Oct. 16, 1923. 1,471,024

E. DAVID

ANTIGLARE GUARD FOR HEADLIGHTS

Filed Sept. 18, 1922

Fig. 1.

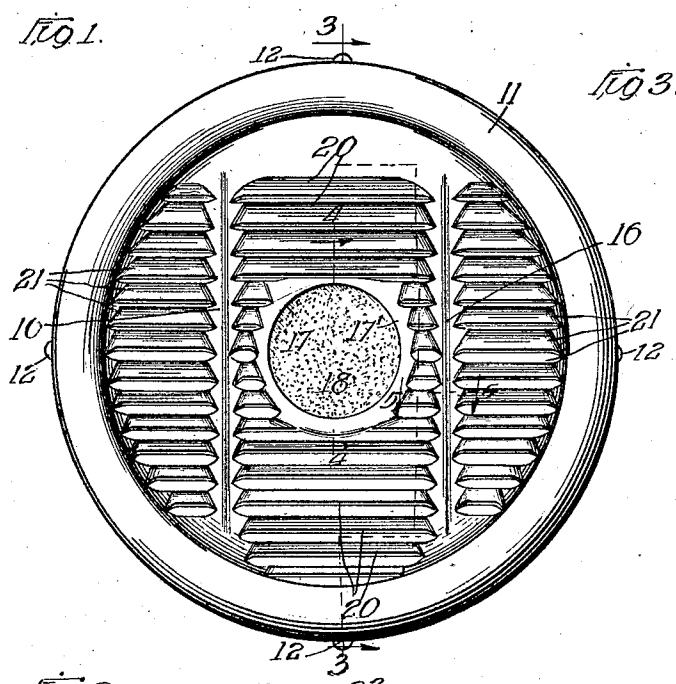


Fig. 3.

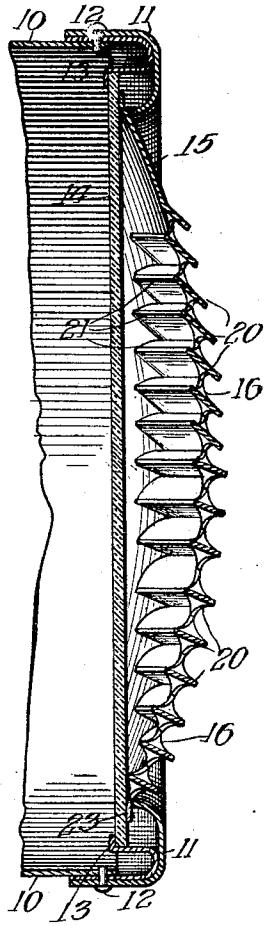


Fig. 2.

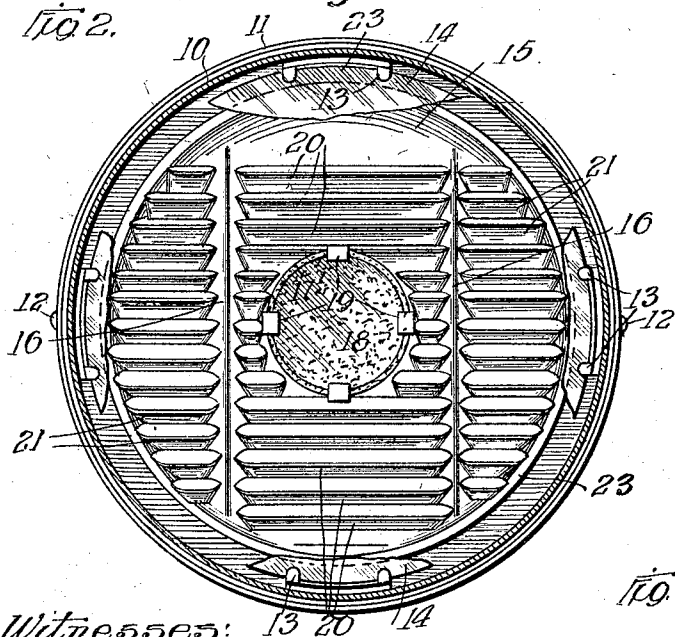


Fig. 4.

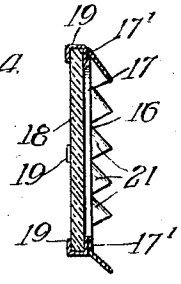
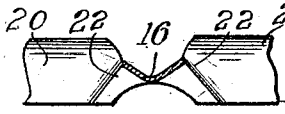


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ANTIGLARE GUARD FOR HEADLIGHTS.

Application filed September 18, 1922. Serial No. 588,750.

To all whom it may concern:

Be it known that I, ERNEST DAVID, a citizen of the United States, residing at Maywood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Antiglare Guards for Headlights, of which the following is a specification.

This invention relates to devices of that character which are designed to prevent the glare from automobile and other head-lights from blinding the vision of an approaching driver, while at the same time permitting the light rays to fully illuminate the roadway in advance of the vehicle; and the invention relates more specifically to that type of anti-glare guards which are capable of application to known and standard makes of head-lights without requiring any special construction, or alteration in, the latter.

The main objects or purposes of the invention are, to provide a guard of very simple and inexpensive construction which may readily be applied in front of the usual lens of the head-light and be held in place between the lens and the lens-supporting ring or rim of the head-light casing, to provide a glare guard wherein the central direct rays of the light will be sufficiently softened to prevent glare effect, and the lateral rays deflected by the reflector of the head-light will be thrown forwardly and downwardly so as to light the road for a considerable distance in advance of the car and below the line of vision of an approaching driver, to provide a glare guard having the above mentioned characteristics which may be made of relatively thin sheet metal, and will possess such a degree of strength and rigidity as will enable it to maintain its form and structural integrity under all normal service conditions and without any liability or danger of easily becoming deformed or misshapen.

Other objects and attendant advantages of the invention will be apparent to persons skilled in the art as the same becomes better understood by reference to the following detailed description, taken in connection with the accompanying drawing in which I have illustrated a practical and workable embodiment of the invention, and wherein—

Fig. 1 is a front elevation of a head-light equipped with my improved anti-glare guard;

Fig. 2 is a rear elevation, with the lens of the head-light omitted for the sake of clearness;

Fig. 3 is a vertical section on an enlarged scale taken on the centrally offset line 3—3 of Fig. 1;

Fig. 4 is a vertical section through the central ring and translucent disc mounted therein, taken on the line 4—4 of Fig. 1; and

Fig. 5 is an enlarged detail cross-section through one of the reinforcing ribs taken on the line 5—5 of Fig. 1.

Referring to the drawing, at 10 is indicated the forward portion of the usual head-light housing or casing containing the light and ordinary parabolic reflector (not shown). 11 designates the usual retaining ring mounted on the forward end of the casing 10 by screws or rivets 12 and carrying a group of spaced abutment lugs 13, between which and the inner peripheral edge of the ring 11 is clamped the usual lens 14.

My improved anti-glare attachment comprises a concavo-convex disc 15 of sheet metal, preferably aluminum, which best combines the qualities of lightness and strength. Extending vertically of the disc 15 about midway between the center and the opposite sides, respectively, are a pair of outwardly pressed stiffening ribs 16, one of which is shown in enlarged detail in Fig. 5 as of a shallow V-shape in cross-section. A circular central portion of the disc is cut out to form a round opening 17, and the metal at the margin of the opening is folded backwardly on itself, as shown in Fig. 4, to form a ring 17′ of double thickness which stiffens the central portion of the disc. Back of the opening 17 is laid a disc 18 of ground glass or ordinary glass otherwise treated to render the same translucent; the disc 18 being retained in place by integral bent lugs 19 embracing the periphery of the disc 18. Any other suitable means for mounting and securing the disc 18 over the opening 17 may be employed within the purview of the invention.

Between the vertical ribs 16 and between the latter and the ring 17′ the metal of the disc is transversely slitted, and the metal strips lying between adjacent slits are bent out of the plane of the disc so as to form a series of downwardly and forwardly inclined louvers or vanes 20, between which the

light rays pass and by which they are deflected in a downward and forward direction. Between the ribs 16 and the opposite side peripheral portions of the disc are formed in the same manner two similar series of vanes or louvers 21. The described manner of forming the vanes or louvers creates at the ends of the latter warped or twisted portions 22 (Fig. 5) by which they are integrally joined to the ribs 16, the central ring 17′ and the peripheral portion 23 of the disc, which latter is bent to form a marginal flange by which the disc is clamped and securely held between the inner periphery of the retaining ring 11 and the lens 14, as clearly shown in Fig. 3. These warped end portions of the vanes have the full width of the latter and provide much stronger end supports for the vanes than is obtainable by the practice heretofore employed of slitting the metal at the ends of the vanes for nearly the full width of the latter and then bending the vanes to the required inclination.

The sheet metal disc having the structure described is capable of being cut and bent into the described form by one or two die press operations, and the central disc 18 is easily and quickly applied by centering it behind the opening 17 against the rear side of the ring 17′ and then bending the clips 19 over its periphery.

With further reference to the louvers or vanes 20 and 21, it will be observed by reference to Fig. 3 that the vanes in the upper half of the disc are so formed as to have a slightly greater downward inclination than the vanes in the lower half of the disc. This produces a desirable distribution and diffusion of the light rays along the roadway and prevents any of the direct or reflected light rays from striking into the eyes of pedestrians or drivers traveling in the opposite direction. The central disc 18 permits the passage of sufficient light to make head-lights easily visible at a distance, but dims and softens the light sufficiently to make it unobjectionable and free from any blinding effect to the drivers of passing vehicles.

I claim—

1. An anti-glare guard for head-lights, comprising a concavo-convex sheet metal disc having a series of transverse downwardly and forwardly inclined louvers and a central ring, and a flat disc of translucent material mounted in said ring.

2. An anti-glare guard for head-lights, comprising a concavo-convex sheet metal disc formed with a pair of vertical ribs on opposite sides of the center of said disc respectively, and extending between the top and bottom peripheral portions of the latter, three groups of transverse downwardly and forwardly inclined louvers lying between said ribs and between the latter and the side peripheral portions of said disc, respectively, throughout the entire area of the latter, and a central ring lying between said ribs, and a disc of translucent material mounted in said ring.

3. An anti-glare guard for head-lights, comprising a concavo-convex sheet metal disc formed with a pair of vertical ribs on opposite sides of the center of said disc, respectively, and with a central ring lying between said ribs, said disc being transversely slitted between said ribs and between the latter and the side peripheral portions of said disc, and having the portions between adjacent slits bent or warped out of the plane of the disc to form louvers between which the light rays pass and are deflected in a downwardly and forwardly inclined direction, and a disc of translucent material mounted in said ring.

4. An anti-glare guard for head-lights, comprising a concavo-convex sheet metal disc formed with a pair of outwardly pressed vertical stiffening ribs of substantially V-shape in cross section on opposite sides of the center of said disc, respectively, and with a central ring lying between said ribs, integral transverse downwardly and forwardly inclined louvers between said ribs and between the latter and the side peripheral portions of said disc, and a disc of translucent material mounted in said ring.

5. An anti-glare guard for head-lights, comprising a concavo-convex sheet metal disc having a series of transverse downwardly and forwardly inclined louvers and a central ring, and a disc of translucent material mounted in said ring; the louvers in the upper half of said disc being inclined downwardly at a greater angle from the horizontal than the louvers in the lower half thereof.

6. An anti-glare guard for head-lights, comprising a concavo-convex sheet metal disc formed with a marginal flange, a central ring, and a series of transverse downwardly and forwardly inclined louvers, and a ground glass disc mounted in said ring; the louvers in the upper half of said disc being inclined downwardly at a greater angle from the horizontal than the louvers in the lower half thereof.

ERNEST DAVID.