Feb. 17, 1931. R. D. EVANS 1,793,227

LAMP

Filed April 9, 1930

FIG. 1

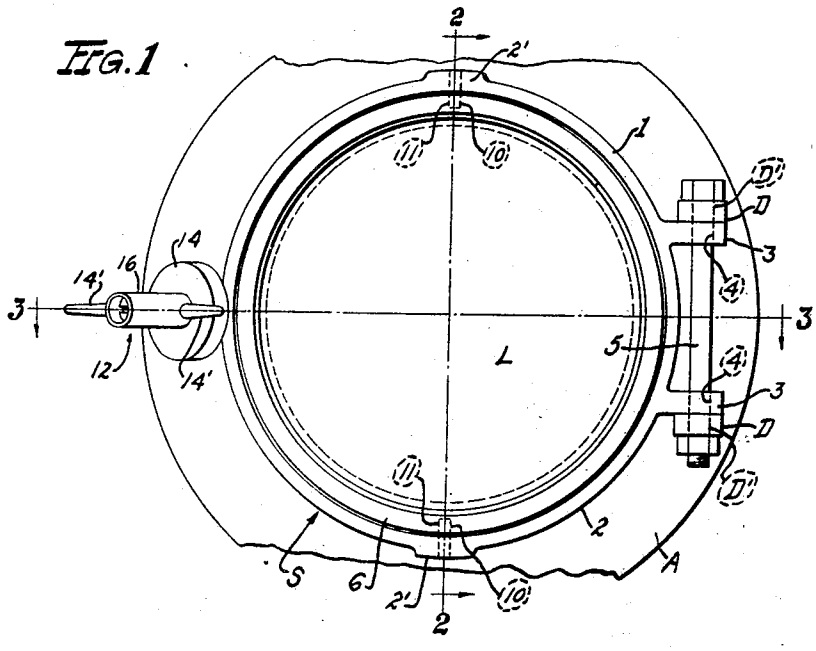



FIG. 2

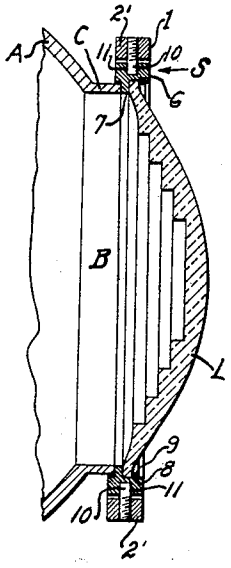
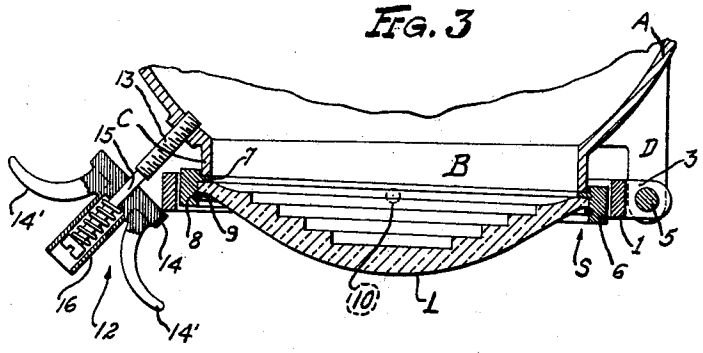



FIG. 3




INVENTOR
R. D. EVANS
BY J. H. Evans
ATTORNEY

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# UNITED STATES PATENT OFFICE

ROLAND D. EVANS, OF GRANITE CITY, ILLINOIS, ASSIGNOR TO HANDLAN-BUCK MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI

## LAMP

Application filed April 9, 1930. Serial No. 442,805.

This invention relates generally to lamps or lanterns of the type employed for signaling and other purposes in connection with the operation of railroad trains, and particularly to improved lamps or lanterns of this type which are provided with hinged or pivoted supporting elements for the lenses of said lamps or lanterns, the predominant object of the invention being to provide an improved hinged or pivoted lens support for lamps or lanterns which is so constructed and arranged that uniformly close contact is obtained between the cooperating faces of the lens support and the housing of the lamp or lantern throughout said cooperating faces.

Prior to this invention it frequently happened that a hinged or pivoted lens support of a lamp or lantern of the type to which this invention relates would contact closely with the face of the lamp or lantern housing with which said lens support was intended to cooperate at portions, only, of said face. In other words, a very common condition was for the lens support to contact with the face of the lamp or lantern with which it was intended to closely contact at a point adjacent to the hinge or pivot thereof, while other portions of said lens support were spaced apart from said cooperating face. This condition resulted because of the inflexible and unyielding nature of the lens supports which would not permit the lens support to be drawn into close contact with the entire surface of the face with which the lens support was intended to contact.

To overcome the objections encountered in connection with the use of the lens supports of the type formerly employed, I have devised the lens support disclosed in the present application, which, briefly stated, includes a portion which is adjustable with respect to the lens support proper, and this adjustable portion is capable of independent adjustment so that close contact is obtained throughout the cooperating, contacting faces of the lens support and the lamp or lantern housing.

Fig. 1 is a fragmentary view illustrating my improved lens support associated with a lamp or lantern.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a section on line 3—3 of Fig. 1.

In the drawing, wherein is shown for the purpose of illustration, merely, on embodiment of the invention, A designates the housing of a lamp or lantern of the type used on railroads, said housing being of any suitable shape and enclosing a suitable light source (not shown). The housing A is provided with an opening B formed through the wall thereof, and C designates an outwardly extended, annular flange C which surrounds said opening. Extended outwardly from the housing A is a pair of lugs D, said lugs being each provided with an aperture D′ formed therethrough at a point adjacent to the outer end thereof.

S designates my improved lens support, which comprises an outer element 1 which comprises an annular portion 2 outwardly from which a pair of extensions 3 is projected. The extensions 3 are each provided with an aperture 4, and said extensions are arranged immediately adjacent to the lugs D, so that the apertures 4 in the extensions 3 are alined vertically with the apertures D in said lugs. 5 designates a hinge pin which passes through the alined apertures of the lugs D and extensions 3 for the purpose of hingedly attaching the lens support S to the housing of the lamp or lantern.

Arranged within the annular portion 2 of the lens support is an inner ring 6 which is provided with an inwardly extended, annular flange 7. The annular flange 7 is intended to contact with the outer edge of the annular flange C which surrounds the opening B formed through the wall of the lamp or lantern housing A. The inner ring 6 of the lens support supports the lens L, said ring being provided with an annular depression 8 in which a split clamping element 9 is seated, and the marginal edge portion of the lens L is confined between the annular flange 7 of the inner ring 6 and the split clamping element 9, as shown in Figs. 2 and 3.

The inner ring 6 is attached to the annular portion 2 of the outer element 1 by means of vertically alined pivots 10, said pivots

being secured rigidly to the annular portion 2 of the outer element 1 in any suitable manner, for instance, by having screw-threaded end portions thereof screwed into screw-threaded apertures formed in enlarged portions 2′ of the annular portion 2. The inner end portions of the pivots 10 are extended into smooth apertures 11 formed in the inner ring 6, and because a slight annular space is present between the outer face of the inner ring 6 and the inner face of the annular portion 2 of the outer element 1 of the lens support S, the inner ring is capable of slight pivotal movement about a vertical axis defined by the vertically alined pivots 10. The pivotal movement of the inner ring 6 with respect to the annular portion 2 of the outer element 1 is limited by the fact that the annular space between these elements is slight, hence, when the inner ring has moved through a slight arc, corners of the inner ring will contact with the inner face of the annular portion 2 and prevent further pivotal movement of the inner ring.

12 designates a fastening device by means of which the lens support S is maintained in a locked position. I may employ any suitable fastening device for this purpose, but for the sake of completeness of disclosure I have illustrated the device 12, which comprises a screw-threaded shank 13 which is screwed into a screw-threaded aperture formed in the wall of the housing A. A locking element 14 is slidably mounted on the smooth outer portion 15 of the shank 13, and a coil spring 16 urges the locking element 14 toward the housing A. When it is desired to swing the lens support on its hinge away from the housing A, the finger pieces 14′ of the locking element 14 are grasped and the entire locking element is moved rearwardly against the action of the coil spring 16. This will permit the lens support to swing in an arc of a circle to an open position without interference from the locking element 14. When the lens support is in an open position and it is desired to close same, the same method is followed, the locking element being drawn rearwardly to permit the lens support to be moved to a closed position, after which the locking element is caused to engage the lens support and retain it in its closed position.

In the use of my improved lens support, the pivotally supported inner ring 6 may swing on its pivots to compensate for irregularities in the vertical plane of the annular flange C. That is to say, if, as illustrated in an exaggerated manner in Fig. 3, the annular flange C is higher at the side thereof adjacent to the hinge pin 5, or at the opposite side, the inner ring will adjust itself to these irregularities so that when the lens support is drawn to a closed position by the fastening device 12 the annular flange 7 of the inner ring will contact closely with the outer edge of the annular flange C on the housing, whereby no space will be present between the lens support and the lamp or lantern housing.

I claim:

1. A lamp or the like, including a housing provided with an opening, a lens support adapted for arrangement immediately adjacent to said opening, means whereby said lens support is movably supported by said housing, and an independently movable portion constituting a part of said lens support, said independently movable portion being pivotally supported in place and being adapted for close contact with a portion of the housing adjacent to said opening.

2. A lamp or the like, including a housing provided with an opening, a lens support adapted for arrangement immediately adjacent to said opening, means comprising a hinge whereby said lens support is movably supported by said housing, and an independently movable portion constituting a part of said lens support, said independently movable portion being pivotally supported in place and being adapted for close contact with a portion of the housing adjacent to said opening, said hinge by which the lens support is attached to the housing and the axis about which said independently movable portion pivots being arranged substantially parallel with respect to each other.

3. A lamp or the like, including a housing provided with an opening, a lens support adapted for arrangement immediately adjacent to said opening, means comprising a hinge whereby said lens support is movably supported by said housing, and an independently movable portion in the form of an annular member constituting a part of said lens support, said independently movable portion being pivotally supported in place and being adapted for close contact with a portion of the housing adjacent to said opening, said hinge by which the lens support is attached to the housing and the axis about which said independently movable portion pivots being arranged substantially parallel with respect to each other.

4. A lamp or the like, including a housing provided with an opening, a lens support including an annular portion adapted for arrangement immediately adjacent to said opening, means comprising a hinge whereby said lens support is movably supported by said housing, and a ring pivotally supported within the annular portion of said lens support and adapted for close contact with a portion of the housing adjacent to said opening.

5. A lamp or the like, including a housing provided with an opening, a lens support including an annular portion adapted for arrangement immediately adjacent to said opening, means comprising a hinge whereby

said lens support is movably supported by said housing, and a ring pivotally supported within the annular portion of said lens support and adapted for close contact with a portion of the housing adjacent to said opening, said hinge by which the lens support is attached to the housing and the axis about which said ring pivots being arranged substantially parallel with respect to each other.

In testimony that I claim the foregoing I hereunto affix my signature.

ROLAND D. EVANS.