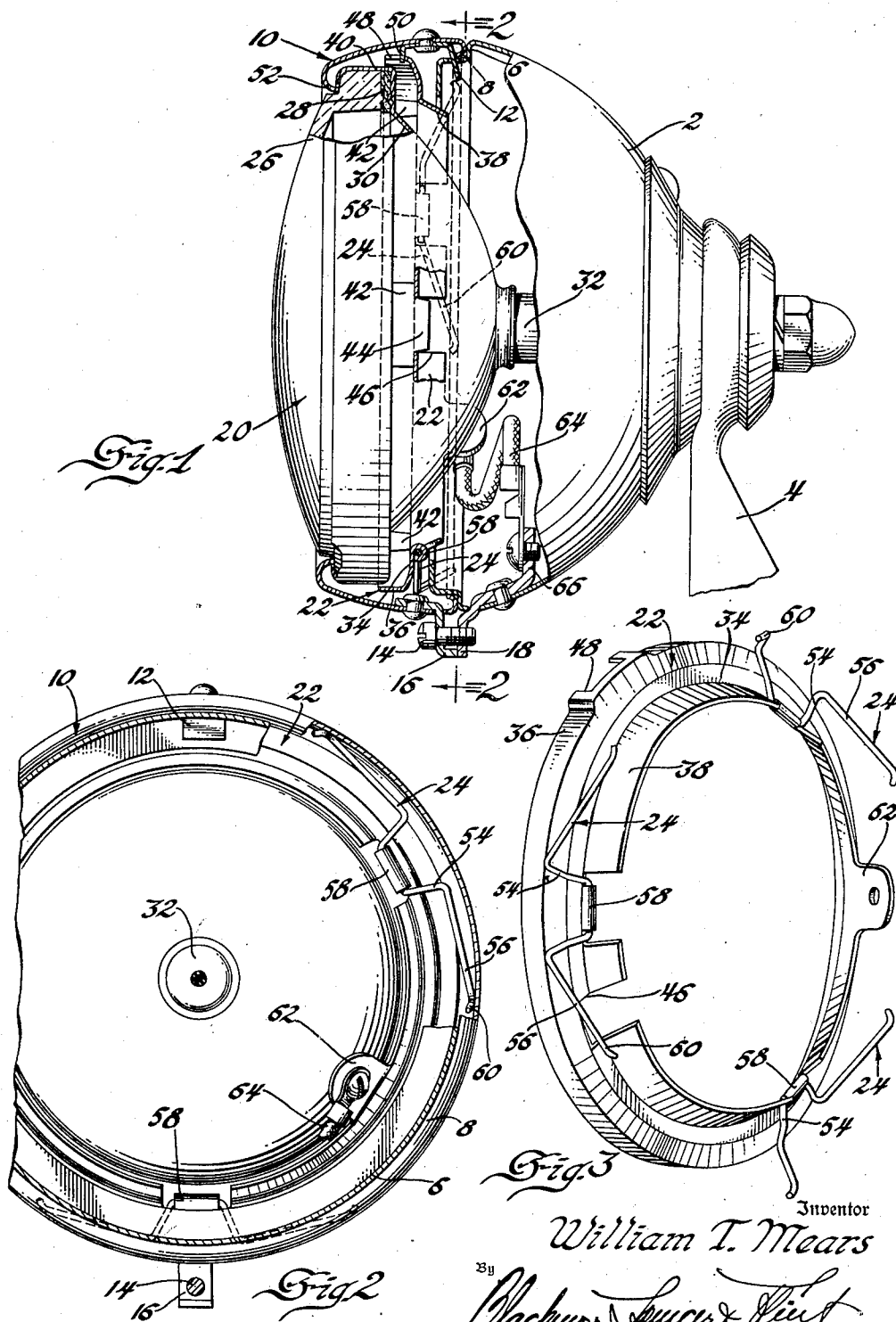
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LAMP CONSTRUCTION

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LAMP CONSTRUCTION

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This invention relates generally to lamp construction and more particularly to the manner of securing the lens and reflector within the door or rim of a lamp adapted for use as a vehicle headlight.

The principal object of the invention is to simplify and improve the construction of the securing means which functions to resiliently retain the lens and reflector in a predetermined relation within the door or rim and provide a door assembly which may be readily attached to and detached from the lamp body.

With this object in view the invention consists essentially in constructing the securing means in the form of a retaining ring to be interposed between the reflector and rim with a plurality of retaining springs pivotally connected to the retaining ring which may be engaged with the rim to resiliently hold the lens and reflector within the rim.

Other objects and features of the invention such as the provision of interengaging positioning means on the reflector, retaining ring, and rim whereby these elements may be readily assembled only in predetermined relation will be apparent from, or specifically pointed out in the following description of the embodiment disclosed in the accompanying drawing.

Figure 1 is a view partly in vertical section and partly in elevation with parts broken away to show certain details of construction.

Figure 2 is a cross section taken substantially on line 2—2 of Figure 1 with parts broken away.

Figure 3 is a detail perspective view of the retaining ring and spring assembly.

Referring first to the showing in Figure 1, the lamp body 2 which may be suitably secured to a support 4 is provided with annular peripheral shoulder 6 adjacent its front end to receive the intumed peripheral flange or bead 8 on the rear edge of the door or rim 10. Secured within the top of the rim 10 is a catch or tang 12 which may be engaged within a slot in the lamp body, and the door or rim 10 may be fastened to the lamp body at the bottom by any conventional means such as the screw 14 extending through the apertured lug 16 on rim 10 and threaded into the lug 18 on the body 2.

The principal parts of the door assembly comprise the rim 10, a lighting unit indicated generally at 20, and the retaining ring 22 with retaining springs 24. The lighting unit 20 has been shown herein as comprising a unit construction wherein the lens 26 with sealing gasket 28 is secured to reflector 30 by crimping or rolling over

the front edge of the reflector and the light bulb, of which only base 32 is shown, is secured in the rear wall of the reflector. It should be understood, however, that this unit construction of these elements is not an essential feature of the present invention and any conventional lens, reflector and light bulb construction may be employed with the special securing or retaining means to be now described.

The retaining ring 22 is formed with an annular portion 34 having a peripheral flange 36 extending forwardly from the outer edge of this portion and an angular flange 38 extending rearwardly from the inner edge of this portion. The flange 36 is adapted to fit around the periphery of the outwardly offset portion 40 of the reflector 30 which is provided with circumferentially spaced rearwardly extending lugs 42 adapted to engage the annular portion 34 of ring 22. One of these lugs 42 is formed with an extension 44 which extends through a notch 46 in the ring 22 to position the reflector circumferentially with reference to the retaining ring. The flange 36 of ring 22 is offset outwardly adjacent the upper portion thereof and formed with a notch 48 to receive a depending lug 50 within the top of the rim 10 to position the ring circumferentially with reference to the rim.

In the embodiment shown herein, three retaining springs 24 are used to resiliently retain the ring and lighting unit within the door or rim 10 with the lens 26 in engagement with the intumed peripheral flange or bead 52 on the front edge of the door or rim. Each spring is similarly formed and consists of a length of spring wire having a centrally disposed substantially U-shaped portion 54 and end portions 56 with the base of the U-shaped portion connected to the ring 22 in a manner to permit rotation of the spring on the ring. To provide this connection spaced portions of the flange 38 of ring 22 may be cut away to leave tangs 58 which may be readily bent or rolled around the base of the U-shaped portion of the respective spring. The shape of each spring 24 is such that when the sides of the U-shaped portion 54 are contacting the annular portion 34 of the ring 22 as shown in Figure 1 the end portions 56 of the spring extend diagonally outwardly and rearwardly in substantially opposite or diverging directions and are located radially beyond the outermost peripheral limits of the ring 22. The free ends of the spring 24 are bent forwardly, as indicated at 60, and as will be described hereinafter, these ends

are adapted to be received within the inturned peripheral flange or bead 8 of the door or rim 10.

On reference to Figures 1 and 2 it will be noted that in the assembled position of the several parts the springs 24 which extend beyond the periphery of the ring 22 also extend radially to a greater extent than the diameter of the rear opening in the door or rim 10 which is defined by the bead 8, and to insert the ring 22 and springs 24 within the rim 10 the several springs may be rotated counterclockwise from the position shown in Figure 1. The springs 24 would then be rotated clockwise and the free ends of each spring forced forwardly and then slightly outwardly so as to snap within the bead 8 of rim 10 when released. In forcing the ends of the springs forwardly the ends may engage the bead 8 and be moved inwardly to a slight extent and then move outwardly under tension to snap within the bead 8.

In the assembled position, the end portions 56 of the springs 24 exert a forward tension on the ring 22 which serves to resiliently retain the ring and lighting unit within the rim 10 with the lens 26 in engagement with the inturned peripheral flange or bead 8 on the front edge of the rim 10. By reason of the relative extent and location of the end portions 56 of springs 24 with reference to the diametrical extent of the bead 8 and ring 22, it will be apparent that this spring tension provides almost entirely a direct forward pressure on the ring 22 and lighting unit 20 with very slight radial pressure on the ring 22. It will be further apparent that the retaining ring and springs are so constructed and arranged as to require no appreciable increase in diameter of the cover or rim 10 over that diameter actually required to receive the lighting unit 20.

The ring 22 may be conveniently employed to provide an electrical ground connection from the reflector 30 to the lamp body 2. The flange 38 on ring 22 is formed with a threaded lug or ear 62 to which may be connected the ground wire 64 which is also connected to an extension 66 on lug 18 which is riveted to the lamp body.

It will be understood that many details of con-

struction of the embodiment disclosed herein are not essential to the novel construction and arrangement of the securing means and many changes and modifications will be apparent to those skilled in the art and are contemplated as within the scope of the present invention.

I claim:

1. In a lamp, the combination with a rim having a front bead at one edge thereof and a rear bead at the opposite edge thereof, and a lighting unit including a lens, reflector and light bulb, of means to retain said lighting unit in said rim in engagement with said front bead including a retaining ring engageable with said lighting unit and a plurality of retaining springs, each of said springs being pivotally connected intermediate the ends thereof to said ring and having the ends thereof engageable within said rear bead of said rim.

2. In a lamp, the combination with a lens and reflector and a rim having front and rear beads on the opposite edges thereof, of means to retain said lens and reflector in said rim with said lens in engagement with the front bead of said rim including a retaining ring engageable with said reflector adjacent the periphery thereof and a plurality of retaining springs, each of said springs being pivotally connected intermediate the ends thereof to said ring adjacent the periphery of said ring and having the ends thereof engageable within the rear bead of said rim.

3. In a lamp, the combination with a lens and reflector and a rim having front and rear beads on the opposite edges thereof, of means to retain said lens and reflector in said rim including a retaining ring engageable with said reflector, and means to urge said ring forwardly to hold said lens in engagement with the front bead of said rim including a plurality of retaining springs, each of said springs being pivotally connected intermediate the ends thereof to said ring adjacent the periphery of said ring with the end portions of the spring extending outside of the periphery of said ring and rearwardly into engagement within the rear bead of said rim.

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