

Dec. 11, 1928.

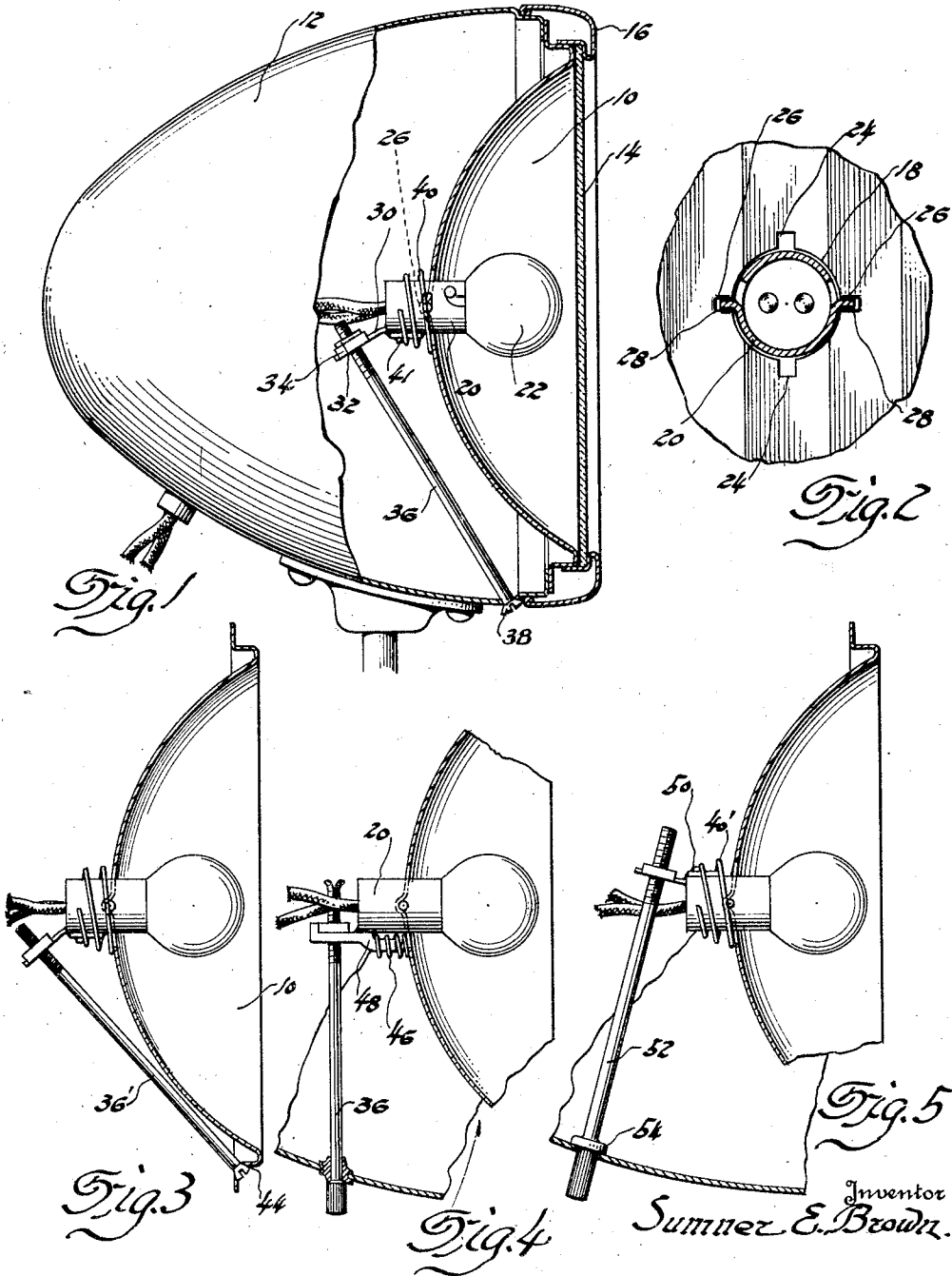
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S. E. BROWN

LAMP FOCUSING DEVICE

Filed Dec. 13, 1926

2 Sheets-Sheet 1



Attorney 5

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2 Sheets-Sheet 2

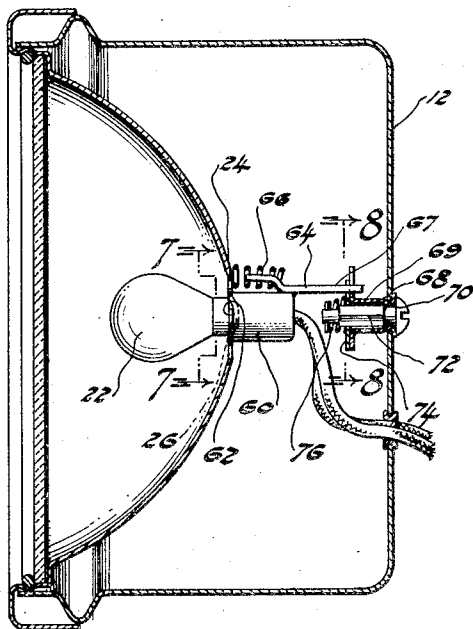


Fig. 6

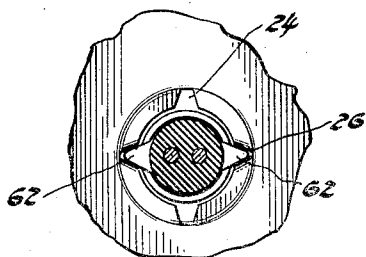


Fig. 7

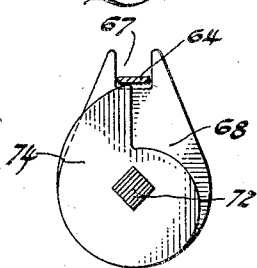


Fig. 8

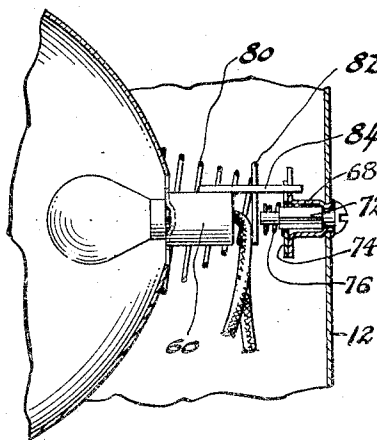


Fig. 9

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UNITED STATES PATENT OFFICE.

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LAMP-FOCUSING DEVICE.

Application filed December 13, 1926. Serial No. 154,353.

This invention relates to focusing devices for use with automobile head lamps. The focusing means of this invention is characterized by simplicity. The light source is capable of but one adjustment, tilting in a single plane, preferably the vertical. The reflector itself may form the fulcrum for the bulb and the latter is yieldingly biased toward one position, preferably by means of a spring. To effect the desired tilting adjustment I may employ a number of different arrangements; thus, I may make use of a simple cam having an operating part exposed on the exterior of the casing, or I may make use of a bolt having threaded engagement with the socket and having an operating head exposed on the exterior of the lamp housing. In the drawing:

Fig. 1 is a side elevation of an automobile lamp, with parts in section, illustrating my invention applied thereto.

Fig. 2 is a transverse section through the lamp socket just forward of the fulcrum;

Figs. 3 to 5 show modified arrangements;

Fig. 6 is a view similar to Fig. 1 showing a further modification.

Fig. 7 is a view taken on line 7—7 of Fig. 6.

Fig. 8 is a view taken on line 8—8 of Fig. 6;

Fig. 9 illustrates a further modification.

In the form shown in Figures 1 and 2, 10 indicates a reflector mounted in a housing 12, the outer end of the reflector being provided with the usual glass cover 14 held in place by clamping ring 16. The reflector 10 is provided with aperture 18 to receive socket 20 in which bulb 22 is mounted in the usual manner. Aperture 18 is provided with opposed notches 24 leading therefrom and the metal of the reflector is depressed adjacent the aperture to provide opposed sockets 26 angularly spaced from the notches 24.

Lamp socket 20 is provided with ears 28 pressed outwardly therefrom adapted to seat in the sockets 26 after being passed through apertures 24 and partially rotated. If the socket is assembled with the reflector from the front side thereof the notches 24 may be omitted. Socket 20 is provided with arm 30 carrying nut 32 held against turning by ears 34 pressed upwardly from the arm 30. With this nut cooperates bolt 36 having head 38 exposed at the exterior of the lamp housing, preferably adjacent the clamping ring 16 at the underside of the lamp so as to be

concealed from view. A coil spring 40 surrounds the socket 20 and yieldingly engages the rear of the reflector at one end and abutment 41 on the socket at the other end. Mounted in this manner the spring tends to cock the lamp socket downwardly.

With this construction it is obvious that the lamp socket 20 may be easily inserted in the reflector from the rear thereof, by passing lugs 28 through notches 24 and giving the socket a quarter turn. The bolt 36 is then engaged with nut 32 and the reflector is swung back into the housing 12. It will now be apparent that by rotating the bolt 36 the socket and the lamp contained therein may be tilted either up or down. This adjustment will usually be sufficient for all practical purposes even where a two-filament bulb is used.

The form shown in Fig. 3 is identical with that shown in Figure 2 with the exception that the bolt 36' projects through an opening in the flange 44 of the reflector 10 rather than through an aperture in the housing.

In the form shown in Figure 4 in place of the spring 40 I employ a small coil spring 46 bearing at one end against the rear of the reflector and at its other end encircling an arm 48 secured to the socket 20. With this arrangement the spring 46 tends to tilt the rear end of the socket upwardly while manipulation of bolt 36 effects its adjustment as before.

In the form shown in Fig. 5, the spring 40' engages lug 50 on the socket and tends to tilt the socket downwardly. Adjusting bolt 52 is therefore provided with shoulder 54 to limit its downward movement.

In the form shown in Figs. 6 to 8, the socket 60 is provided at one end with outwardly pressed ears 62 for cooperation with notches 24 and sockets 26 as in the previous forms. To this socket is secured arm 64 on the forward end of which is sleeved coil spring 66, bearing at its other end against the rear of the reflector. The opposite end of the member 64 rests in slot 67 formed in fitting 68 having a tubular extension 69 received in aperture 70 formed in the rear wall of the casing 12 and headed over the edges of the aperture to rigidly secure it in position. Within the fitting 68 is journalled member 72 preferably square in cross section and upon the inner end of the member 72 is keyed the cam 74, the cam being yield-

ingly held in position by spring 76 surrounding the member 72. With the construction described it is apparent that spring 66 tends to cock the bulb 22 upwardly causing the arm 64 to yieldingly bear upon the surface of the cam 74. Upon rotation of the member 72 the cam tilts the part 64 adjusting the assembly. The friction between the member 74 and the forked member 68 produced by the action of the spring 76 causes the lamp to be yieldingly held in the tilted position to which it has been adjusted.

In the form shown in Fig. 9 a coil spring 80 is provided surrounding the socket 60. This spring bears at 82 against an abutment formed on the strap 84 secured to the socket and tends to yieldingly hold this strap in engagement with the surface of the cam.

I claim:

1. An automobile headlamp comprising a housing, a reflector in the housing, said reflector being provided with an aperture at its apex and with oppositely disposed sockets, a lamp socket provided with oppositely disposed trunnions received in the sockets in the reflector to permit tilting adjustment thereof, a coiled spring surrounding the socket and bearing at one end against the

rear of the reflector and at the other end against one side of the socket to tilt it in one direction about the axis of said trunnions, and means having an operating part projecting through the wall of the housing for tilting the lamp in opposition to its spring.

2. An automobile headlamp comprising a housing, a reflector in the housing, said reflector being provided with an aperture at its apex and with oppositely disposed sockets, a lamp socket provided with oppositely disposed trunnions received in the sockets in the reflector to permit tilting adjustment thereof, a coiled spring surrounding the socket and bearing at one end against the rear of the reflector and at the other end against one side of the socket to tilt it in one direction about the axis of said trunnions, an arm carried by the socket, a nut secured in the arm against rotation and an operating bolt journaled in the housing and in threaded engagement with the nut, said bolt being provided with means for limiting its movement in the direction in which it is urged by the spring.

In testimony whereof I affix my signature.

SUMNER E. BROWN.