Oct. 23, 1923. 1,471,923

H. R. SAXON

NONGLARING HEADLIGHT

Original Filed May 8, 1916

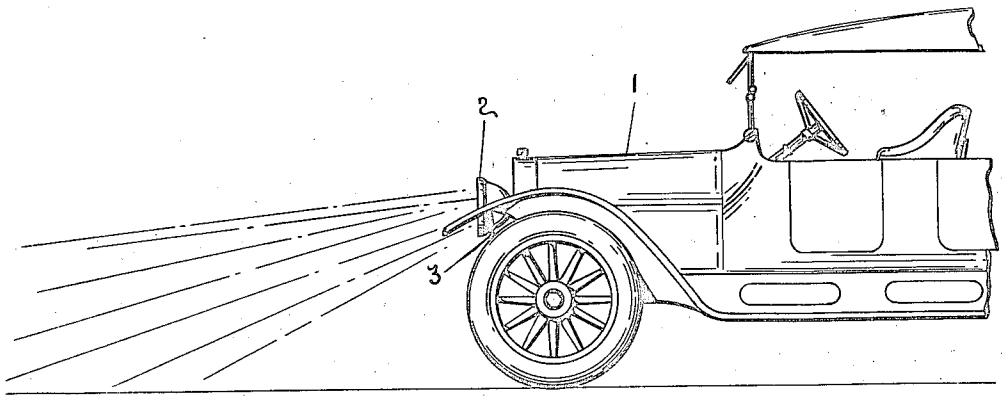


FIG. 1

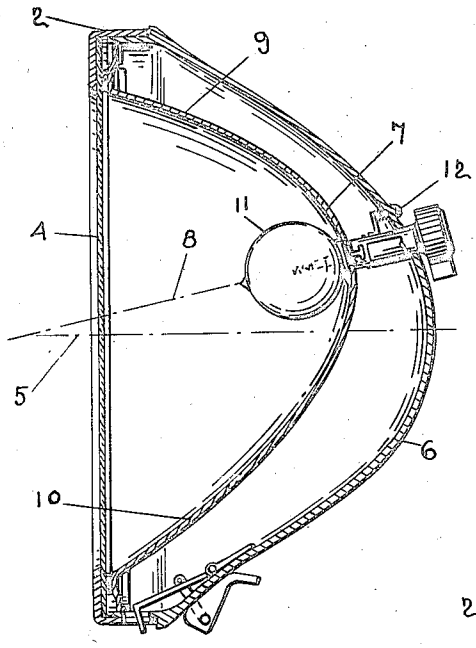


FIG. 2

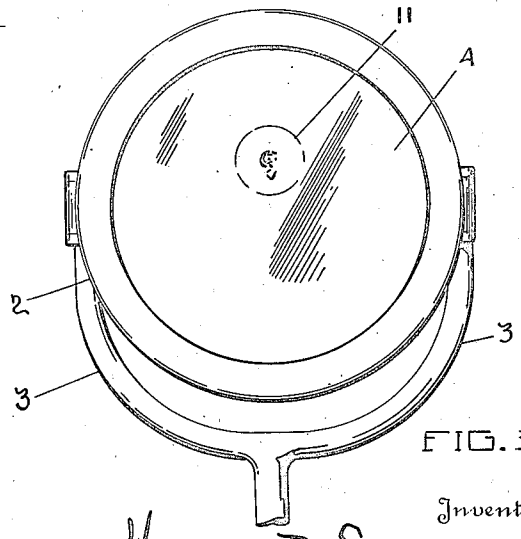


FIG. 3

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By

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UNITED STATES PATENT OFFICE.

HERMAN R. SAXON, OF TOLEDO, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ELECTRIC AUTO-LITE CORPORATION, OF TOLEDO, OHIO, A CORPORATION OF DELAWARE.

NONGLARING HEADLIGHT.

Application filed May 8, 1916, Serial No. 95,992. Renewed March 27, 1923.

To all whom it may concern:

Be it known that I, HERMAN R. SAXON, a citizen of the United States of America, residing at Toledo, Lucas County, Ohio, have invented new and useful Improvements in Nonglaring Headlights, of which the following is a specification.

This invention relates to headlights for automobiles. An object of the invention is the construction of such a headlight of which the housing is adapted to be mounted in an upright position on the automobile, but from which the light rays shall be inclined to the horizontal.

Another object is the construction of such a headlight wherein a reflector of maximum reflecting area may be used with a given housing.

Further objects of this invention relate to economies of manufacture and details of construction as will hereinafter appear from the detailed description to follow. I accomplish the objects of my invention in one instance by the devices and means described in the following specification, but it is evident that the same may be varied widely without departing from the scope of the invention, as pointed out in the appended claims. A structure constituting one embodiment of my invention, which may be the preferred, is illustrated in the accompanying drawings forming a part thereof in which:

Fig. 1 is a side elevation of an embodiment of the invention as a non-glaring headlight for motor vehicles;

Fig. 2 is a section of a headlight on an enlarged scale; and

Fig. 3 is a front elevation of the headlight or lamp.

The motor vehicle 1 is provided with a pair of headlights or lamps 2. The lamp 2 is fixedly mounted by the fork 3 in a position to have its front or lens 4 perpendicular to the line of the road. This provides the central axis 5 for the housing 6 parallel with the road.

The lamp 2 includes as its essential elements a housing 6, a reflector 7, a lens 4 secured by suitable means to the housing and an electric lamp 11, whose position may be adjusted for proper focus by the screw 12. The housing 6 is shown as of general paraboloidal form and the front opening of the casing as well as the lens 4 are substantially perpendicular to the axis of the paraboloid. The reflector is a surface of revolution, which in the form chosen for illustration is a paraboloid and is constructed with the plane of its mouth at an acute angle to its axis. This reflector is mounted in the housing with its mouth parallel with and adjacent the lens and with its axis inclined so as to direct the rays of light forwardly and downwardly as illustrated by Fig. 2. It will be seen that the lamp being situated at the focus of the paraboloid is located above the axis of the housing. By constructing the reflector with its mouth inclined to its axis the reflector may be mounted in an erect or vertically arranged housing to throw the light downwardly without unnecessarily sacrificing any possible reflecting area, the reflector being made of the maximum size which can be accommodated by a given housing and lens securing device.

Theoretically, with the light source 11 having its filament at the focus of the parabolic reflector 7, all rays of light will travel in parallel lines from such source as directed or projected by the parabolic reflector. However, in practice the filament is more than a point and accordingly there is some light ray projection differing from the parallel line travel. This disturbance may work a region of considerable intensity of illumination for regions lateral of the axis of the parabolic reflector. To keep this axis in such a position as not to give objectionable illumination to hinder approaching pedestrians or drivers, this axis, in this instance, is directed downwardly about 10° maintaining a region of effective illumination in the desired region ahead of the vehicle. This is done with the lamps in the normal or perpendicular position avoiding any detraction from the appearance which might result from tilting the lamp.

What is claimed and it is desired to secure by United States Letters Patent is:

1. A lamp comprising the combination of a substantially paraboloidal housing, a paraboloidal reflector having a single focus and axis and formed by cutting a paraboloid obliquely to its axis, said reflector being disposed in said housing with its axis inclined at an angle to the axis of the housing and with its focus disposed above the axis of the housing, and a source of light disposed substantially at the focus of the reflector.

2. A lamp comprising the combination of a housing; a paraboloidal reflector formed by cutting a paraboloid obliquely to its axis with the latter disposed at an angle to the horizontal; and a source of light substantially at the focus of the reflector.

3. In a headlight, the combination of a casing having an opening, a lens closing the mouth of said opening, the plane of said mouth and said lens being substantially vertical, a reflector having a surface of revolution mounted in said casing with its axis inclined to the horizontal, the plane of the mouth of said reflector being parallel to and adjacent said lens.

4. A lamp comprising in combination a housing having an opening, a lens adjacent said opening, a reflector paraboloidal in shape and having the plane of its mouth at an acute angle to its axis and mounted with its mouth adjacent and parallel to said lens and its axis inclined to project the rays of light forwardly and downwardly.

In witness whereof I affix my signature.

HERMAN R. SAXON.