J. J. LAWLER.

DIMMER FOR HEADLIGHTS.

APPLICATION FILED FEB. 11, 1916.

1,206,339. Patented Nov. 28, 1916.

Fig. 1.

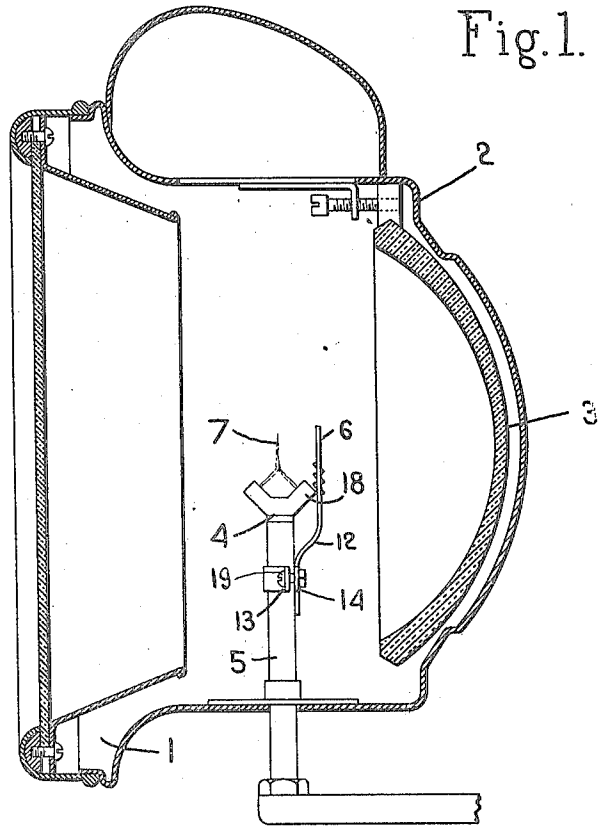


Fig. 2.

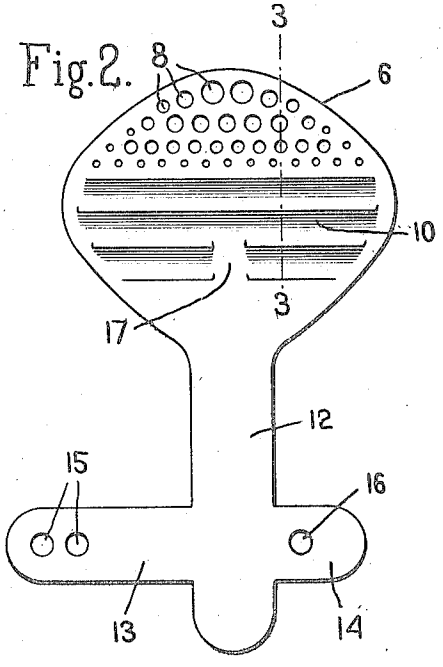
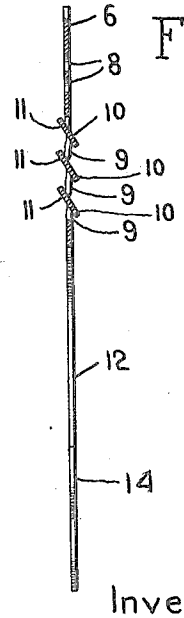


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DIMMER FOR HEADLIGHTS.

1,206,339. Specification of Letters Patent. Patented Nov. 28, 1916.

Application filed February 11, 1916. Serial No. 77,774.

To all whom it may concern:

Be it known that I, JOHN J. LAWLER, a citizen of the United States, residing at Medford, county of Middlesex, State of Massachusetts, have invented an Improvement in Dimmers for Headlights, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to a dimmer for automobile headlights and particularly to headlights that use acetylene gas, and the object of the invention is to provide a novel dimmer device which can be inexpensively manufactured and can be readily applied to any acetylene headlight and which will effectually eliminate the blinding or glaring rays which are experienced by persons approaching the headlight. These objectionable blinding or glaring rays from the acetylene headlight result from the light rays which are thrown onto the reflector in the rear portion of the headlight and which are collimated thereby and are projected forwardly in the form of a beam.

It has heretofore been proposed to eliminate the glare or blinding effect of acetylene headlights by placing an imperforate screen directly back of the flame so as to cut off the light rays that are thrown onto the reflector. While a dimmer device of this nature is effective so far as eliminating the blinding or glaring rays is concerned, yet it has the disadvantage that it cuts off so much of the light that it is difficult to get sufficient light to see properly on an unlighted country road.

I have provided a novel dimming device which effectually eliminates the glaring rays of an acetylene headlight without reducing the quantity of light to any great extent.

My device comprises a shield adapted to be placed directly back of the acetylene flame and which is constructed to permit the light from the burner to pass therethrough onto the reflector but to diffuse the light as it thus passes so that the reflector will reflect diffused light rather than the direct rays from the illuminating flame.

While various devices constructed to thus diffuse the light may be used, I preferably employ a piece of sheet metal of the proper shape which has light-diffusing apertures and slits therein, all as hereinafter described.

In order to give an understanding of my invention, I have illustrated in the drawings a selected embodiment thereof which will now be described, after which the novel features will be pointed out in the appended claims.

Figure 1 is a vertical section through an acetylene headlight having my improvements applied thereto; Fig. 2 is a view of the dimming device as it will be sold and before it is applied to the burner; Fig. 3 is a section on the line 3—3, Fig. 2.

I have shown at 1 an automobile headlight adapted for burning acetylene and which comprises in its construction the usual casing 2 having the reflector 3 in the rear portion thereof and the acetylene burner tip 4 carried by the burner pipe 5. These parts may be of any suitable or usual construction and form no part of my present invention.

My improved dimmer device comprises a shield member 6 which can conveniently be made of sheet metal and which is adapted to be placed directly in the rear of the acetylene flame 7. This shield 6 is made so that it will permit light rays to pass therethrough, but will operate to diffuse the light thus transmitted. One convenient way of accomplishing this is to provide the upper portion of the shield with a plurality of light-diffusing apertures 8 and to provide the lower portion of the shield with horizontally-extending light-diffusing slits 9. The apertures 8 are shown as of varying diameters. The shield 6 will preferably be of a shape corresponding substantially to the shape of the flame 7 and the light-diffusing apertures 8 are placed in the upper portion thereof. These apertures are shown as having a progressively-decreasing diameter from the top toward the central portion of the shield, the apertures at the top of the shield being largest and those near the central portion being smallest. The slits 9 may be formed in any suitable way and any number of slits may be used. I will preferably form the slits by slitting the shield 6 transversely and then bending the portion of the material 10 between the slits into the angular position shown in Fig. 3, thereby to form an inclined light-reflecting surface 11 above each slit. These light-reflecting surfaces 11 reflect the light from the burner through the slits 9 and the light which is delivered through the slits thus becomes diffused more or less. My improved shield will thus per-

mit a considerable portion of the light rays from the flame 7 to pass therethrough, but because of its particular construction, these light rays are diffused to a considerable extent so that the reflector 3 will be reflecting diffused light rays. As a result, the amount of light which passes through my dimmer to the reflector is sufficient so that the light reflected by the reflector will constitute a light beam of sufficient illuminating power to properly illuminate an unlighted roadway, but the presence of the dimmer as constructed eliminates the undesirable blinding or glaring rays.

The shield may be secured to the burner by any suitable means. I have herein shown for this purpose said shield 6 provided with a stem 12 depending therefrom and which has two laterally-extending arms 13 and 14. These arms will be made flexible so that they can be readily bent around the burner pipe 5, as shown in Fig. 1, and the arms when so bent around the burner pipe may be clamped in position by means of a clamping bolt inserted through the apertures 15 and 16.

Fig. 2 shows the device in the form in which it may be sold. Any one can quickly apply it to the headlight by simply bending the arms 13 and 14 around the burner pipe and clamping them in position. In order to get the proper results, it is necessary that the dimmer device should be adjusted properly relative to the flame 7, and to guide the person who is applying the device, I propose to make the dimmer with a guide portion 17 which is to be placed against the rear point 18 of the burner tip 14, as shown in Fig. 1. When the device is thus placed with the rear burner tip at the guide portion 17, the shield will be properly positioned relative to the flame to effectually accomplish the desired result.

While I have illustrated herein a shield having its upper portion perforated and its lower portion slit, yet this particular arrangement is not essential to the invention as any arrangement of perforations or slits by which the light rays from the flame to the reflector are broken up more or less may be used without departing from the invention. The reason for placing the larger apertures at the top of the shield and the smaller apertures near the center is that the light rays which are projected onto the center of the reflector are those which cause the glare or blinding effect, and by making the small perforations at the center, these central rays are so thoroughly broken up that no glaring effect will be produced.

I will preferably make one of the arms 13 and 14 longer than the other arm, as shown in the drawings, so that when the device is placed in position on the burner, the clamping bolt 19 will come in a position which can be conveniently reached from the front of the lamp.

While I have illustrated my invention as applied to an acetylene headlight, yet I desire to state that the invention is equally applicable to other types of headlights which are so constructed as to permit of a dimmer of this nature being interposed between the light and the reflector.

While I have illustrated a selected embodiment of my invention, I do not wish to be limited to the constructional features shown.

I claim:

1. A dimmer for acetylene headlights comprising a shield portion having a shape approximating that of the acetylene frame and provided on its upper portion with a plurality of light-diffusing apertures of progressively-decreasing size from the top edge of the shield and in its lower portion with horizontally extending light-diffusing slits, the portion of the shield above each slit having a downwardly-inclined light-reflecting surface which reflects the light through said slit, and means to clamp said shield to the burner directly back of the flame.

2. A dimmer for acetylene headlights comprising a shield portion having a shape approximately that of the acetylene flame and provided above its horizontal diameter with a plurality of apertures and below its horizontal diameter with a plurality of horizontally-extending slits, said apertures and slits breaking up and diffusing the light from the flame, and means to clamp said shield to the burner directly back of the flame.

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

JOHN J. LAWLER.