R. B. JESTER.

REFRACTING LENS FOR HEADLIGHTS.

APPLICATION FILED APR. 18, 1917.

1,290,567. Patented Jan. 7, 1919.

Fig. 1.

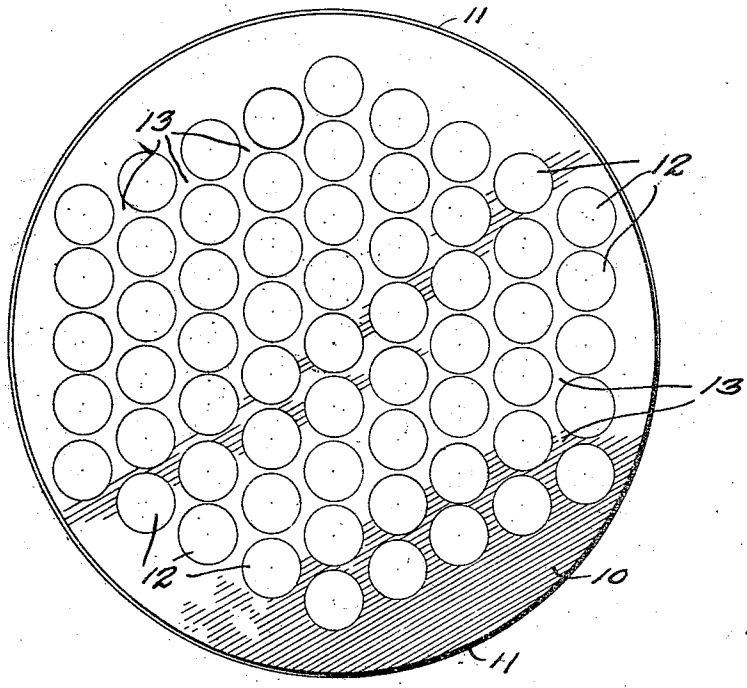


Fig. 2.

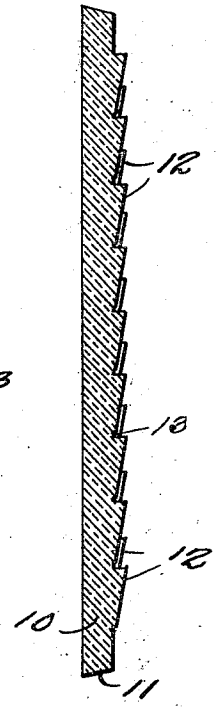
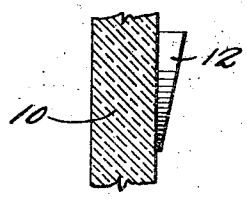


Fig. 3.



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UNITED STATES PATENT OFFICE.

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REFRACTING-LENS FOR HEADLIGHTS.

1,290,567. Specification of Letters Patent. Patented Jan. 7, 1919.

Application filed April 18, 1917. Serial No. 163,047.

To all whom it may concern:

Be it known that I, RONALD B. JESTER, a citizen of the United States, and a resident of New Cumberland, in the county of Hancock and State of West Virginia, have invented a certain new and useful Improvement in Refracting-Lenses for Headlights, of which the following is a specification.

The present invention relates to improvements in headlights for automobiles and the like, and relates more particularly to a novel construction of lens for application to the same.

An object of the present invention is to refract the light rays projected from the lamp forwardly and downwardly throughout an area no higher than the top of the lens when located in the lamp, and to provide a lens through which may be projected, in a substantially straight line therefrom, a small portion of the light rays, and to deflect downwardly at various distances in front of the lamp the major portion of the rays.

The invention further aims at the provision of a lens of this character which may be readily cast so as to be economically produced, and the provision of a lens which may be applied in the ordinary manner to the lamps now employed.

The above, and various other objects and advantages of this invention will be in part described, and in part understood, from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing wherein:

Figure 1 is a face view of a lens constructed according to the present invention.

Fig. 2 is a transverse section taken through the same.

Fig. 3 is a fragmentary enlarged section taken through a portion of the lens at one side of one of the prismatic projections formed thereon.

Referring to this drawing, 10 designates the body of the lens which is preferably of disk or circular form and of the usual thickness of lenses for application to lamps of ordinary construction. The body of the lens may be provided with a transversely inclined or beveled edge 11 adapted to seat in the front part of the lamp for holding the lens in position in the usual manner.

On preferably one face of the lens body 10 is integrally formed therewith a plurality of prismatic projections 12, the same being disposed in closely spaced-apart relation in any suitable manner, preferably in staggered or offset vertical rows, as shown in Fig. 1. These projections 12 are preferably of such form to provide bases 13 therebetween exposing the relatively flat adjacent side or face of the lens body. These prismatic projections 12 have their outer faces inclined, preferably all in one direction to refract all of the substantially parallel rays projected against the lens in the same direction, the spacing of the projections 12 from one another spreading the light rays thus refracted throughout a substantial area in front of the lamp. The outer inclined faces of the projections 12 are preferably flat for the purpose of projecting the light rays in substantially parallel pencils forwardly from the lamp to offset the diffusion of the rays and to thus project the rays at a substantial distance forwardly from the lamp within the described area.

As shown in the accompanying drawing, the prismatic projections 12 are arranged upon the inner face of the lens body 10 and the outer flat faces of the projections 12 are inclined inwardly and downwardly with respect to the lamp to project or refract the light rays, downwardly in front of the lamp. Preferably, the projections 12 cover two-thirds of the surface area of the lens and thus effectually break up the parallel pencils of rays which are projected directly through the lens at the spaces 13 between the projections. The glare or blinding effect of the headlight is thus considerably reduced or eliminated, and sufficient of the parallel rays or pencils of light is transmitted through the lens to moderately illuminate the entire prescribed area in front of the lamp. Each projection 12 forms an independent lens refracting the pencils of light projected therethrough in independent areas so that the

combined intensities of all of the pencils of light projected from the headlight are dissipated and refracted in different directions.

The roadway in front of the headlight is thus brilliantly illuminated, and the desired result or effect of the headlight is produced.

It is of course understood that the prismatic projections 12 may be inclined at any desired angle to produce the result desired, and that when the projections 12 are placed upon the outer face of the lens body 10, the faces of the projections must be inclined downwardly and outwardly, or in substantially the same relation to the lens body as is shown in Fig. 2. This result may be accomplished by merely reversing the lens and retaining the top edge thereof uppermost.

It is of course understood that various changes and modifications may be made in the details of construction of the above-specifically described lens, and that the prismatic projections 12 may be placed in any suitable manner upon the body of the lens without departing from the spirit of this invention, the latter being restricted only by the scope of the following claims.

I claim—

1. A lens for headlights comprising a body portion having independent disk-shaped surface projections provided with flat outer faces inclined at an angle to the adjacent surface of the body portion.

2. A lens for headlights comprising a transparent body portion having opposite flat faces lying in parallel planes, and having on its inner side raised disk-shaped projections spaced apart from one another to form uninterrupted surface portions on the body between and about the projections, the disk-shaped projections having flat outer faces lying in planes inclined to the plane of the adjacent side of the body portion and having substantially cylindrical peripheral edges.

RONALD B. JESTER.