Jan. 8, 1924. 1,480,221

P. W. POMEROY ET AL

AUTOMOBILE HEADLIGHT

Original Filed Oct. 1, 1917

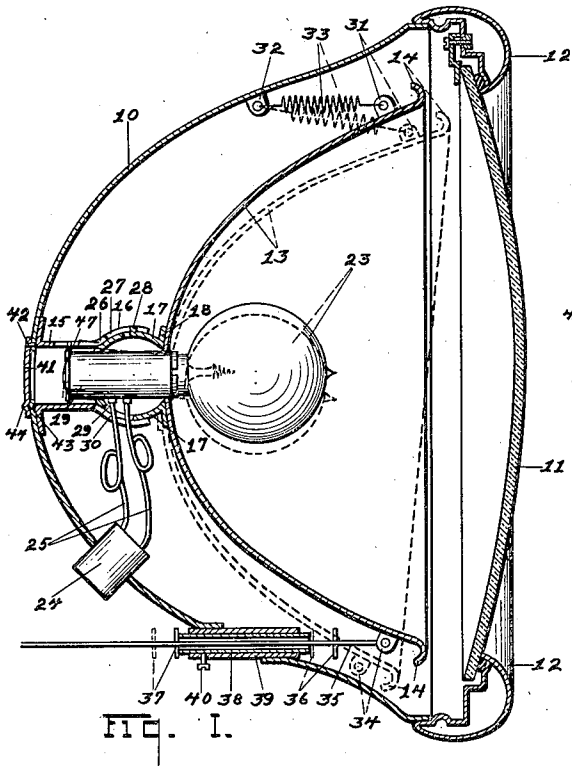


Fig. I.

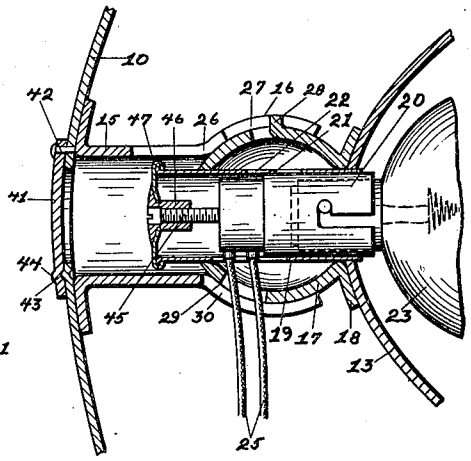


Fig. II.

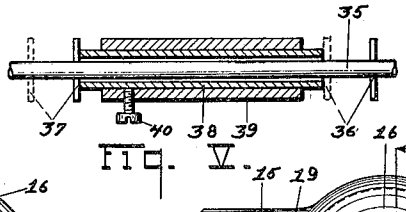


Fig. V.

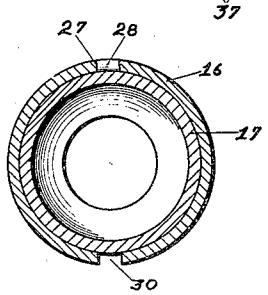


Fig. IV.

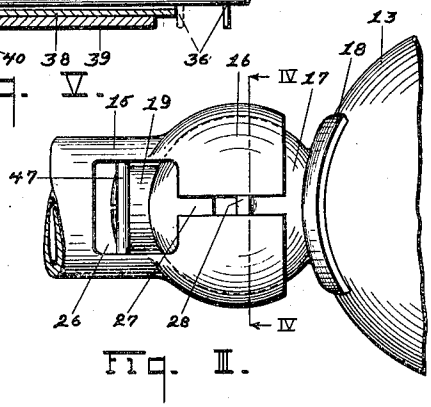


Fig. III.

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UNITED STATES PATENT OFFICE.

PERCY W. POMEROY AND HAROLD P. SCHNEIDER, OF TOLEDO, OHIO, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE ELECTRIC AUTO-LITE COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

AUTOMOBILE HEADLIGHT.

Application filed October 1, 1917, Serial No. 194,171. Renewed June 2, 1923.

To all whom it may concern:

Be it known that we, PERCY W. POMEROY and HAROLD P. SCHNEIDER, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Automobile Headlights, of which we declare the following to be a full, clear, and exact description.

This invention relates to improvements in headlights and particularly to headlights of the type in which the reflector is pivotally mounted within the casing so that it may be tilted to direct the beam of light downwardly upon the ground in front of the vehicle at such an angle as to elminate such glaring as would be objectionable to an approaching driver or pedestrian.

The principal object of our invention is to provide an improved pivotal mounting for the reflector, in which the reflector is pivotally supported at a single point at the rear of the reflector.

Further objects of this invention relate to economies of manufacture and details of construction as will hereinafter appear from the detailed description to follow. We accomplish the objects of our 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 our invention, which may be the preferred, is illustrated in the accompanying drawing forming a part hereof in which:

Figure I is a vertical, sectional view taken through a headlight embodying our invention.

Figure II is an enlarged, fragmentary, detail, sectional view corresponding to a part of Figure I.

Figure III is an enlarged, fragmentary, top plan view showing the ball and socket joint forming the pivotal support for the reflector.

Figure IV is a detail, sectional view taken on the line IV—IV of Figure III, and

Figure V is a detail, sectional view corresponding to a part of Figure I and showing in detail the means for limiting the throw of the reflector.

In the drawings, similar reference numerals refer to similar parts throughout the several views and the sectional view is taken looking in the direction of the little arrows at the ends of the section line.

Considering the numbered parts of the drawing, we have shown a headlight comprising a casing 10, the front end of which is closed by a lens 11 carried by the ring 12 in the usual manner. A reflector 13 is provided within the casing, the forward edge of said reflector being rolled back to form a stiffening bead or flange 14. A sleeve or tubular support 15 is secured to the rear end of the casing 10, extending inwardly in line with the axis of the casing and the reflector, the sleeve and the casing being co-axial. The forward end of said sleeve is enlarged to form a socket 16. A ball 17 is secured to the rear end of the reflector 13 by means of the flange 18, said ball being co-axial with the reflector and being normally disposed in the socket 16, said ball and socket being concentric. A sleeve 19 is carried within the ball 17 and a socket 20 is disposed within said sleeve, said socket being provided with a lug 21 disposed in a slot 22 formed in the sleeve 19, so as to prevent the socket turning relative to the sleeve. The socket 20 receives the electric light bulb 23 in the usual manner. A connector 24 is carried by the casing 10 and connected by wires 25 with the socket 20, said wires passing through slots 29 and 30 formed in the ball 17 and socket 16 respectively. An opening 26 is provided in the upper part of the sleeve 15, as shown in Figure III, and the socket 16 is also provided with a slot 27 in which a lug 28 struck up from the ball 17 is disposed.

A lug 31 is provided on the reflector 13 near the forward edge thereof and connected with a lug 32 on the casing 10 by a spring 33. A lug 34 is provided on the reflector 13 near the forward edge thereof and substantially diametrically opposite from the lug 31, one end of a wire 35 being fastened to said lug 34. Pins 36 and 37 are secured to the wire 35 and serve as stops to limit the throw thereof in a manner which will presently be described. The wire 35 moves in a tube 38 which is secured in a boss 39, carried by the casing 10, by means of a set screw 40. The pins 36 and 37 are adapted to abut the ends

of the tube 38 so as to limit the movement of the wire. The wire may be moved to effect a tilting of the reflector in any suitable manner.

An opening is provided in the rear of the headlight casing 10 in line with the sleeve 15 and said opening is closed by a cover 41 which is pivotally connected at 42 to the casing and which is held in closed position by the engagement of the hub 43 with the depression 44 formed in the cover 41. A screw 45 extends rearwardly from the socket 20 and a boss 46 is rotatably mounted in the disc 47 carried by the end of the sleeve 19, said boss 46 having a screw-threaded engagement with the screw 45.

From the description of the parts given above, the operation of this device should be very readily understood. The reflector is shown in Figure I in full lines in the position in which it throws a horizontal beam of light. When it is desired to deflect the beam of light downwardly upon the ground, the wire 35 is pulled until pin 36 engages the end of tube 38. This movement will bring the reflector to the position shown in dotted lines in Figure I against the tension of the spring 33. The reflector is supported by and pivotally mounted by the socket 16 at the forward end of the tube 15 and the ball 17 carried by the rear end of the reflector turns in said socket. The turning movement of the ball 17 in the socket 16 is limited by the engagement of the tongue 28 in the slot 27 formed in the socket. The sleeve 15 is cut away at 26 so that the end of the sleeve 19 may swing up into this opening so as to permit the parts to have the necessary angular movement relative to each other. After the wire 35 has been manipulated to throw the reflector to the deflected position, it is preferably latched in this deflected position and, when the latch is released, the spring 33 will return the reflector to its normal position. The limits of movement of the reflector may be determined by adjusting tube 38 within the boss 39 by loosening the set screw 40, but the extent of movement remains the same in all cases, being determined by the distance between the pins 36 and 37. The light may be focused by swinging to one side the cover 41 and inserting, through the opening covered thereby, a screw driver which may engage the head of the rotatable boss 46 to turn the same. The rotation of this boss, which has a screw-threaded engagement with the screw 45, serves to move the socket 20 longitudinally of the sleeve 19 so as to focus the light relative to the reflector.

We are aware that the particular embodiment of our invention, which we have here shown and described, is susceptible of considerable variation without departing from the spirit thereof, and therefore we desire to claim our invention broadly, as well as specifically, as indicated by the appended claims.

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

1. In a device of the class described, the combination of a casing, a reflector pivotally mounted at the rear thereof within said casing, means tending to move said reflector in one direction, and means connected to said reflector to move it in the opposite direction.

2. In a device of the class described, the combination of a casing, a reflector therein having a light source, a reflector support secured to said casing, a hollow member carried by said reflector co-axial therewith and movably mounted on said support, an adjustable socket member for said light source extending through said hollow member and means for tilting said reflector without varying the focus of said light source.

3. In a device of the class described, a casing, a reflector, a tubular support secured at one end to one of said parts and having its opposite end constructed to form a socket, a ball carried by the other of said parts and associated with said socket whereby said reflector is pivotally supported from said casing, a light source, and means for tilting said reflector in said casing without varying the focus of said light source.

4. In a device of the class described, a casing, a reflector pivotally mounted therein, the pivotal mounting for said reflector being at the rear of and in the axis of said reflector, a light source carried by said reflector, means to adjust the focus of said light source in said reflector, and means for tilting said reflector.

5. In a device of the class described, a casing, a reflector pivotally mounted therein, the pivotal mounting for said reflector being at the rear of and in the axis of said reflector, a light source carried by said reflector, and means to adjust the focus of said light source in said reflector, said means lying also in the axis of said reflector.

6. In a device of the class described, the combination of a casing, a reflector, means for pivotally mounting said reflector in said casing, said means comprising a hollow pivot secured to one of said members and a pivot embracing member secured to the other of said members, and a lamp socket carried by said reflector and extending into said hollow pivot.

7. In a device of the class described, the combination of a casing, a reflector, means for pivotally mounting said reflector in said casing, said means comprising a hollow pivot secured to the rear of said reflector, and a hollow support carried by said casing and embracing said pivot, and a lamp socket

for said reflector extending into said pivot and support.

8. In a device of the class described, the combination of a casing, a reflector, means for pivotally mounting said reflector in said casing, said means comprising a hollow pivot secured to the rear of said reflector, and a tubular support secured at one end to said casing and flared at its opposite end to embrace said pivot, and an adjustable lamp socket for said reflector extending rearwardly into said hollow pivot, said socket having an adjusting screw at its rear end and said casing having an opening opposite said tubular support to permit the insertion of an adjusting tool.

In testimony whereof we affix our signatures.

PERCY W. POMEROY.
HAROLD P. SCHNEIDER.