July 29, 1924. 1,502,670

G. F. HILL

HEADLIGHT OF MOTOR CARS AND LIKE ROAD VEHICLES

Filed Feb. 2, 1924

Fig. 1

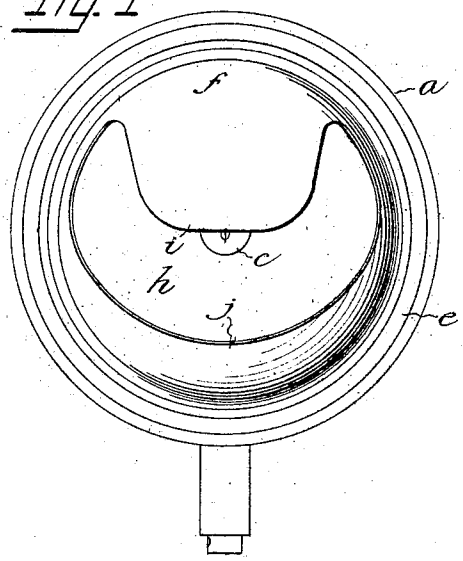


Fig. 2

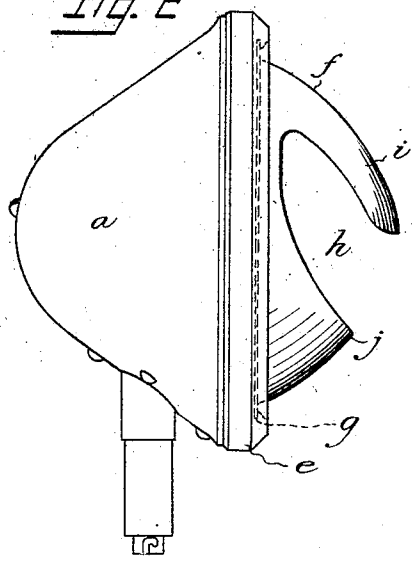


Fig. 4

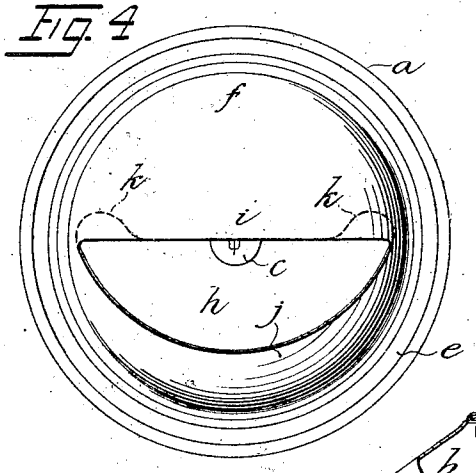


Fig. 5

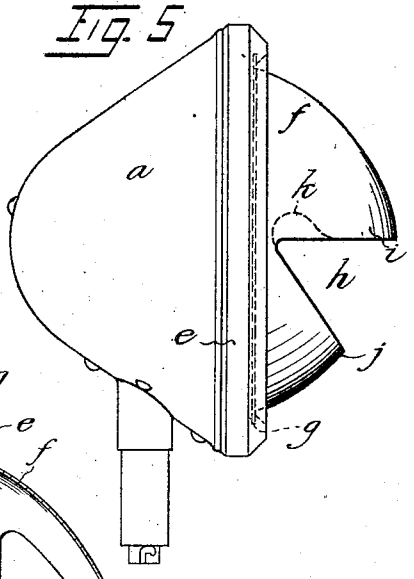
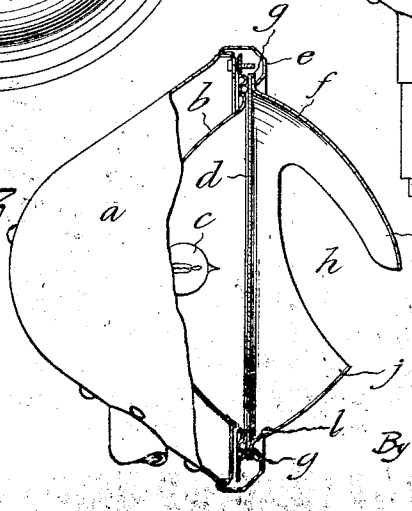


Fig. 3



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UNITED STATES PATENT OFFICE.

GEORGE FREDERICK HILL, OF MIDDLE BRIGHTON, VICTORIA, AUSTRALIA.

HEADLIGHT OF MOTOR CARS AND LIKE ROAD VEHICLES.

Application filed February 2, 1924. Serial No. 690,138.

To all whom it may concern:

Be it known that GEORGE FREDERICK HILL, a subject of the King of Great Britain, of 27 Victoria Street, Middle Brighton, in the State of Victoria, Commonwealth of Australia (whose post-office address is 27 Victoria Street, Middle Brighton, Victoria, Australia), has invented certain new and useful Improvements in Headlights of Motor Cars and like Road Vehicles, of which the following is a specification.

This invention relates to improvements in head lights of motor cars and like road vehicles and refers especially to headlights fitted with reflectors and high candle power electric lamps.

The object of the invention is to provide means for directing the rays of light from a headlight on to the roadway in such a manner that they will not dazzle or impair the vision of persons facing the same or in the vicinity thereof.

I accomplish the above mentioned object by providing a metal shield or mask mounted in front of the lamp or headlight, having an opening therein so shaped that the portion of the shield above the said opening constitutes a hood adapted to cover the whole of the major portion of the top half of the lens of the lamp and the portion below the said opening is adapted to cover a crescent shaped portion of the lower half of the lens of the lamp.

The inner surface of the shield or mask is polished to form a reflecting surface whereby the light rays projected through the segmental or crescent shaped opening therein will be broken up and diffused by the reflection of rays thereacross from the inside of the said shield or hood.

In order that the invention may be readily understood, reference will now be had to the accompanying sheet of explanatory drawings wherein—

Figure 1 is a view in front elevation of a motor car lamp fitted with a shield or mask constructed in accordance with the present invention.

Figure 2 is a view in side elevation of Figure 1.

Figure 3 is a view similar to Figure 2 showing part of the lamp and the shield or mask in sectional elevation.

Figure 4 is a view in front elevation of a lamp fitted with a modified form of the invention.

Figure 5 is a view in side elevation of Figure 4.

In these drawings like characters of reference have been employed to indicate the same or corresponding parts in the different views and the letter *a* designates a motor car lamp which can be of the type shown or of any other well known construction.

An ordinary reflector *b* and electric lamp *c* is arranged within the casing of the lamp *a* and a glass or lens *d* of approved design is secured to the front of the said casing by means of a clamping or retaining ring *e*.

The shield or mask *f* is provided with a peripherally disposed flange *g* which fits beneath the glass or lens *d* and the clamping or retaining ring *e* surrounding the front of a lamp whereby it will be retained securely in position.

The shield or mask is made from sheet metal having a hemispherical or parabolic shape and preferably conforming to the shape of the reflector *b* in the lamp.

The front of the mask or hood is cut away as shown in Figures 1 and 2 of the drawings to form a crescent shaped opening *h* through which the light rays from the lamp are directed downwardly on to the roadway.

The points or horns of the crescent shaped opening project upwardly on both sides of an overhanging portion or hood *i* of the shield or mask and the lower end of the said overhanging portion is in line with the centre of the electric lamp or other source of light or approximately in line therewith.

The lower end of the overhanging portion *i* and the sides thereof can be made more or less straight (as shown) or they can be given a regular curvature as desired.

The lower edge of the crescent shaped opening *h* is located approximately midway between the axis and the bottom of the shield or mask thereby leaving an upwardly curved portion *j* which covers a crescent shaped part of the bottom of the glass or lens *d*.

In the foregoing description of the preferred embodiment of the invention the opening *h* is described as being of "crescent" shaped formation when viewed in front elevation but as this particular shape is not essential to the correct functioning of this form of the invention and as it may vary with shield or masks of different contours the term "crescent" is to be understood as meaning any shape approximating a cres-

cent or between the shapes of a kidney and a crescent when the device is viewed in front elevation.

The interior of the shield or mask is highly polished and the rays of light directed through the opening *h* pass through the rays reflected at an angle thereto from the upper and lower parts of the said shield or mask with the result that a diffused light is projected on to the roadway in advance of the vehicle. The hood or overhanging portion *i* of the shield or mask effectually prevents any direct rays of light being projected upwardly so as to dazzle the eyes of drivers of vehicles or others moving toward the lamp.

The rays of light passing through the "horns" of the opening are directed laterally at a wide angle to afford illumination of the sides of the roadway.

In the modified form of the invention shown in Figures 4 and 5 of the drawings the shield or mask is shown formed with a segmental shaped opening *h*.

The segmental shaped opening *h* is formed in the front of the shield or mask by making a cut horizontally across the front thereof and a transverse cut through the lower half at an angle of about 60° or 65° to the horizontal.

The ends of the segmental shaped opening can terminate at or near the inner edge of the clamping ring *e* on the front of the lamp according to the shape and size of the shield or hood.

The upper part of the shield or mask covers the upper half of the glass or lens of the lamp and reflector and the lower part of the shield or mask being crescent shaped in formation covers a correspondingly shaped portion of the bottom of the said glass or lens and reflector.

If preferred, the end portions of the upper edge of the segmental shaped opening can be cut away slightly as indicated by broken lines *k* in Figures 4 and 5 to enable the light from the lamp to be directed laterally to illuminate the sides of the roadway.

A hole or holes *l* is or are formed in the bottom of the shield or mask to permit of water escaping from the interior thereof.

The invention is simple in construction, economical to install and in use will effectually obviate glare or dazzling effect of electric head-lamps.

I claim:—

1. In head lamps of motor cars and the like having parabolic reflectors, a forwardly projecting hood extending over the lamp lens but having a crescent-shaped opening, the upper central edge of which passes through the axis of the lamp, and the lower edge is approximately midway between the upper edge and the bottom of the hood, these edges limiting the direct and reflected rays in front of the lamp, the opening extending rearwardly and upwardly at the sides and being cut away at the extremities to enable light from the lamp to directly illuminate the sides of the roadway.

2. In head lamps of motor cars and the like having parabolic reflectors, a hood rounded outwardly over and extending entirely about the edge of the lens with a crescent-shaped opening between the horizontal center and the bottom of the hood, the extremities of which extend rearwardly toward the edges of the lens where they are cut away to enable the lamp directly to illuminate the road at the sides of the lamp, the opening also limiting the direct and reflected rays in advance of the lamp.

In testimony whereof he has affixed his signature.

GEORGE FREDERICK HILL.