Feb. 28, 1928.

W. G. WOOD

1,660,699

HEADLIGHT CONTROL

Filed Feb. 23, 1926

2 Sheets-Sheet 1

Fig. 1.

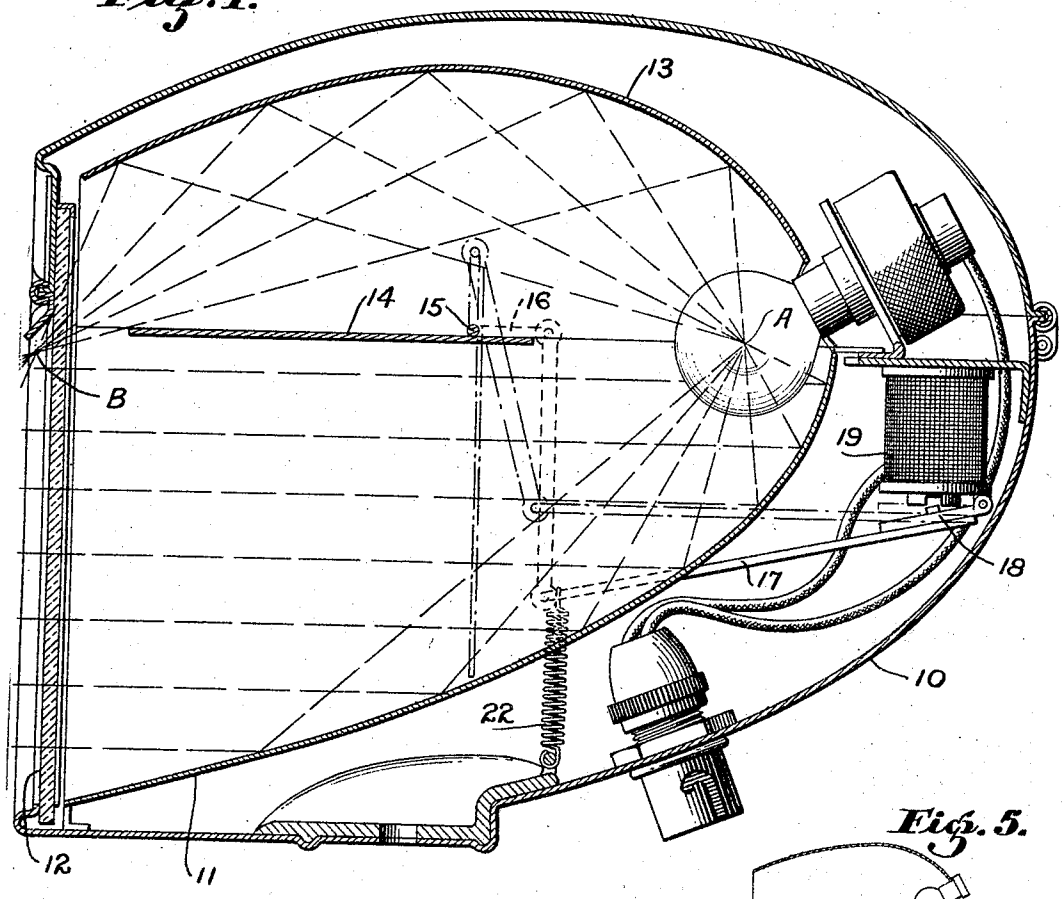


Fig. 5.

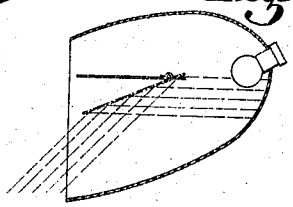


Fig. 2.

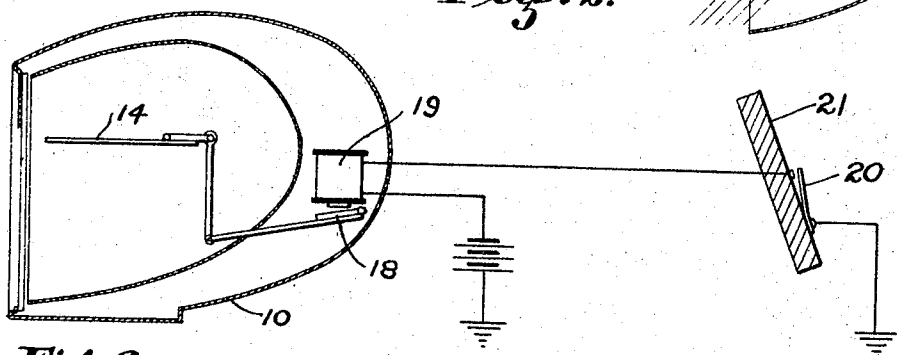
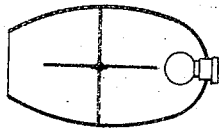


Fig. 6.



INVENTOR.
William G. Wood.
BY
Townsend, Lofton & Abbett
ATTORNEYS.

Feb. 28, 1928.

1,660,699

W. G. WOOD

HEADLIGHT CONTROL

Filed Feb. 23, 1926

2 Sheets-Sheet 2

Fig. 3.

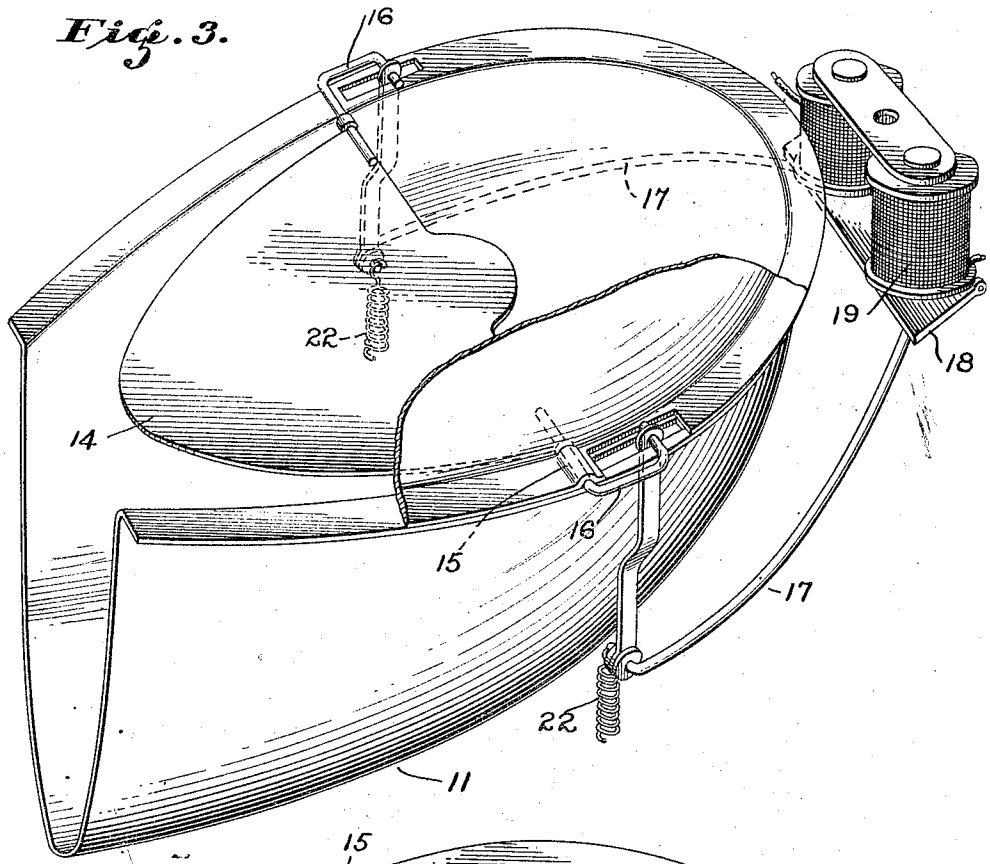
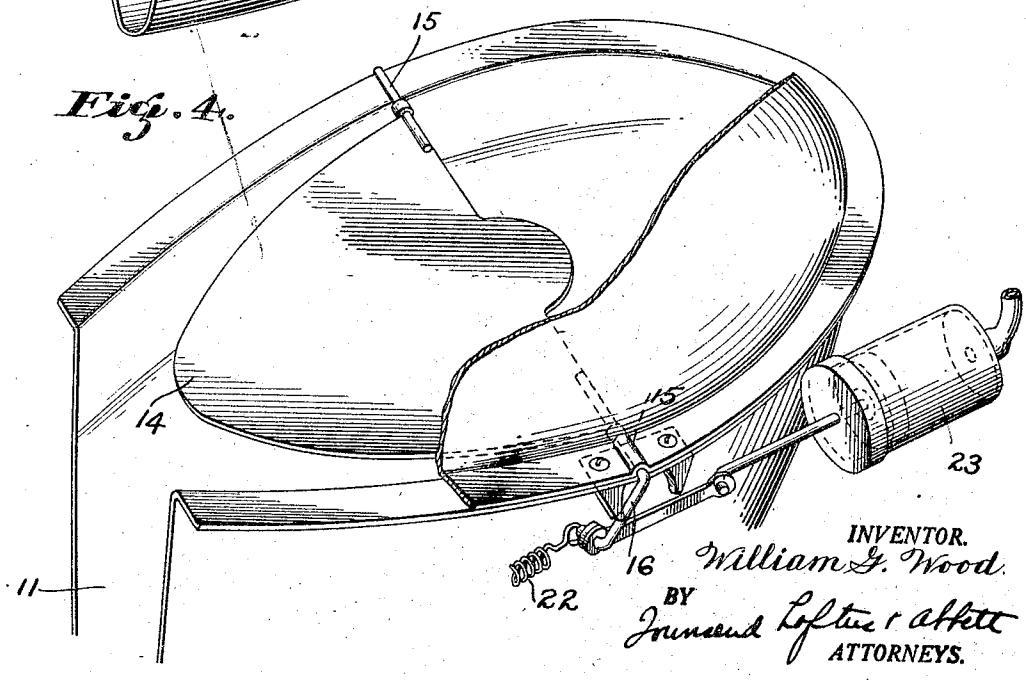


Fig. 4.



INVENTOR.
William G. Wood.
BY
Townsend Lofton & Abbott
ATTORNEYS.

Patented Feb. 28, 1928. 1,660,699

UNITED STATES PATENT OFFICE.

WILLIAM G. WOOD, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO AMERICAN WOOD-LITE CORPORATION, OF SAN FRANCISCO, CALIFORNIA, A CORPORATION OF CALIFORNIA.

HEADLIGHT CONTROL.

Application filed February 23, 1926. Serial No. 89,828.

This invention relates to headlights for vehicles. The object of the invention is to cut off that portion of the beam which is likely to interfere with the vision of the oncomer, especially when the vehicle is passing over a hill.

In my prior application, Serial Number 682,650, filed December 25, 1923, there is disclosed a headlight which casts a beam whose rays are confined below the level of the eyes when the vehicle is not pointed upwardly. However, in passing over a hill the rays will necessarily be elevated, and therefore will interfere with the vision of persons coming from an opposite direction. It is the purpose of the present invention to provide means for cutting off the upper portion of these rays at such times as they might be objectionable to the oncomer. The means herein provided is particularly suitable for a lamp of the character shown in my application above mentioned, although it is capable of being adapted to other types of lamps.

One form which my invention may assume is exemplified in the following description and illustrated in the accompanying drawings, in which

Fig. 1 shows a vertical central sectional view of a headlight embodying my invention;

Fig. 2 shows a diagram of the controlling mechanism therefor;

Fig. 3 shows a perspective view of the lower portion of the reflector;

Fig. 4 shows a similar view embodying a modification of the actuating mechanism for the mask or screen.

Fig. 5 shows a diagram in vertical section of a modified form of the invention;

Fig. 6 shows a diagram in horizontal section of a further modified form.

The lamp is preferably, though not necessarily, of the type shown in my prior application above mentioned, and comprises a casing 10 having a lower reflector 11 which on horizontal sections is formed of parallel diminishing ellipses, the ellipses being such that their proximate foci fall upon a parabolic arc passing through the point A, which is occupied by the source of light. The remote foci fall on a straight vertical line which coincides with the aperture 12, and from this point the rays diverge outwardly on substantially horizontal lines. There is an upper reflector 13 which is in the form of a hemi-ellipsoid of revolution, and casts its rays downwardly to the point B, where they cross and extend out in a divergent and downward direction.

Within the casing I mount a mask or screen 14 upon a pivoted shaft 15, said mask or screen being of opaque or translucent material. This shaft carries at each end cranks 16, connected to which are rods 17 extending rearwardly to the armature 18 of electro-magnets 19. Said magnets are connected to a suitable source of electrical energy located on the vehicle, and are controlled from a switch 20 located on the dash 21 of the vehicle, so as to be readily accessible to the operator. A spring 22 is provided for maintaining the mask in horizontal position as shown in full lines, Fig. 1, in which position the rays are in no wise interfered with. When it is desired to cut off the upper portion of the beam the switch 20 is closed so as to energize the magnets 19, whereupon the armature through the rod 17 will swing the said mask into vertical position, as shown in dotted lines, Fig. 1. In this position practically all of the rays reflected by the lower reflector 11 are obstructed, and hence the beam will have its upper portion cut off, and only the rays from the upper reflector 13 will be passed forwardly, and such rays will strike the ground immediately in front of the vehicle without danger of interfering with the vision of a person some distance ahead of the vehicle.

Any suitable means may be provided for actuating the mask. Instead of the electro-magnet shown in Figs. 1 to 3, I may provide an air cylinder 23 which is suitably connected with some part of the engine of the vehicle capable of supplying pressure or vacuum, and controllable from the driver's seat.

Instead of moving the mask into vertical position as shown in dotted lines in Fig. 1, it may be moved to a diagonal position as shown in dotted lines, Fig. 5. In this form its under side is preferably made reflective, so as to re-reflect the rays downwardly and outwardly.

In Fig. 6 I show the mask pivoted on a vertical pivot and occupying the lower portion of the reflector. In normal position it

is parallel with the axis of the beam, and the operating mechanism is such as to rotate it into the position shown in dotted lines, where it is at right angles to the axis of the beam and serves to obstruct the rays from the lower reflector, and which rays form the upper portion of the beam.

Various other changes in the construction and arrangement of the several parts may be employed without departing from the spirit of my invention as disclosed in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a vehicle, of a headlight having a casing, a source of light therein, a reflector, the lower portion of said reflector being shaped to reflect rays substantially horizontally, and the upper portion of the reflector being shaped to reflect rays downwardly, and a movably mounted mask within the reflector normally retained in axial and horizontal position where it does not materially obstruct any of the rays from the reflector, and means having a control accessible to an occupant of the vehicle for moving said mask into position where it will serve to obstruct the rays from the lower portion of the reflector, without intercepting the downwardly directed rays from the upper portion of the reflector.

2. In combination with a vehicle, a headlight having a casing, a source of light in the casing, a reflector having a lower portion shaped to reflect rays substantially horizontally and an upper portion shaped to reflect rays downwardly, a mask pivotally mounted within the reflector and spaced rearwardly of the front of the casing, means for normally retaining the mask in position where it does not appreciably interfere with the projection of the rays, and means controllable by an occupant of the vehicle for moving said mask into position where it will serve to intercept the rays from the lower portion of the reflector, without interfering with the downwardly directed rays from the upper portion of the reflector, the front of the casing being provided with a light emitting aperture which terminates at its upper end in substantially horizontal alignment with the top of the mask, whereby the light source will be obscured when the mask is in operative position.

WILLIAM G. WOOD.