H. G. FITZ GERALD.

LAMP OR HEADLIGHT.

APPLICATION FILED DEC. 20, 1915.

1,279,096. Patented Sept. 17, 1918.

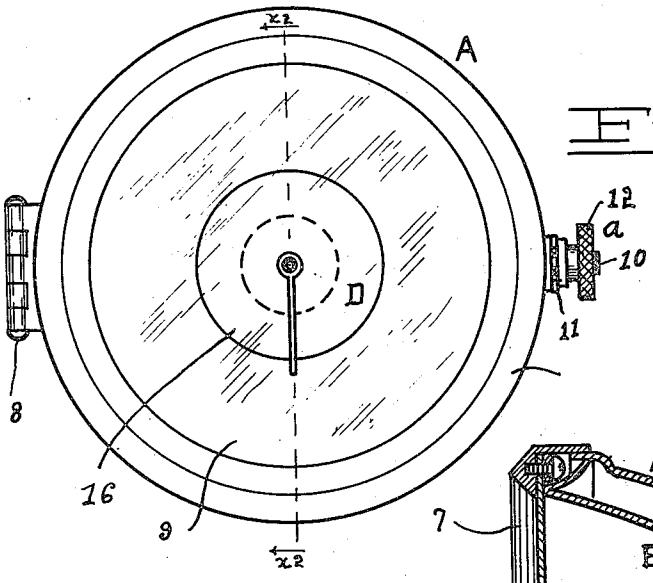


Fig. 1.

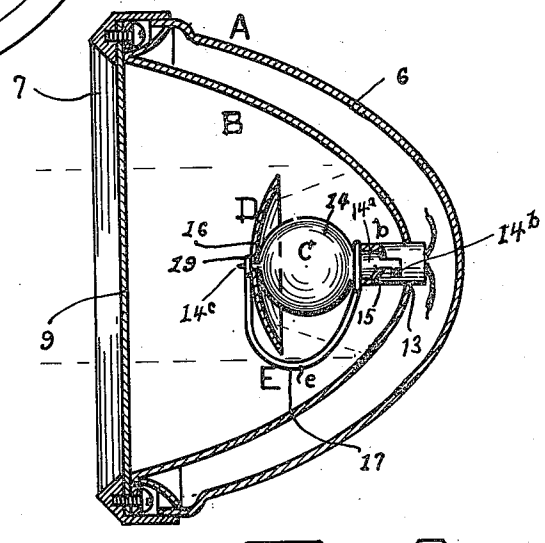


Fig. 2.

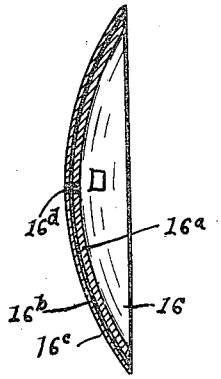


Fig. 4.

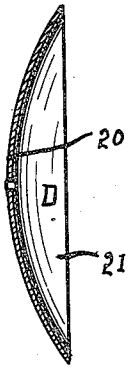


Fig. 5.

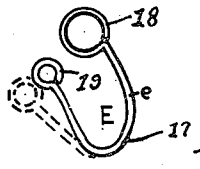


Fig. 3.

WITNESSES:

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LAMP OR HEADLIGHT.

1,279,096. Specification of Letters Patent. Patented Sept. 17, 1918.

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To all whom it may concern:

Be it known that I, HAROLD G. FITZ GERALD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Lamps or Headlights, of which the following is a specification.

This invention relates to lamps or headlights, and more particularly to lamps, headlights and the like for use on vehicles, and it has for its object to provide an improved lamp or headlight which will suitably illuminate the roadway in advance of a motor vehicle or the like, eliminating the blinding glare attending the use of the powerful headlights ordinarily employed. It is desirable that the light rays from the headlight or headlights of a rapidly moving vehicle be projected a considerable distance ahead of such vehicle and such ray projection requires the use of high power lights and reflectors. the glare of which blinds and confuses pedestrians and drivers of other vehicles facing such headlights and results in many casualties.

In accordance with the present invention, means are provided for eliminating the aforementioned objectionable glare, modifying certain of the light rays and re-projecting the same so modified that no unpleasant or objectionable effect attends the use of high power headlights and reflectors.

In the preferred form of the invention, means disposed in the path of certain of the rays projected by the lamp proper and reflector of a headlight serve to prevent direct rays from the lamp and adjacent reflector portions from being projected without modification; such means may direct the modified rays to the reflector of the lamp for projection with unmodified rays.

The preferred form of means for modifying such rays before their projection ahead of a vehicle, consists of a rearwardly facing preferably gold faced or gold colored reflector interposed in the path of the objectionable rays and so formed as to re-direct the rays into a preferably parabolic reflector which may be of standard construction and in the focus of which the source of illumination or light is disposed. This gold faced reflector is preferably also opaque, and may consist of a concave disk, of suitable material, of just sufficient diameter to prevent the passage of direct rays from the source of illumination and the reflector zone immediately behind the same, thus providing an annular zone of ray projection between such disk and the parabolic reflector within which it is positioned.

The invention is further concerned with the provision of means whereby ray modifying means organized in accordance with the invention may be readily attached to lamps or headlights of standard construction, as well as with the provision of ray modifying means adapted to be installed in standard headlights.

With the above and other objects in view, including the provision of means of the general character stated which will be relatively simple and inexpensive in construction, combined with facility in installation, positiveness in action, reliability in service and high efficiency, the invention consists in the novel and useful provision, formation, combination, association and relative arrangement of parts, members and features, all as hereinafter described, shown in the drawing, and finally pointed out in claims.

In the drawing:

Figure 1 is a front elevation of a lamp or headlight organized and constructed in accordance with the invention;

Fig. 2 is a central, vertical, sectional view, taken on the line x^2—x^2, Fig. 1, and looking in the direction of the appended arrows;

Fig. 3 is an isometric view of means for attaching the ray modifying means to a lamp of standard construction;

Fig. 4 is an enlarged central sectional view of the ray modifying and reflecting means shown in Fig. 2, the same being shown in detached position; and

Fig. 5 is a view similar to Fig. 4, of a modified form of ray modifying and reflecting means.

Corresponding parts in all of the figures are designated by the same reference characters.

Referring with particularity to the drawing, in the embodiment of the invention therein shown, A designates the casing of a headlight, B designates the reflector thereof, C designates a source of illumination, D

designates ray modifying and reflecting means, and E designates means for attaching and supporting the ray modifying and reflecting means.

The headlight casing A preferably comprises a hollow body member 6 and an annular member 7 hinged thereto as at 8 and provided with a transparent member 9 preferably of glass, through which the light rays are projected. Means *a* for securing the closure member are provided, and such means may comprise a threaded stud 10 secured to the closure member 7, a bifurcated tongue 11 secured to the body member 6, and a thumb nut 12 on the stud 10.

The reflector B consists of a preferably parabolic member of suitable material positioned in the casing member 6 and arranged to direct light rays through the transparent member 9, and such reflector may be of any preferred or standard construction. An aperture 13 is provided in the reflector to accommodate supporting means *b* for the source of illumination C, which is shown as comprising an electric light globe 14 supported in a suitable socket 15 comprised within the means *b*. The globe 14 is provided with a cylindrical base 14^a held in the socket 15 as by means of a bayonet joint as at 14^b. The globe is positioned in the focus of the reflector B and is provided with a forwardly projecting point 14^c which may assist the attaching and supporting means E in firmly supporting and holding the ray modifying means in proper position as will presently be described.

The ray modifying and reflecting means D is shown in Figs. 1, 2 and 4, as a concave disk 16, preferably comprising a glass body portion 16^a, a layer of gold leaf or the like 16^b secured to the glass body 16^a, and a layer or backing 16^c of protective material over the gold layer 16^b. A central perforation 16^d provided in the concave disk 16 accommodates the tip or projecting point 14^c of the globe 14.

The means of attachment and support E preferably consists of a supporting member *e* made of a single length of metallic spring wire looped as at 17 to accommodate the globe 14 and the disk 16, and bent at its one end as at 18 to form a ring which fits over the cylindrical base 14^a of the globe 14, and bent at its other end as at 19 to form a ring which fits over the projecting point 14^c of the globe 14. When the parts are in the position shown in Figs. 1 and 2 the disk 16 is securely pressed and held against the globe 14 by the ring 19 as the spring member *e* is formed so as to be under tension when in use.

In the modified form of construction shown in Fig. 5, the ray modifying and reflecting means is shown as a concave disk 20 of suitable material, such as metal, provided with a reflecting face consisting of a layer 21 of gold or the like, which layer may be applied to the disk 20 in any suitable manner, as for instance by electro-plating.

The operation, method of use and advantages of the improved lamps or headlights will be readily understood from the foregoing description, taken in connection with the accompanying drawing and the following statement:

The ray modifying and reflecting means D being positioned immediately forward of the source of illumination and in the path of rays emanating directly therefrom and rays reflected by the reflector portion immediately behind the same, prevents direct rays from issuing from the center of the headlight and re-directs such rays into the parabolic reflector B in such modified condition that no objectionable effect is produced on the eyes of a person facing the headlight when such rays are projected therefrom by the parabolic reflector through the annular space between the means C and the reflector. The gold faced or gold colored modifying and reflecting means so changes the character of the rays that high powered electric lights may be employed in conection therewith, thus insuring a perfect illumination of the roadway without the disadvantages incident to the use of headlights as ordinarily constructed and used.

It is manifest that many changes may be made in departure from the specific disclosure herein, both as to the form and nature of the modifying and reflecting means employed, without departing from the spirit of the invention and the terms of the following claims.

Having thus disclosed my invention I claim and desire to secure by Letters Patent:

1. A lamp, comprising a reflector, a source of illumination disposed in the focus of said reflector, a ray re-directing reflector, and means for positioning said ray re-directing reflector in front of the source of illumination and facing the same; said source of illumination consisting of an electric light having a globe provided with a projecting point; said ray re-directing reflector consisting of a concave disk having a perforation adapted to accommodate said point.

2. A lamp, comprising a reflector, a source of illumination disposed in the focus of said reflector, a ray re-directing reflector, and means for positioning said ray re-directing reflector in front of the source of illumination and facing the same; said source of illumination consisting of an electric light having a globe provided with a projecting point; said ray re-directing reflector consisting of a concave disk having a perforation adapted to accommodate said point;

said positioning means consisting of a clamping device adapted to unite and secure said disk and said globe in assemblage.

3. An attachment for lamps, comprising a disk having a perforation adapted to accommodate the point of an electric light globe, and means for clamping said disk and the globe in assemblage; said means comprising a spring member formed of a single length of metallic wire looped to accommodate said disk and the globe and provided with a ring at one end to accommodate said globe point and provided with a ring at the other end to accommodate the shank or base of the globe.

4. An attachment for lamps, comprising a concave disk having a perforation adapted to accommodate the point of an electric light globe, and means for clamping said disk and the globe in assemblage; said means comprising a spring member formed of a single length of metallic wire looped to accommodate said disk and the globe and provided with a ring at one end to accommodate said globe point and provided with a ring at the other end to accommodate the shank or base of the globe.

5. An attachment for lamps, comprising a gold faced concave disk having a perforation adapted to accommodate the point of an electric light globe, and means for clamping said disk and the globe in assemblage; said means comprising a spring member formed of a single length of metallic wire looped to accommodate said disk and the globe and provided with a ring at one end to accommodate said globe point and provided with a ring at the other end to accommodate the shank or base of the globe.

6. A lamp, comprising a reflector, a source of illumination disposed in the focus of said reflector, a ray re-directing reflector, and means for positioning said ray re-directing reflector in front of the source of illumination and facing the same; said ray re-directing reflector being adapted to modify certain of the light rays with respect to color and direct the rays so modified into said first named reflector where they are blended with other light rays for projection.

7. A lamp, comprising a reflector, a source of illumination disposed in the focus of said reflector, a ray re-directing reflector, and means for positioning said ray re-directing reflector in front of the source of illumination and facing the same; said ray re-directing reflector being adapted to modify certain of the light rays with respect to color and direct the rays so modified into said first named reflector where they are blended with other light rays for projection; said ray re-direct reflector having a gilded reflecting surface.

8. A lamp, comprising a source of illumination, a main reflector disposed rearwardly of said source of illumination and in the focus of which said source of illumination is disposed, a ray re-directing and modifying reflector positioned to intercept rays from the source of illumination which would otherwise directly emerge from the lamp and direct the same into said main reflector where such rays are blended with the other rays of the lamp for projection by said main reflector; said ray re-directing reflector imparting a golden color to the rays reflected thereby.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HAROLD G. FITZ GERALD.

Witnesses:

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