Jan. 3, 1928.

C. P. JOHNSON

1,654,974

HEADLIGHT DIFFUSER

Filed March 17, 1927

Fig. 1.

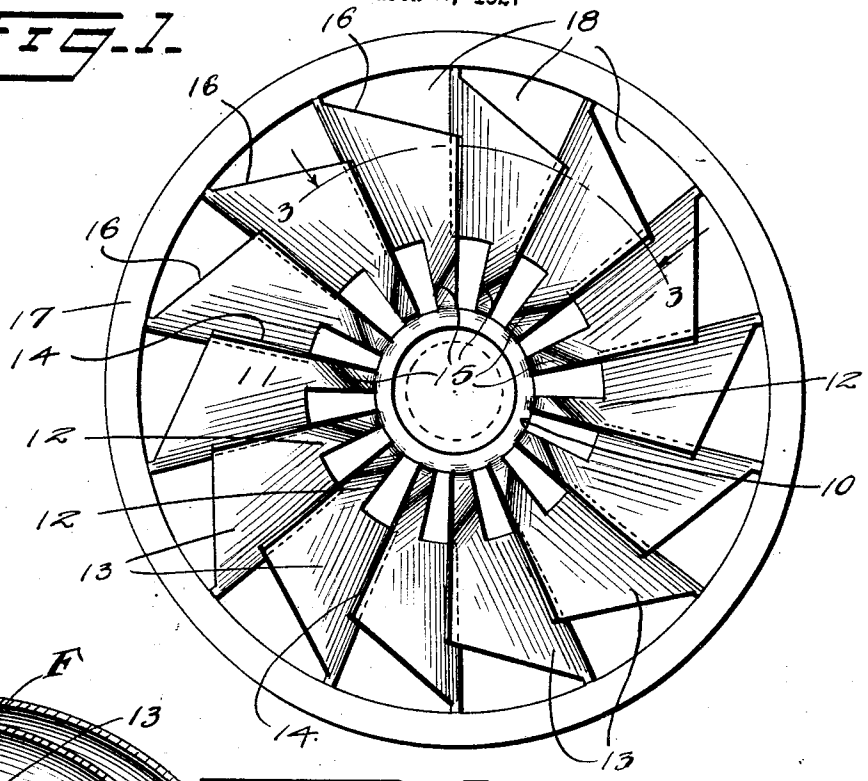


Fig. 2.

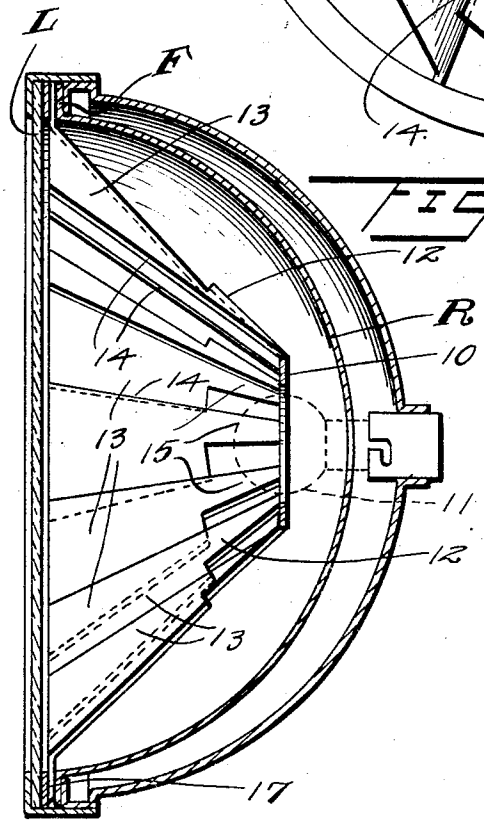
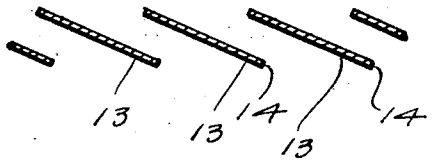


Fig. 3.



Inventor

C. P. Johnson

By Watson E. Coleman

Attorney

Patented Jan. 3, 1928. 1,654,974

UNITED STATES PATENT OFFICE.

CHARLES P. JOHNSON, OF JOHNSONBURG, PENNSYLVANIA.

HEADLIGHT DIFFUSER.

Application filed March 17, 1927. Serial No. 176,119.

This invention relates to headlight diffusers and more particularly to a device adapted for attachment to the ordinary headlight structure, which will prevent the glare of direct rays from the headlight from confusing the drivers of oncoming vehicles.

An important object of the invention is to provide a device of this character which may be readily and cheaply constructed and which is readily applied to the headlight.

A further object of the invention is to provide a device of this character which will permit the passage of non-confusing direct rays, so that an efficient lighting of the road is provided.

These and other objects I attain by the construction shown in the accompanying drawing, wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein:—

Figure 1 is a front elevation of a headlight diffuser constructed in accordance with my invention;

Figure 2 is a vertical sectional view showing the diffuser in position in the headlight;

Figure 3 is a section on the line 3—3 of Figure 1.

Referring now more particularly to the drawings, the numeral 10 generally designates a flat metallic ring having an internal diameter of slightly greater size than the diameter of the illuminating bulb 11 of the headlight, with which it is to be employed. Radiating from this ring at circumferentially spaced points are a plurality of segments 12, which are preferably of the same size as the spaces therebetween. The outer end of each segment 12 has secured thereto a frusto-segmental enlargement 13, one radial edge 14 of which coincides with the corresponding edge of the associated segment 12. The segments 12 are similarly angularly deflected from the plane of the ring 11 and are similarly twisted, at 15, intermediate the ends thereof, so that the frustro-segmental enlargement 13 thereof each lie at an angle to a plane perpendicular to the axis of the ring 11. The deflection of the sections 12 causes the adjacent edges of the enlargements 13 to overlie one another, so that a complete circular obstruction to the passage of direct rays is provided, this obstruction being located substantially midway between the axis of the headlight and the inner perimetric wall of the deflector thereof. The outer ends 16 of the enlargements 13 are all beveled from their higher toward their lower ends, so that these outer ends all lie in a common plane perpendicular to the axis of the ring 10. The outer extremity of the lower end of each enlargement 13 is secured to a ring 17, which is adapted to be positioned between the flange F, with which the ends of the reflectors R are usually provided and the rear face of a lens L, which may consist of an ordinary sheet of glass.

A diffuser of this construction will permit the passage of direct non-reflected rays from the bulb and will also permit an interrupted annular series of reflected rays to pass therethrough immediately about the bulb. At the perimeter of the reflector of the headlight, small openings 18 are formed by the cutting away of the enlargements 13, which will permit the passage of a small amount of reflector rays directly from the reflector. Opposite faces of the segments 12 and enlargements 13 are polished and accordingly rays impinging thereagainst will be reflected back and forth upon the faces thereof and will be considerably softened before their escape, so that they will not cause any tendency to glare.

It will be obvious that the construction employed may be modified to a certain extent and I accordingly do not limit myself to such specific structure except as hereinafter claimed.

I claim:—

1. A headlight ray diffuser comprising inner and outer co-axial rings arranged in different planes, circumferentially spaced segments radiating from said inner end and frustro-segmental enlargements secured between the outer ends of said segments and the outer ring and having adjacent edges thereof overlapped.

2. A headlight ray diffuser comprising inner and outer co-axial rings arranged in different planes, circumferentially spaced segments radiating from said inner end and frustro-segmental enlargements secured between the outer ends of said segments and the outer ring and having adjacent edges thereof overlapped, the segments being similarly twisted upon their longitudinal axes whereby adjacent faces of overlapped edges of the frustro-segmental enlargements are spaced from one another.

3. A headlight ray diffuser comprising in-

ner and outer co-axial rings arranged in different planes, circumferentially spaced segments radiating from said inner end and frustro-segmental enlargements secured between the outer ends of said segments and the outer ring and having adjacent edges thereof overlapped, the lower edges of the enlargements being secured to the outer ring, the outer ends of said enlargements being beveled from their upper to their lower edges whereby said outer ends are coplanar with said outer ring.

4. In combination with a headlight embodying the usual reflector, illuminating element and lens opposing the outer end of the reflector, a ring interposed between the outer edge of the reflector and the lens, a second ring surrounding the illuminating element and vanes connecting said rings embodying inner segmental portions, adjacent edges of which are spaced from one another and outer frustro-segmental enlargements adjacent edges of which overlap.

5. In combination with a headlight embodying the usual reflector, illuminating element and lens opposing the outer end of the reflector, a ring interposed between the outer edge of the reflector and the lens, a second ring surrounding the illuminating element and vanes connecting said rings embodying inner segmental portions, adjacent edges of which are spaced from one another and outer frustro-segmental enlargements adjacent edges of which overlap, said vanes being twisted whereby the overlapped edges of the enlargements are spaced from one another.

In testimony whereof I hereunto affix my signature.

CHARLES P. JOHNSON.