June 9, 1931. E. C. DE VORSS ET AL 1,809,678

GLARE ELIMINATING DEVICE

Filed May 9, 1930 2 Sheets-Sheet 1

Fig. 1.

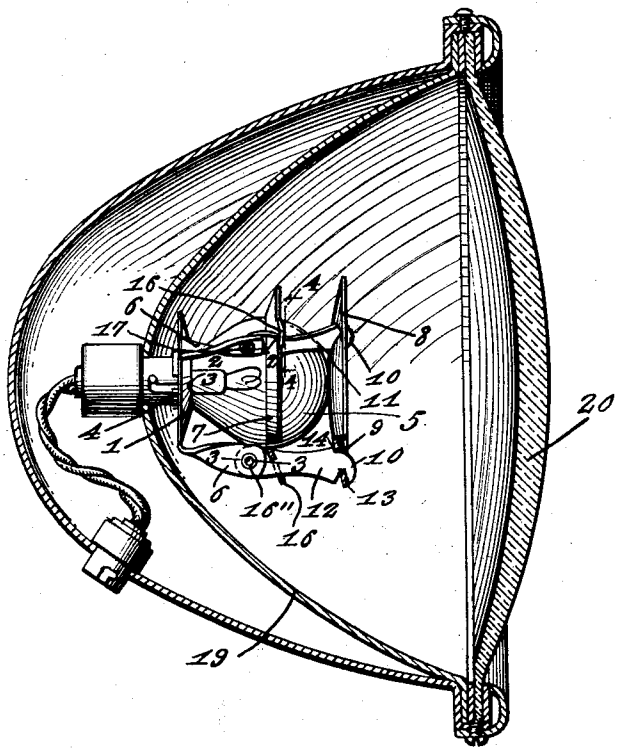


Fig. 2.

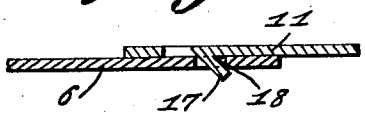


Fig. 3.

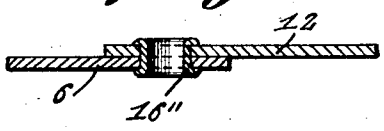
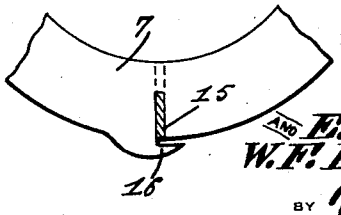


Fig. 4.



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Fig. 5.

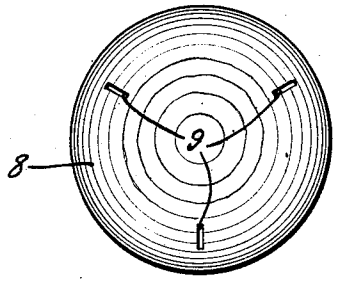


Fig. 7.

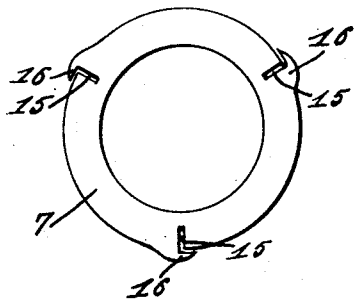


Fig. 6.



Fig. 8.



Fig. 9.

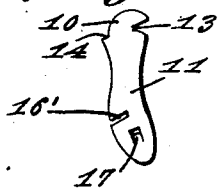


Fig. 10.

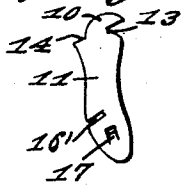


Fig. 11.

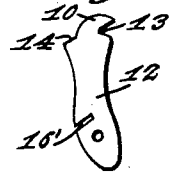


Fig. 12.

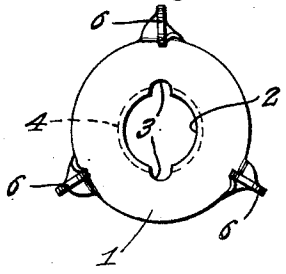
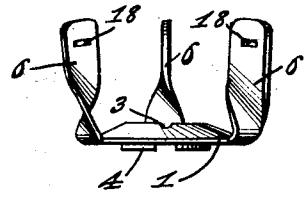


Fig. 13.



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Patented June 9, 1931 1,809,678

UNITED STATES PATENT OFFICE

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GLARE ELIMINATING DEVICE

Application filed May 9, 1930. Serial No. 451,074.

The object of this, our present invention, is the provision of simple means for entirely eliminating the glare coming from automobile headlights without destroying any of the quantity or quality of the light thrown upon the road, and as a result obviate the frequent accidents that occur because of drivers or pedestrians being temporarily blinded by the glare from ordinary headlights.

It is also our purpose to produce a device for this purpose that is in the nature of a frame or cage arranged over the bulb of the headlamp and constituting elements which will break up or diffuse the direct rays of light from the bulb, causing the same to be directed on to the reflector of the headlamps and from thence onto the road in a manner that will prevent the direct rays of light passing axially through the lens of the headlamp.

It is also our purpose to produce a device which can readily be attached to the base of the headlamp to surround the bulb thereof, and which while primarily designed to remain a permanent fixture on the bulb may be readily removed therefrom should occasion require.

A still further object is to produce a glare eliminating device for the bulbs of headlamps of automobiles or the like that shall be of a comparatively simple construction and which may be cheaply manufactured and commercialized.

To the attainment of the foregoing the invention consists in the improvement hereinafter described and definitely claimed.

In the drawings:

Figure 1 is a central longitudinal sectional view through a headlamp equipped with the improvement.

Figure 2 is an enlarged sectional view approximately on the line 2—2 of Figure 1.

Figure 3 is a similar sectional view approximately on the line 3—3 of Figure 1.

Figure 4 is a similar sectional view approximately on the line 4—4 of Figure 1.

Figure 5 is a plan view of the outer disc member of the improvement.

Figure 6 is an edge view thereof.

Figure 7 is a plan view of the inner ring member of the improvement.

Figure 8 is an edge view thereof.

Figures 9, 10 and 11 illustrate the outer arm elements of the improvement.

Figure 12 is a plan view of the inner or base element of the improvement.

Figure 13 is a side elevation thereof.

In carrying out our invention we make use of a base 1 which is in the nature of a disc and which is concavo convex in cross section. The base 1 has a central round opening 2 therethrough and oppositely disposed notches 3 that enter the opening. The opening is surrounded by a rearwardly extending annular flange 4 arranged on the concaved face of the base and the annular flange 4 is provided with notches which aline with the notches 3. These notches permit the base 1 being inserted over the base of a lamp bulb 5, the notches receiving therethrough the studs on the sides of the base of the bulb and the notches likewise receiving therein the solder which attaches the bulb to the base. There is a tight frictional engagement between the base 1 of the improvement and the lamp bulb so that the base 1 is prevented from turning or from moving longitudinally on the said bulb.

On its outer periphery the base 1 is formed with three equidistantly spaced extensions, and these extensions are given a half twist and projected outwardly from the base to provide the same with arms 6, respectively.

The central member of the cage or frame that constitutes the improvement is in the nature of a ring 7. The ring is dished and has its concaved face opposite the outer end of the lamp bulb 5, as disclosed by Figure 1 of the drawings. The ring 7 is arranged approximately in a line with the center of the bulb 5.

The outer element of the improvement is in the nature of a disc 8 which is concavo convex in cross section. The concaved face of the disc is designed to be arranged against the outer face of the bulb 5 as disclosed by Figure 1 of the drawings. The disc is provided with three equidistantly spaced slots 9 arranged adjacent to the periphery of the said disc and these slots receive therethrough the rounded and what I will term headed

ends 10 of the outer arm members 11—11 and 12 of the improvement. The heads 10 of the arms have notches 13, respectively, that enter from one side of the said arms, the opposite sides of the arms forming shoulders 14, respectively. The headed ends of the arms are designed to pass through the slots 9 so that the walls provided by the notches 13 and the shoulders 14 will contact with the opposite faces of the disc element 8.

The ring member 7 is provided with three equidistantly spaced peripheral notches 15 and these notches are normally closed by bendable lugs 16 formed on the periphery of the said ring 7. One edge of each of the arms 11—11 and 12 is provided with an angle slot 16′ to engage with the opposite faces of the ring 7 when the arms 11 and 12 are passed through the slots 15, and thereafter the lugs 16 are bent to cover the slots 15 and thus hold the ring and arms effectively connected. The arm 12 is arranged in lapping relation with one of the arms 6 of the base 1 and is pivotally secured thereto by a rivet or like element 16″ (Figure 3). The arms 11—11 are slitted longitudinally and transversely at points adjacent to their inner or non-headed ends and the metal bounded by these slits is bent outwardly to provide the said arms 11 with angle spring fingers 17, and these fingers are designed to be received through slots 18 in two of the arms 6 of the base 1.

Before the arms 11 are connected to the arms 6 of the base the outer portion of the frame or cage may be swung on the pivot 16″ so that the bulb may be inserted through the base 1 and into its socket in the headlamp 19. Thereafter the outer portion of the cage is swung so that the arms 11 are brought to latching engagement with one of the arms 6 of the base 1. The confronting faces of the elements constituting the improvement are highly polished so that the same serve as reflectors. It will be apparent that the rays of light from the bulb 5 contacting the spaced reflector surfaces of the improvement will be broken up or diffused so that such rays cannot pass through the axial center of the lens 20 for the headlamp but are directed against the reflector in the headlamp and are directed therefrom through the lens 20, adjacent to the top and bottom of the headlamp. The device thus entirely eliminates the glare coming from the automobile headlight but does not destroy any of the quantity or quality of the light thrown upon the road and it is thought the foregoing description will fully set forth the advantages of the improvement and the simplicity thereof to those skilled in the art to which such invention relates so that further description will not be required. Obviously we do not wish to be restricted to the details herein set forth and, therefore, hold ourselves entitled to make such changes therefrom as fairly fall within the scope of what we claim.

Having described the invention, we claim:

1. A glare eliminator for automobile headlights, comprising a cage in which the bulb of the headlight is enclosed, said cage comprising an inner base element, a central ring element and an outer disc element which is arranged against the outer face of the bulb, fixed arms on the base element and removable and swingable arms on the disc and on the ring member connected with the fixed arms.

2. A glare eliminator for automobile headlights, comprising a frusto conical disc base element arranged over the base of the bulb for the headlight and having outwardly projecting arms, a central concavo convex ring member surrounding the bulb and an outer concavo convex disc having its convex face disposed opposite the outer end of the bulb, and removable arms for holding the disc and ring member in spaced relation and said arms being connected with the arms of the base.

3. A glare eliminator for automobile headlights, comprising three spaced reflector members comprising an inner cross sectional concavo convex disc which is removably fixed on the base of the bulb for the headlight and which disc has equidistantly spaced outwardly extending arms, a concavo convex ring arranged approximately centrally around the bulb, a concavo convex disc having its convex face disposed opposite the outer end of the bulb, said disc having equidistantly spaced peripheral slots, outer arms having headed ends which are notched received in the slots, said arms having angularly arranged slots entering from one of their sides and all but one of the arms having an angularly arranged spring finger, the remaining arm being pivotally secured to one of the fixed arms of the disc, the ring member having peripheral slots and bendable lugs for covering the slots and designed to be bent over the outer arms when the slots in the outer arms are received in the slots of the ring member, one of said outer arms being hingedly connected to one of the fixed arms of the disc and the remaining arms of the disc having notches to receive the spring fingers of the outer arms therein.

In testimony whereof we affix our signatures.

ELVIN C. DE VORSS.
WILLIAM F. LUMSDEN.