

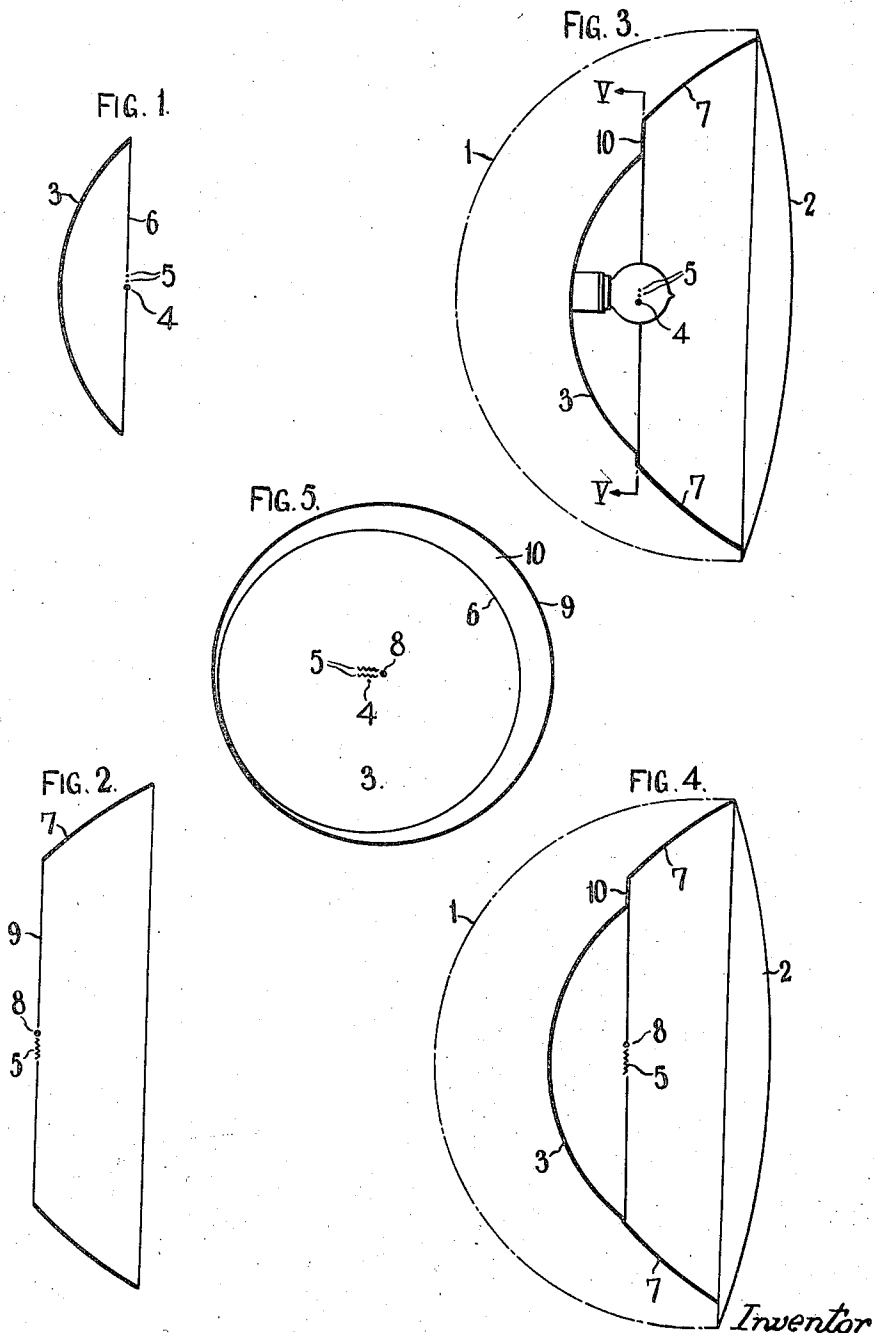
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ANTIDAZZLE DEVICE FOR VEHICLE HEAD LAMPS

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ANTIDAZZLE DEVICE FOR VEHICLE HEAD LAMPS

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The present invention relates to an improved method of and means for preventing dazzle from the headlamps of vehicles such as motorcars.

An object of the present invention is to provide a method of preventing dazzle by directing the major portion of the reflected light rays into the most important zones for normal road driving vision without having to rely upon diffusion or interference of the light rays after their reflection from the headlamp.

A further object is to provide illumination of the road surface in front of the car while avoiding any upwardly directed beam in order to prevent dazzling the driver of a vehicle proceeding in the opposite direction, while at the same time, the light directed towards the nearside of the road is not confined to the road surface but is directed along or above the normal horizontal line of vision in order to illuminate the side of the road or any vehicles travelling close to the side of the road.

According to the invention a headlamp has its reflecting surface of such configuration and its source of light so related to the reflecting surface that the projected beam has a segmental dim or light omitting zone.

In one construction according to the invention the reflector is formed of two parts or reflecting surfaces which merge into or join each other in a plane containing the focal points of the two parts, the front part having a configuration which throws the beam of light at an angle laterally, while the rear part throws a beam of light at an angle downwards as a result of the particular positioning of the source of light in relation to the focal points of the reflector parts, the resulting arrangements giving a light beam having a non-illuminated segmental upper portion to one side of the beam, the actual direction of the light being mainly to one side and downwards.

The reflector can be regarded as two parts united to produce a single element at a vertical plane at right angles to the axis of the lamp and containing the focal point of the lamp. The rear part can be truly parabolic, and the source of light is a filament located in the said plane but spaced a slight distance above the focal point so that the resultant beam is kept beneath the horizontal plane containing the axis of the lamp, or at least in proximity to such zone so that there is no upwardly directed beam resulting from the rear parabolic reflector. The said filament extends symmetrically each side of the vertical plane containing the axis of the lamp in relation to the rear

reflector part, but in relation to the front reflector part the filament is in the horizontal plane containing the local point of such front part but is located unilaterally relative to the said focal point.

The arrangement will be clear from the following description of the accompanying drawing in which:—

Fig. 1 shows a diagrammatic side sectional view of the rear part of the reflector and its relation to the source of light.

Fig. 2 shows a diagrammatic sectional plan view of the front part of the reflector and the relation of its focal point to the light source.

Figs. 3 and 4 show a side and plan view respectively of the combined parts of the reflector, while

Fig. 5 is a section on line V—V of Fig. 3 looking in the direction of the arrows.

The headlamp consists of a casing 1 to which is fitted the usual front lens 2 and within this casing is fitted a reflector formed of two parts. The rear part is shown in Fig. 1 as being a parabolic or like reflecting surface, as indicated at 3, the position of the focal point of this rear reflector part being indicated at 4. The source of light is a bulb containing a number of parallel filaments 5, or a single filament or any other arrangement of filaments as found desirable in the light of experience, to give a source of light of approximately square configuration, such as, for example, three parallel filaments which are preferably located in a vertical direction in order to avoid contact between the filaments and short circuiting of the electric current due to the sagging of the filaments when they become heated. This source of light, as indicated in Fig. 1 is so related to the focal point of the rear reflector part that it lies in the plane transverse to the axis of the reflector through the focal point, but is located above the horizontal plane passing through the focal point. The plane transverse to the axis and containing the focal point and source of light also contains the front edge 6 of the rear part of the reflector.

The front part of the reflector as shown in Fig. 2 consists of an annulus 7 forming a part of a reflecting surface, the focal point being at the position indicated by reference 8, namely, in the vertical plane passing through the rear edge 9 of this reflecting annulus, and the reflector is so positioned in relation to the source of light that the filaments 5 are in the vertical plane passing through the focal point but the focal point 8 of the front reflector part is located to one side of the filaments as will be clear from Figs. 2 and 5.

When these two reflector parts are combined into a single reflector the front edge 6 of the rear reflector and the rear edge 9 of the front reflector are joined together by a flat crescent-shaped piece 10, which with the edges 6 and 9 of the respective reflector parts lies in a plane passing through the focal points of the reflector parts and transversely to the centre lines of the reflector parts. As the positions of the respective focal points of these two parts are maintained in their relations to the source of light in the manner previously described with reference to Figs. 1 and 2 and, as the source of light is the same for both parts, the position and relation of these reflector parts and the source of light will be as indicated in Figs. 3 to 5. By forming the reflector of front and rear parts arranged in the manner described and by relating the source of light to the focal points of these reflector parts, there is produced a forwardly directed beam of light which has a segmental dim or light omitting zone. The result is to leave a segmental area of the front glass of the lamp not illuminated by reflected light, and for normal purposes of road usage such segment would be at the top off side of the front glass, for example, within an angle of about ninety degrees. Owing to the use of a filament which is at right angles to the vertical plane containing the axis of the lamp and also owing to the filament being on one side of the focal point of the front reflector part it is found that a small segment of the directly illuminated area is more intensely illuminated than the remainder, such segment containing the horizontal plane containing the axis of the lamp. This more intense part of the beam is at the nearside and

provides extra illumination for showing up the curb or side of the road.

Whilst in the drawing the axes of the front and rear reflectors are shown parallel, the front reflector may be turned toward the near side of the road through a small horizontal angle to correct any percentage of light which may be projected laterally away from the direction required.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A headlamp including a light source having its reflector formed of two parts united to produce a single element at a vertical plane at right angles to the axis of the lamp and containing the focal points of the two parts, the part to the rear of said vertical plane being so related to the source of light that said source is located in the plane containing the focal point of the rear part but is spaced a slight distance above said focal point, while the front reflector part is so related to the source of light that the latter is substantially in the horizontal plane containing the focal point of such front part but is located unilaterally relative to the focal point of such front part, said two reflector parts having their axes parallel.

2. A headlamp according to claim 1, wherein the source of light is of square configuration formed by a plurality of parallel filaments, said filaments lying in the vertical plane passing through the joint between the two reflector parts.

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mark

Witness to the mark:

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