March 5, 1935. J. CATHRILL 1,993,147

HEADLIGHT

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FIG. 1.

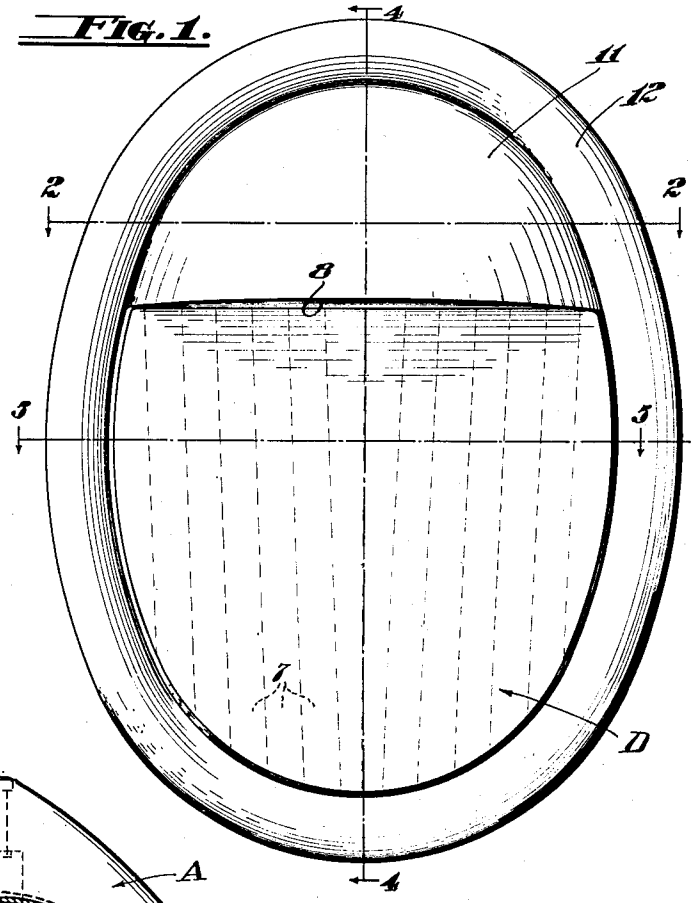


FIG. 2.

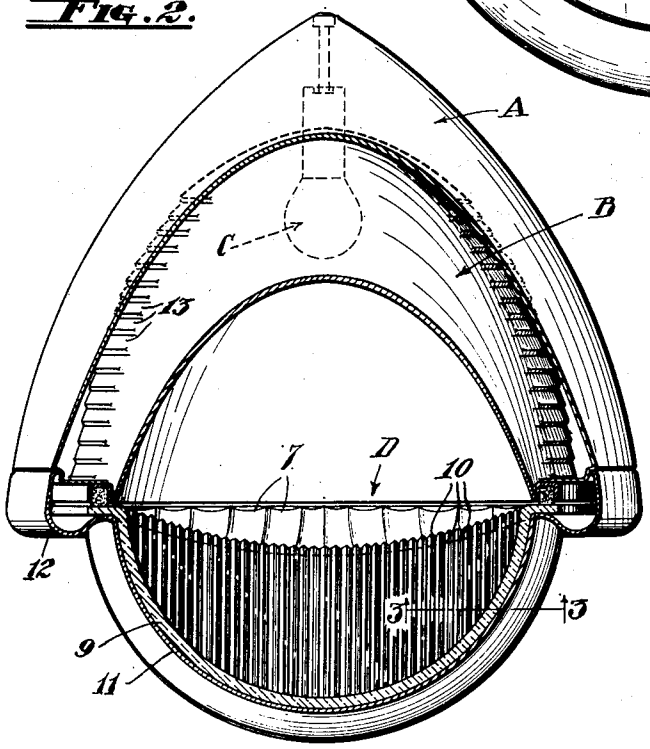
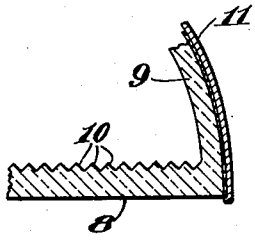


FIG. 3.



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FIG. 5.

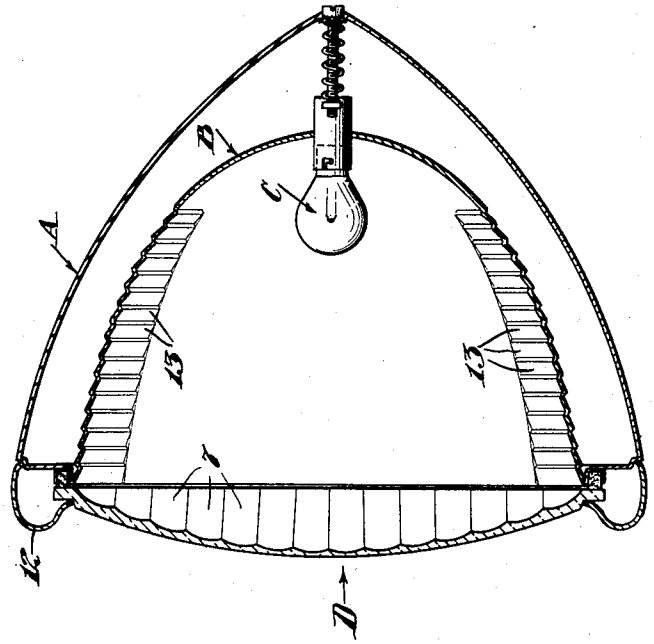
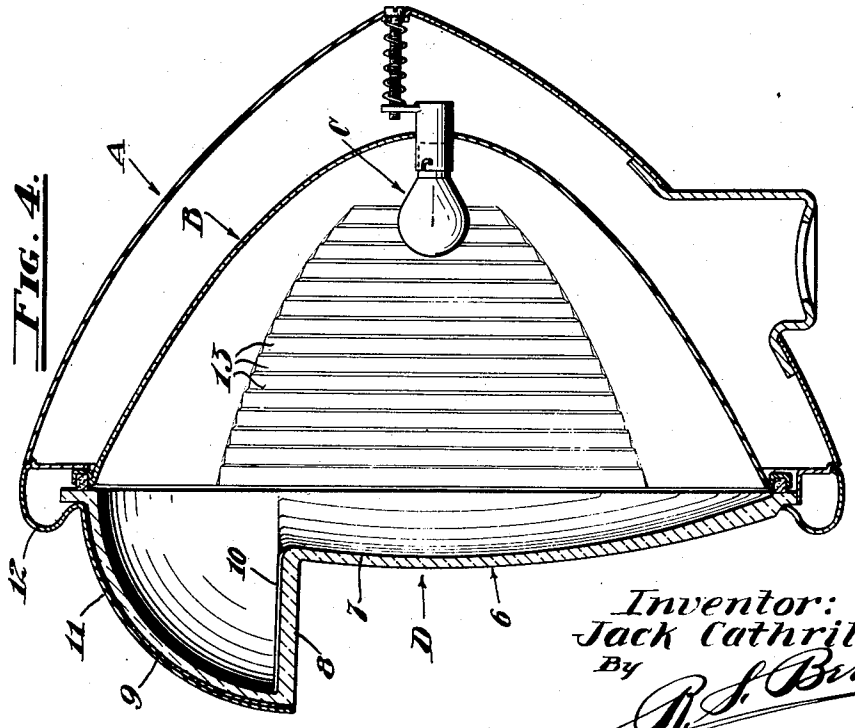


FIG. 4.



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UNITED STATES PATENT OFFICE

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HEADLIGHT

Jack Cathrill, San Francisco, Calif.

Application November 4, 1933, Serial No. 696,662

1 Claim. (Cl. 240—41.3)

This invention relates to a headlight for motor vehicles and the like, and has as its primary object the provision of a headlight which is adapted to project a beam and also produce a flood light and at the same time prevent the objectional glare due to upwardly projecting rays and without loss of illumination effect due to the provision of the anti-glare feature.

Another object of the invention is to provide a lens for the headlight which is so formed as to intercept upwardly projecting beam rays and diverge them in most part in a downward and lateral direction so as to utilize the intercepted rays in producing a flood light.

With the foregoing objects in view together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view of a headlight, as seen in front elevation, showing it as equipped with a lens designed in accordance with the invention;

Fig. 2 is a view in plan and horizontal section as seen on the line 2—2 of Fig. 1;

Fig. 3 is a detail in vertical section as seen on the line 3—3 of Fig. 2;

Fig. 4 is a view in vertical section and elevation as seen on the line 4—4 of Fig. 1;

Fig. 5 is a view in horizontal section and plan taken on the line 5—5 of Fig. 1.

Referring to the drawings more specifically, A indicates generally the lamp shell or housing in which is disposed a reflector B of parabolic characteristics, and C designates a source of light constituting the usual electric light bulb arranged with its axis slightly below the axis of the reflector B. The lamp shell or housing is fitted at its forward end with a lens D formed of glass and which is substantially elliptical in outline and has a lower portion of concavo-convex formation of slight curvature, which lower portion is preferably smooth on its outer surface and is formed with vertically extending prismatic flutes 7, with the flutes on opposite sides of the vertical center of the lens diverging upwardly relative to each other. This fluted portion of the lens extends from the lower marginal portion of the lens to a suitable point above its mid-center.

The lens is formed with a horizontal projecting wall portion 8 leading outwardly from the upper margin of its concavo-convex portion 6 the outer margin of which horizontal portion is formed on an arc or segment, as particularly shown in Fig. 2, and connects with a wall portion 9 which extends upwardly and inwardly from the forward edge of the horizontal wall portion 8, substantially in the form of a segment of a sphere.

The upper face of the horizontal wall portion 8 is formed with a series of ribs or flutes 10 of substantially triangular prismatic cross section, as shown in Fig. 3, which ribs extend in the direction of the axis of the reflector B.

The inner surfaces of the wall portion 9 is coated with a reflective material and has its outer surface covered by a metallic hood 11 thus rendering the portion 9 opaque. The hood 11 is formed on a metallic rim 12 which is engageable with the forward margin of the lamp shell A and with the margin of the lens D so as to retain the latter in place.

As a means for contracting the laterally diverging beam rays, the parabolic reflector B is formed on its opposite sides with a series of flat angularly disposed surfaces 13 which surfaces extend vertically on opposite sides of the horizontal center of the reflector; the flat surfaces 13 extending over only the central side portions of the reflector so as to leave smooth areas of the parabolic reflector at the upper and lower portions thereof.

In the operation of the invention, rays from the lamp C will be projected forwardly at the lower portion of the lens D, and reflected rays will likewise be directed through the lens D according to the contour of the reflector B with its flat surfaces 13 to form a beam light and also such flood light as will be delivered by the flutes 7.

An important feature of the invention resides in the fact that upwardly reflected or directed beam rays will be intercepted by the hood formed by the wall portion 9 and a major portion of which intercepted rays will be directed downwardly through the horizontal prisms 10 and will thereby be spread to form a wide highly illuminated area on the ground downwardly in front of the headlight, and such rays diverted by the reflective portion 9 as are not projected through the horizontal portion 8 will be re-reflected by the reflector B and directed to the lens.

I claim:

The combination with a reflector and a light source therein, of a lens extending in front of said reflector, said lens having a lower portion formed with vertically extending flutes, and having a horizontal wall portion projecting forwardly from the upper margin of said lower portion formed with prismatic ribs extending in the direction of the axis of said reflector, and said lens being formed with an upper portion substantially in the shape of a segment of a sphere extending above said horizontal wall portion and having its inner surface reflective, and a metallic shield extending over said upper portion and conforming thereto, said reflector being of general parabolic contour and having a series of upright flat surfaces on its opposed side faces disposed in angular relation to said lens.

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