

May 16, 1944.

A. E. HOLMES

2,349,042

HEADLIGHT REGULATOR

Filed April 23, 1942

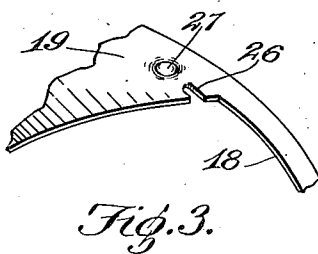
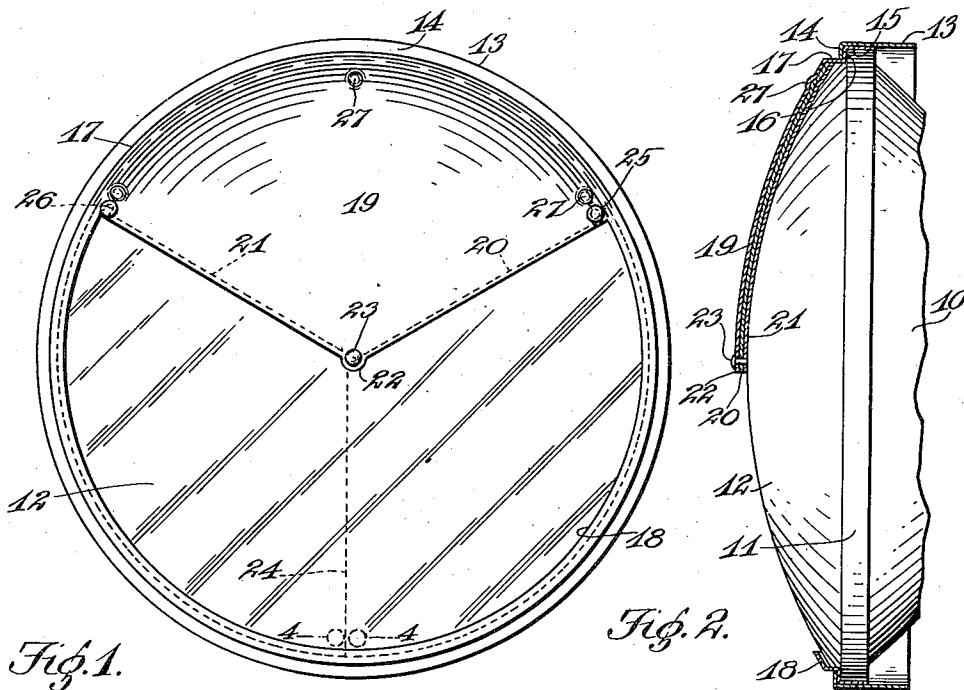


Fig. 5.

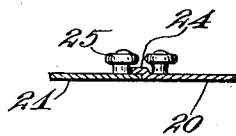
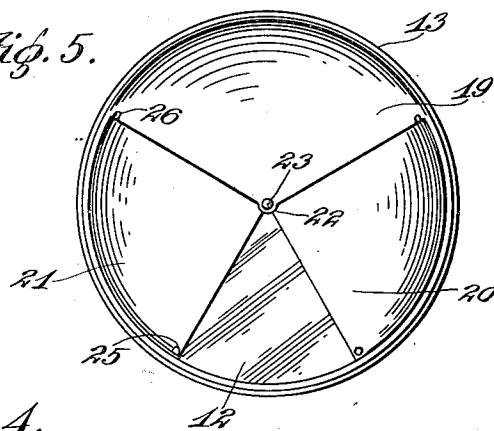


Fig. 4.

Albert E. Holmes

INVENTOR.

BY *Wm. B. Stevens & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE

2,349,042

HEADLIGHT REGULATOR

Albert E. Holmes, Evanston, Ill.

Application April 23, 1942, Serial No. 440,215

1 Claim. (Cl. 240—48.4)

My invention relates to the headlights of automobiles and like vehicles, and more particularly to means for controlling the light emitted thereby, and one of my objects is to provide a novel regulator for the headlight which is designed to vary the volume and direction of the light for purposes of effect and safety.

A further object of the invention is to devise a regulator of the above character which normally shuts out blinding glare from the light emitted, so as to render night driving safe.

Another object of the invention is to design a regulator which is adjustable to control the light for part or full concealment, if necessary, such as for parking or blackout purposes.

A still further object of the invention is to construct the novel regulator in a manner to be applicable to the standard sealed beam unit now used in automobile headlights, without any alteration or special attaching devices.

An important object of the invention is to design a regulator of the above character which is very simple in construction, neat in appearance, and easily controlled or manipulated.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawing, in which—

Figure 1 is a face view of a typical automobile headlight fitted with the novel regulator;

Fig. 2 is a fragmental side view of a sealed beam headlight unit, showing a vertical section of the regulator as mounted;

Fig. 3 is a fragmental perspective view of a receptacle forming part of the regulator;

Fig. 4 is an enlarged section on the line 4—4 of Fig. 1; and

Fig. 5 is a view similar to Fig. 1 on a reduced scale, showing a change of position in the regulator.

In accordance with the foregoing, specific reference to the drawing indicates a typical sealed beam headlight unit at 10, the rim or bead thereof at 11 and the lens at 12. As is customary, the lens is of the convex type and smooth-surfaced.

While the headlight housing is not shown, it suffices that an adapter to fit the unit 10 for the housing be illustrated. Thus, the adapter is in the form of a ring 13 into which the unit 10 is inserted from the rear, the ring having a frontal inward flange 14 against which the bead 11 ordinarily seats. Since the adapter 13 is made sufficiently spacious for a free and easy fit of the unit 10, I find the incidental clearance usable for the application of the novel regulator, so that no ad-

ditional means will be required to secure the same to the headlight.

Primarily, the novel regulator is formed as an annular shell 15 of metal, plastic, glass or other suitable material, having an inward step or flange 16 extended forwardly with a rim 17. As indicated in Fig. 2, the formation of the shell is such that it may be inserted forwardly to seat in the adapter and then receive the sealed beam unit 10. With the shell formation made of sheet material, I have found that a suitable gage thereof may be employed to procure a fairly snug fit of the assembly mentioned, so that the sealed beam unit is more firmly retained than in the conventional installation.

The shell 15 is developed frontally with a face portion 18. However, the latter is largely cut out in the lower portion of the installation, so as to leave only a sector-shaped section 19 in the upper portion. Thus, when the light passage from the headlight is considered, it is apparent that the regulator constituted so far as described permits the passage of approximately two-thirds of the light projected through the lens 12.

With the section 19 designed to conceal the upper third of the lens, means are provided to cover or conceal portions or the entirety of the balance of the lens surface. The contemplated means consists of a pair of slides 20 and 21 situated behind the section 19 and having the general form thereof. The section 19 and the slides are formed with matching perforated ears 22 opposite the center of the lens to receive a rivet 23 which renders the slides rotatable relative to each other and the section 19.

Preferably, the slides 20 and 21 when concealed or telescoped terminate flush or slightly inwardly of the lower edges of the section 19, so as to lend the latter a neat appearance. Long dotted lines indicate the marginal limit of the slides inside the shell. However, when the slides are drawn from behind the section 19 in opposite directions, they eventually meet along a vertical center line to fully close the front of the lens, their meeting positions being denoted by finely-dotted lines in Fig. 1.

With an adjustment made as just described, it is apparent that the slides 20 and 21 would have a tendency to climb over each other in the meeting zone and even continue beyond the latter. I have therefore constructed one of the slides with a receptacle 24 in its advancing edge, to form a lap-joint with the adjacent slide as clearly indicated in Fig. 4 when the slides close. This joint is represented by the off-center vertical line 24 in Fig. 1.

The section 19 and the slides 20 and 21 are necessarily curved to conform with the convexity of the lens 12. Also, the material of the slides will actually be much thinner than the showing in Fig. 2, rendering the installation neat and compact.

It will be evident that the marginal portion 18 of the regulator face will serve as a guide or sheath for the retention of the slides; and these will carry small knobs 25 at their outer edges and closely adjacent to the rim 18 to serve as finger holds for the manipulation of the slides. Further, the rear edges of these will necessarily be made rounded in order that there may be no conflict between the slides when they are to be telescoped in concealed positions behind the section 19. The latter is preferably cut with notches 26 in its bottom edges at the points approached by the knobs 25 of the slides, so as to provide clearances or pockets for the bases or shanks of such knobs when the slides are telescoped and neatly dispose the knobs clear of the light opening.

With the regulator mounted as indicated in Figs. 1 and 2, the highlight is usable for regular night driving. Such driving will occur without the emission of glare, since the section 19 will prevent the passage of the upward rays, while the open portion of the regulator will permit the passage of the downward rays in ample volume for the proper illumination of the road ahead. However, when only partial illumination is desired, either the slide 20 or 21 may be drawn down to cover or conceal the corresponding side of the lens; or both slides may be drawn down to a partial extent as shown in Fig. 5 to project only central beams. Of course, the slides may be gathered even further to emit only wedges of light, such as in case of a blackout; or, the slides may be closed entirely when the car is not in use or during the daytime, or in case the car is left standing in bad weather, so as to protect the lens from dust, mud spattered by other vehicles, rain or snow.

I have indicated the formation of matching punchings or protuberances 27 in the assembly of the section 19 and the slides to form stops or retainers for the latter when they are telescoped or extended to desired points. This is a simple expedient for the fixing of the slides against accidental shifting or disturbances from vibration. Obviously, other means may be devised or applied to station or snap the slides into desired positions; or, a remote control for this purpose could be engineered for operation or adjustment by the driver from his position in the car.

It will be evident from the above description that I have provided the novel regulator as a light and compact attachment suitable for any standard headlight and applicable without the use of

tools to the sealed beam unit thereof, other than to momentarily separate or detach such unit from the lamp housing. No special attaching devices are required for the support of the regulator, and the same secures a firm hold in the assembly of the sealed beam unit, as mentioned. Further, the novel regulator definitely shuts out the glaring rays of light by the permanent closure section 19, yet allows a large portion of the safe light to emerge from the headlight, providing a control therefor which is flexible or adjustable at will. With the regulator made of the fewest number of parts consistent with its proper function, it may be considered a simple, neat and essential adjunct for the modern motor car.

While I have described the novel regulator along specific lines, various minor changes and refinements may be made therein without departing from its principle, and I desire to consider all such changes and refinements as coming within the scope and spirit of the appended claim.

I claim:

In a headlight regulator, a main sector-shaped glare shield plate having spaced indentations and notches opening through edges of said plate, means forming an integral part of said plate for mounting the latter on a headlight against movement and in a position of covering a selected area of a lens of the headlight to prevent light rays of the headlight from being seen through said selected area of the lens from a position in front of the lens, a pair of sector-shaped slide plates having the apexes thereof pivoted to each other and to the apex of the main shield plate to cooperate therewith in covering the entire frontal area of the lens and manually movable relative to each other and slidable in telescopic relation to the main shield plate for uncovering different size areas of the lens, finger knobs secured to said slide plates for the manual movement thereof and received in the notches on said slide plates moving into full telescopic relation with the main shield plate, said slide plates having indentations to ride into and out of the indentations of the main shield plate during the manual movement thereof and acting to retain the slide plates from having movement relative to each other and the main shield plate due to vibrations and other causes tending to create accidental movement of the slide plates, said plates being curved to match a convex frontal face of the lens, one of said slide plates being offset along one edge thereof to provide a flange for overlapping a corresponding edge of the other slide plate when said slide plates move into position of cooperating with the main shield plate in covering the entire frontal area of the lens.

ALBERT E. HOLMES.