C. E. GODLEY.

LAMP.

APPLICATION FILED FEB. 21, 1920.

1,377,197. Patented May 10, 1921.

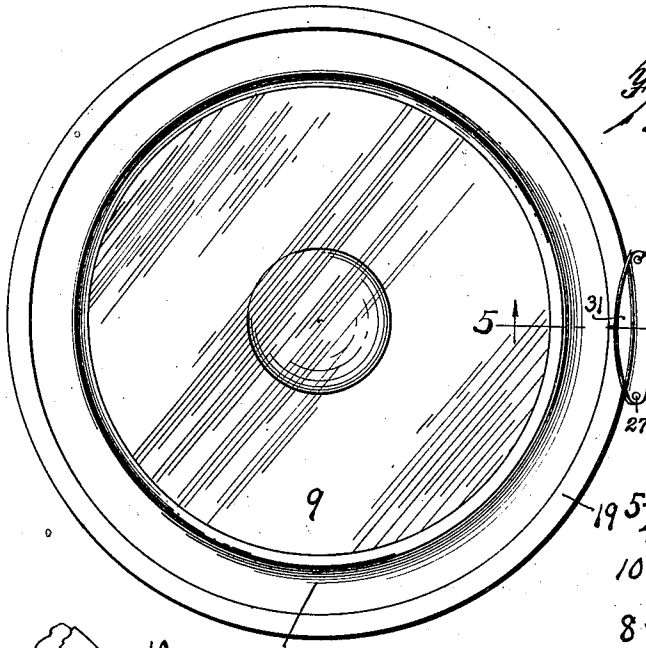


Fig. 1.

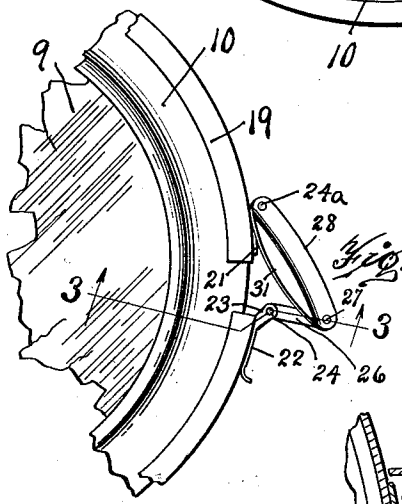


Fig. 2.

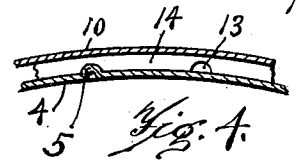


Fig. 4.

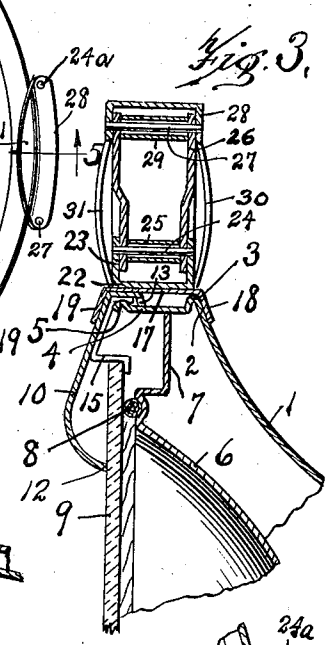


Fig. 3.

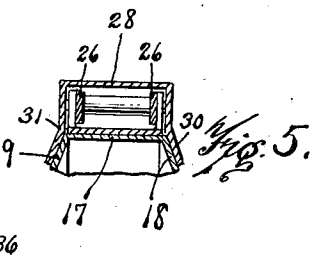


Fig. 5.

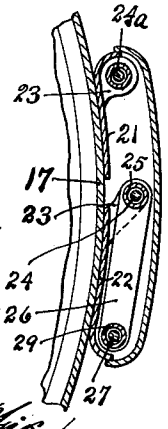


Fig. 6.

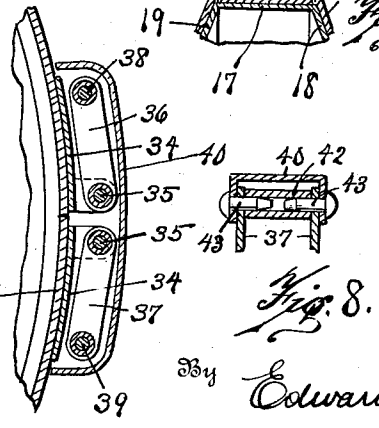


Fig. 7.

Fig. 8.

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LAMP.

1,377,197. Specification of Letters Patent. Patented May 10, 1921.

Application filed February 21, 1920. Serial No. 360,501.

To all whom it may concern:

Be it known that I, CHARLES E. GODLEY, a citizen of the United States, and residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Lamp, of which the following is a specification.

This invention relates to fastening means for attaching lenses to the bodies of electric head-lights, spot-lights and search-lights, and its object is to provide lens ring fastening means which shall be simple in construction, which shall hold the lens firmly in position, and in which the several parts shall be permanently attached to each other.

This invention consists, in combination of a lamp body having an inclined circumferential shoulder near its open end, a lens ring or door adapted to position a lens across said open end, a split band ring having inclined edges adapted to engage the inclined shoulder on the body and an inclined surface on the lens ring, and a toggle mechanism to draw the ends of the band ring together and thereby force the lens ring toward the body.

It also consists in forming the lens ring with an in-turned flange provided with a plurality of notches and in providing a corresponding number of projections on the outer edge of the body so that the lens ring may be slipped onto the edge of the body and then turned to bring the notches and projections out of register whereby the lens ring is prevented from slipping off the body.

It further consists in the details of construction illustrated in the accompanying drawing and particularly pointed out in the claims.

In the drawing, Figure 1 is a front elevation of a lamp provided with this novel locking band. Fig. 2 is a front elevation of the locking toggle for this band in open position. Fig. 3 is a section on the line 3—3 of Fig. 2 on a larger scale. Fig. 4 is a detail of the rim and lens ring. Fig. 5 is a section on the line 5—5 of Fig. 1. Fig. 6 is a section through the toggle in a plane parallel to Fig. 1. Fig. 7 is a modified form of toggle. Fig. 8 is a detail of a pivot.

Similar reference characters refer to like parts throughout the several views.

The structure shown in the drawings is generally the same as that shown in my Patent No. 1,340,163, dated May 18, 1920, and as in that, the body 1 of the lamp shown in the present drawing has an inclined circumferential shoulder 2 terminating in a bead 3, which is at the rear edge of a cylindrical flange 4 which is provided at intervals with outwardly extending projections 5. Within the body is a reflector 6 provided with a radial flange 7 and a groove to receive the packing ring 8 against which the lens 9 is pressed by the lens ring 10. This lens ring is made of resilient metal and may be sprung or bent about the edge 12 which engages the glass. The inturned edge 14 of this ring has notches 13 to permit the passage of the projections 5 on the body. Clips 15 on the lens ring position the lens 9, as many clips being employed as may be thought necessary, four being preferred.

The split locking band 17 has outwardly inclined flanges 18 and 19 and may be opened out to pass over the lens ring and the bead 3 on the lamp body. The flanges 18 and 19 are inclined so that when the ring is contracted, these flanges will force the lens ring and body toward each other. In the above named pending application this is accomplished by a screw which may become lost. In the present case a toggle mechanism is employed which may be single or double.

The single toggle mechanism embodies two plates 21 and 22, secured to the ends of the ring 17, and each has ears 23 to take the pivot pins 24 and 24ª. A spacing tube 25 holds these ears separated. Links 26 are mounted on the pin 24 of the plate 22 and connect to the pin 27 carried by the clasp 28, being preferably separated by a spacing tube 29. The clasp has sides 30 and 31 whose edges flare to fit the flanges 18 and 19 of the locking ring when the clasp is in the position shown in Fig. 1. The pivot pin 24ª extends through these sides and the ears 23 on the plate 21, a spacing tube 25 being provided to separate the ears.

When the clasp 28 is in the position shown in Fig. 2, the band 17 may be opened to permit the band to be slipped over the lens ring and bead 3 on the body. The band is then closed as far as possible and the clasp is then swung to the position shown in Figs. 1 and 6. This forces the pins 24 and 24ª toward each other and causes the inclined sides 18 and 19 of the band to press the

lens ring toward the body. It will be noticed that there is no stop for the lens ring on the body but that the lens is pressed hard against the reflector which is supported in any well known manner. When the parts are in the position shown in Fig. 6, the pin 24 is outside of a plane passing through the pins 24^a and 27 and the possibility of this toggle swinging out is thereby avoided.

In Fig. 7, a double toggle is shown. The plates 34 carry pins 35 on which the links 36 and 37 are mounted. The pins 38 and 39 carried by the ends of the clasp 40 receive the outer ends of these links. When the parts are in the position shown in Fig. 7, the pins 35 are outside the plane connecting the pins 38 and 39 and any push by the pins 35 on the links 36 and 37, due to the stresses on the band 17, will serve to press the clasp 40 tighter against the band.

Instead of a single pin with a spacing tube around it, I may employ a tube 42 to space the links 26, 36 or 37 and drive short pins 43 through holes in the sides of the clamp and in the ends of the links into this tube. The sizes will be such that rigid engagement results.

The reason for providing the notches 13 in the edge 14 of the lens ring and the projections 5 on the flange 4 of the body is this. Where the lens ring is held on by a locking band it is sometimes pulled off or drops off when the band is removed. But by providing the projections 5 and notches 13, the lens ring may be secured to the body so that it cannot fall off, thus saving many lenses.

The details and proportions of the various parts of this locking mechanism may all be varied by those skilled in the art without departing from the spirit of my invention as set forth in the following claims.

I claim:—

1. In a lamp, the combination of a lamp body having a circular shoulder, a lens ring at the open end of the body, a split locking band extending around the lens ring and body and having inturned marginal flanges to engage them, and a toggle mechanism to draw the ends of the band together, and comprising a clasp and links connecting one end of the clasp to each end of said band.

2. In a lamp, the combination of a lamp body having a circular shoulder, a lens ring at the open end of the body, a split locking band extending around the lens ring and body and having inturned marginal flanges to engage them, and a toggle mechanism to draw the ends of the band together and comprising an ear at each end of said band, links pivoted to said ears, and a clasp having the outer ends of said links pivoted to its ends.

3. In a lamp, the combination of a lamp body having a circular shoulder, a lens ring at the open end of the body, a split locking band extending around the lens ring and body and having internal marginal flanges to engage them, a toggle mechanism to draw the ends of the band together, said flanges on the locking band flaring outwardly and the engaged surfaces of the body and lens ring being similarly inclined so that a wedging action occurs when the band is contracted, said toggle mechanism comprising a pair of ears at each end of said band, a pair of links pivoted to each pair of ears, and a clasp having the outer ends of one pair of links pivoted to each of its ends, the sides of said clasp being adapted to fit the flanges on the locking band when said band is contracted by the toggle mechanism.

4. In a lamp, the combination of a lamp body having a circular shoulder, a lens ring at the open end of the body, a split locking band extending around the lens ring and body and having internal marginal flanges to engage them, a toggle mechanism to draw the ends of the band together, said flanges on the locking band flaring outwardly and the engaged surfaces of the body and lens ring being similarly inclined so that a wedging action occurs when the band is contracted, said toggle mechanism comprising a pair of ears at each end of said band, a pair of links pivoted to each pair of ears, and a clasp having the outer ends of one pair of links pivoted to each of its ends, the sides of said clasp being adapted to fit the flanges on the locking band when said band is contracted by the toggle mechanism, said lamp body having a cylindrical flange at its open end provided with outwardly extending projections and said locking ring being formed to engage said projections to be held in position thereby.

CHARLES E. GODLEY.