Sept. 8, 1925. 1,552,924

H. F. HANSEN

HEADLIGHT ATTACHMENT

Filed May 19, 1924

Fig. 1.

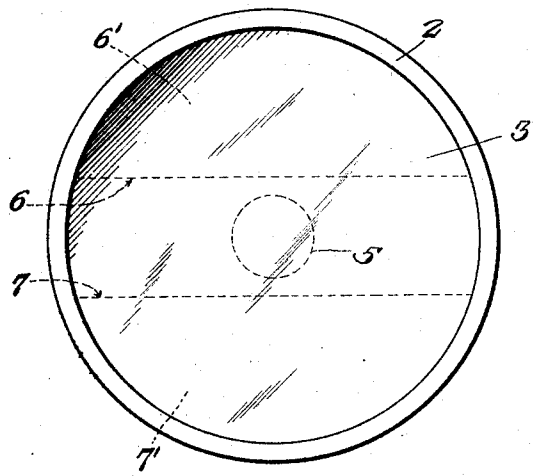


Fig. 2.

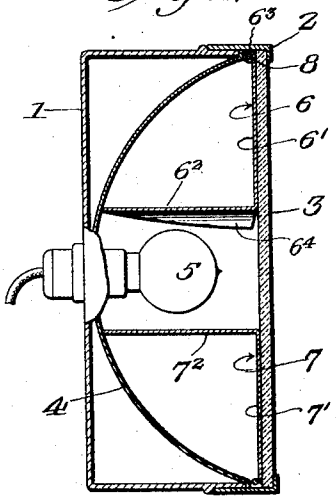


Fig. 3.

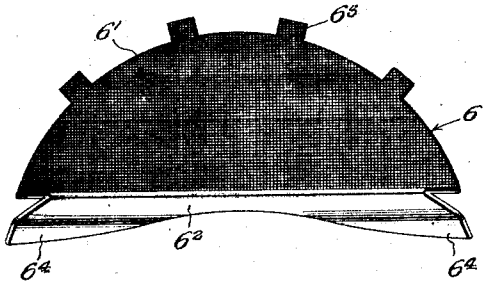
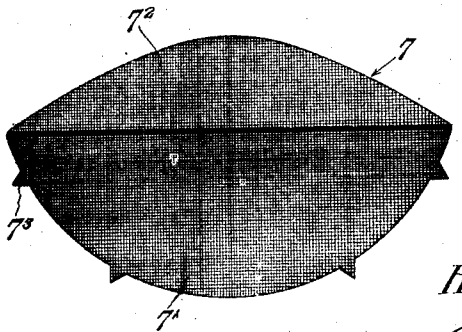


Fig. 4.



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UNITED STATES PATENT OFFICE.

HARRY F. HANSEN, OF WASHINGTON, DISTRICT OF COLUMBIA.

HEADLIGHT ATTACHMENT.

Application filed May 19, 1924. Serial No. 714,284.

To all whom it may concern:

Be it known that I, HARRY F. HANSEN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Headlight Attachments, of which the following is a specification.

The present invention relates to non-glare attachments for headlights, and more particularly to attachments of the type shown and described in my prior application, No. 673,106, filed November 6, 1923.

According to that invention, the attachment consists of upper and lower light-obstructing members of counterpart size and shape which are fitted in the casing of the headlight directly in front of the reflector and in spaced relation to each other, leaving between them a central gap or chamber into which the electric light bulb or other source of light projects. Each of these members has the form of a dihedral angle, the two wings of which are perpendicular to each other, one wing being arranged vertically and at the front of the casing, while the other wing is disposed horizontally and projects rearwardly from the inner edge of the first wing. The vertical wings of both light-obstructing members may have light-absorbing surfaces of any desired character, and the upper or outer surface of the horizontal wing of the lower member is also blackened or otherwise treated to render it light-absorbent; but the outer surface of the horizontal wing of the upper member, on the contrary, is highly polished so that it will thus constitute a reflector for coaction with the exposed portion of the wall of the reflector proper.

Due to this construction and arrangement of parts, it will be obvious that between the upper and lower segment-shaped portions of the headlight there will be left an intermediate portion or chamber having the appearance of a horizontally-disposed, elongated rectangle of comparatively small height. The vertical wall of this chamber is constituted by the exposed portion of the reflector wall and has, in consequence, a reflecting action on the light rays, and its horizontal top wall likewise exerts an action of the same nature; but the horizontal bottom wall, on the contrary, is incapable of exerting any reflecting action owing to its having been blackened, the result being that the light beam projected from the headlight will travel in a substantially horizontal direction only, all rays which would otherwise be reflected being intercepted and absorbed by the blackened horizontal wall or surface specified.

The object of the present invention is to improve the construction of the upper light-obstructing member of the attachment in such a way that the angular extent of the projected light-beam is increased, whereby it will spread, so to speak, over a greater width of road. This improved feature is obtained by severing the two wings of the upper member for a short distance along their junction line at each end thereof, and then curving the free ends of the horizontal wing slightly downward, so that the polished under surfaces of these curved portions will exert somewhat of a lateral reflecting action upon the rays striking against them, with a consequent spreading and widening of the beam.

An embodiment of the invention is illustrated in the accompanying drawings, in which:

Figure 1 is a front view of a conventional drum headlight equipped with the improved attachment;

Fig. 2 is a central vertical section;

Figs. 3 and 4 are perspective views of the upper and lower light-obstructing members of the attachment.

Referring more particularly to the drawings, 1 indicates the casing of the headlight; 2, its hinged front member or door which carries the glass plate panel or lens 3; 4, the reflector; and 5, the electric light bulb or other source of light. The casing 1 is here shown as of the drum type now in general use, though it may be of conoidal shape, if preferred, or of any other suitable form; and the reflector 4 is likewise of conventional parabolic type, with the bulb 5 mounted at the center thereof as usual, said reflector being provided at its marginal edge with a lateral flange 4'. The glass panel 3 may also be of any preferred type.

As in the earlier construction, the essential feature of the invention is the provision of an accessory or attachment for a drum or other conventional type of headlight which constitutes a separate and distinct entity from the headlight and may be installed therein and removed therefrom at will.

The improved attachment likewise consists of two light-obstructing members 6 and 7 preferably constructed of sheet metal and comprising, each, a vertical wing 6′ or 7′ and a rearwardly-extending, horizontal wing 6^2 or 7^2, as illustrated in Figs. 3 and 4. The two wings of each member are disposed perpendicularly to each other so as to form a right dihedral angle; the horizontal wings being located at the bottom of the upper member and at the top of the lower member and being of parabolic shape so as to enable them to fit in a standard reflector. The vertical wings are made approximately segmental or semi-circular for the same reason, and their curved marginal edges may be provided with radial projections or teeth 6^3 and 7^3 adapted to be bent over or otherwise engaged with the cord or other flexible element 8 ordinarily used in lamps or headlights of the type constructed for Ford cars. This feature, however, forms no part of the actual invention and may be omitted if desired. Any suitable means or devices may be provided for securing the light-obstructing members in place.

As previously stated, the two light-obstructing members 6 and 7 are fitted in the upper and lower portions of the reflector, with their horizontal wings 6^2 and 7^2 opposite each other and in spaced, parallel relation, thereby leaving between them an intermediate horizontal chamber which extends diametrically of the reflector, so as to permit the lamp 5 to project thereinto; the back and sides of the chamber being formed by the exposed portion of the reflector wall which, as will be understood, is polished or otherwise treated to produce a reflecting action. The purpose of this chamber is to localize or condense the light rays and to intercept and absorb all those which would ordinarily be reflected upward. Accordingly, the upper or outer surface of the horizontal wing 7^2 of the lower light-obstructing member 7 is blackened or treated in some similar way to render it light-absorbent, whereas the lower or outer surface of the horizontal wing 6^2 of the upper light-obstructing member 6 is silvered or polished. The vertical wings 6′ and 7′ are disposed in the front of the reflector, parallel with and in close proximity to the glass panel 3, and their outer faces may likewise be blackened, as shown, or colored or otherwise treated.

It will be observed that while the body of the polished wing 6^2 of the upper member is flat, the end portions 6^4 of its curved edge are given a slight outward and downward rounding or curvature. The purpose of this is to enable these curved or rounded portions to exert a combined lateral and downward reflecting action on such of the light rays as strike thereagainst, the result being a widening or spreading out of the angular extent of the projected light beam which, of course, in turn enlarges or increases the zone of illumination. To effect the aforesaid bending or curvature, the end portions of the junction line between the two wings of the member 6 are first split or severed after which the freed inner end portions of wing 6^2 are rolled or otherwise treated to shape the parts or lips 6^4, as will be understood. It is preferable moreover, in initially forming the blank, to make the portion which subsequently constitutes the wing 6^2 slightly longer than the other portion; or, in other words, to extend the ends of the first-named portion slightly beyond those of the second-named portion. This provides a bending or curving part of increased size and renders it unnecessary to extend the severing operation very far into the junction line referred to, so that the structure as a whole is not appreciably weakened by such operation.

The light-obstructing members of the improved attachment can be manufactured and sold in bulk to fit the standard sizes and types of head lights commonly used; and either member may be detached at any time, when necessary for one reason or another and, if damaged, can be readily replaced by a new member at slight expense.

I claim as my invention:

1. An attachment for vehicle headlights, comprising a pair of light-obstructing members, each in the form of a dihedral angle embodying a vertical wing and a horizontal wing, adapted to be positioned in the upper and lower portions of the reflector of a headlight in inverted relation, with their horizontal wings parallel and spaced apart to provide a diametral chamber into which the source of light projects and the back and sides of which are formed by the wall of the reflector; the horizontal wing of the upper member having a light-reflecting under surface and being curved outwardly and downwardly at its opposite end portions so as to reflect laterally outward and downward the light rays striking thereagainst, and the horizontal wing of the lower member having a light-absorbing upper surface.

2. An article of manufacture for use in vehicle headlights to avoid blinding, comprising a flat, plate-like wing of approximately segmental shape and a second flat, plate-like wing having the shape of a parabola, said wings being connected together to conjointly form a dihedral angle, one wing having its end portions curved outwardly and downwardly and having its entire outer surface rendered light-reflecting.

3. An article of manufacture for use in vehicle headlights to avoid blinding, comprising a flat, plate like wing of approximately segmental shape and a second flat, plate-like wing having the shape of a parab-

ola, said wings being connected together to conjointly form a dihedral angle and adapted to fit conformably in the upper portion of the reflector of a headlight, with the segmental wing disposed vertically and the parabolic wing disposed horizontally but spaced above the axis of the reflector; said parabolic wing having its opposite end portions formed with outwardly and downwardly curved lips and its entire outer surface rendered light-reflecting.

In testimony whereof I have signed my name to this specification.

HARRY F. HANSEN.