

G. D. HAZARD.
LIGHT REFLECTOR AND DIFFUSER.
APPLICATION FILED JULY 31, 1919.

1,365,319.

Patented Jan. 11, 1921.

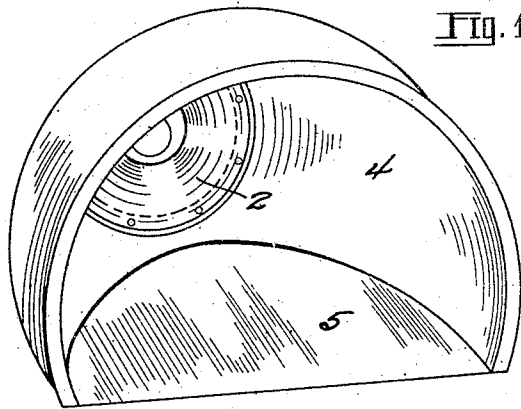


Fig. 1

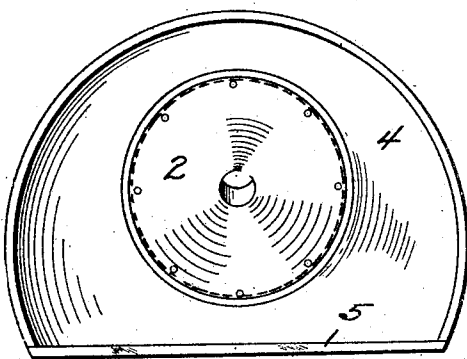


Fig. 2

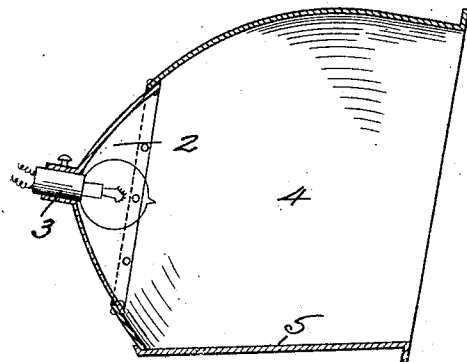


Fig. 3

Witness:
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INVENTOR.
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UNITED STATES PATENT OFFICE.

GEORGE D. HAZARD, OF SAN FRANCISCO, CALIFORNIA.

LIGHT REFLECTOR AND DIFFUSER.

1,365,319.

Specification of Letters Patent.

Patented Jan. 11, 1921.

Application filed July 31, 1919. Serial No. 314,438.

To all whom it may concern:

Be it known that I, GEORGE D. HAZARD, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented a certain new and useful Light Reflector and Diffuser, of which the following is a specification.

The invention relates to a light reflector and diffuser, particularly adapted for use as a motor vehicle headlight, but capable of advantageous use in other ways.

An object of the invention is to produce a light reflector and diffuser which produces a substantially glareless light.

A further object of the invention is to produce a headlight which produces a white light.

The invention possesses other advantageous features, some of which, with the foregoing, will be set forth at length in the following description, where I shall outline in full that form of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification. In said drawings I have shown one form of light reflector and diffuser of my invention, but it is to be understood that I do not limit myself to such form, since the invention as expressed in the claims may be embodied in a plurality of forms.

Referring to said drawings:

Figure 1 is a perspective view of the headlight of my invention.

Fig. 2 is a front elevation of the headlight.

Fig. 3 is a vertical longitudinal section of the headlight.

The light reflector and diffuser of my invention is particularly adapted for use as an automobile headlight, since it produces a bright lighting of the road ahead and does not produce the glare which is highly objectionable. The headlight produces a substantially even distribution of light over the road for a long distance ahead and, without producing a glare, produces a strong diffused light. The device comprises a parabolic, or substantially parabolic, reflector 2, the axis of which is preferably inclined to the horizontal so that substantially all of the reflected light is directed downward against the road. The reflector 2 is provided with a socket 3 for receiving the stem of an incandescent lamp. The parabolic reflector is comparatively small so that only a frac-

tion of the light from the lamp falls thereon. Springing forward from the reflector and preferably co-axial therewith is a shell 4, preferably ellipsoidal in form. This shell may be made of metal, paper fiber, or other material, and is coated on its inner surface with a white light diffusing material. For this material I have used a mixture of ground flake white and turpentine, with excellent results. The diffusion shell projects forward a sufficient distance so that the outer portion thereof is substantially parallel with the axis of the reflector. The outer or forward portion of the diffusion surface is, therefore, sloped downwardly at the upper portion, to cause the greater portion of the diffused light to be directed toward the road. The bottom portion of the shell 4 is omitted or cut away on a plane inclined to the axis of the reflector and in the aperture so formed is a substantially flat plate 5, which, when the fixture is used as a headlight, is substantially horizontal. The upper surface of the plate is coated with a light diffusing material and preferably a material, such as green paint, which has the power of absorbing yellow rays, so that the light discharged from the headlight is deficient in yellow rays, and is, therefore, substantially white. The inclination of the axis of the ellipsoidal shell with respect to the plane of the plate 5 is such that the plate springs outward from the rear portion of the shell a short distance below the lower edge of the reflector 2. The shell is, therefore, dome-shaped with a flat floor. The flat floor prevents the lower axially directed rays of light from passing axially from the headlight and causes them to be broken up and diffused. The diffused light within the shell acts as a screen for the directly-reflected rays, depriving them of their intensity and overcoming the glare that they would otherwise produce. The lune-shaped opening in the front of the fixture may be closed with any desirable form of transparent or translucent lens.

I claim:

1. A lighting fixture comprising a dome-shaped shell having a flat floor and terminating in a lune-shaped opening, a coating of white light-diffusing material on the inner face of the shell, a coating of green light-diffusing material on said floor, and a parabolic reflector arranged in the back of said shell adapted to reflect light through said

opening, the axis of the reflector lying at an angle to the plane of the floor.

2. A lighting fixture comprising a truncated ellipsoidal shell, open at one end, said
5 truncation being inclined toward said open end with respect to the axis of said shell, a flat floor covering said opening caused by said truncation, a coating of color light diffusing material on said floor, a light diffusing
10 ing material on said shell, and a reflector

mounted in said shell opposite its open end, the axis of said reflector being co-axial with the axis of said shell.

In testimony whereof, I have hereunto set my hand at San Francisco, California, this 15
18th day of July, 1919.

GEORGE D. HAZARD.

In presence of—

H. G. Prostr.