P. S. BAILEY.

LIGHTING UNIT.

APPLICATION FILED APR. 5, 1916.

1,240,644.

Patented Sept. 18, 1917.

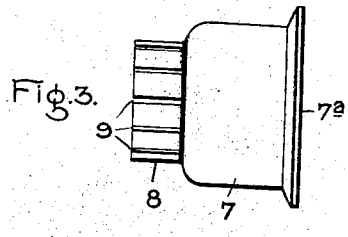


Fig. 3.

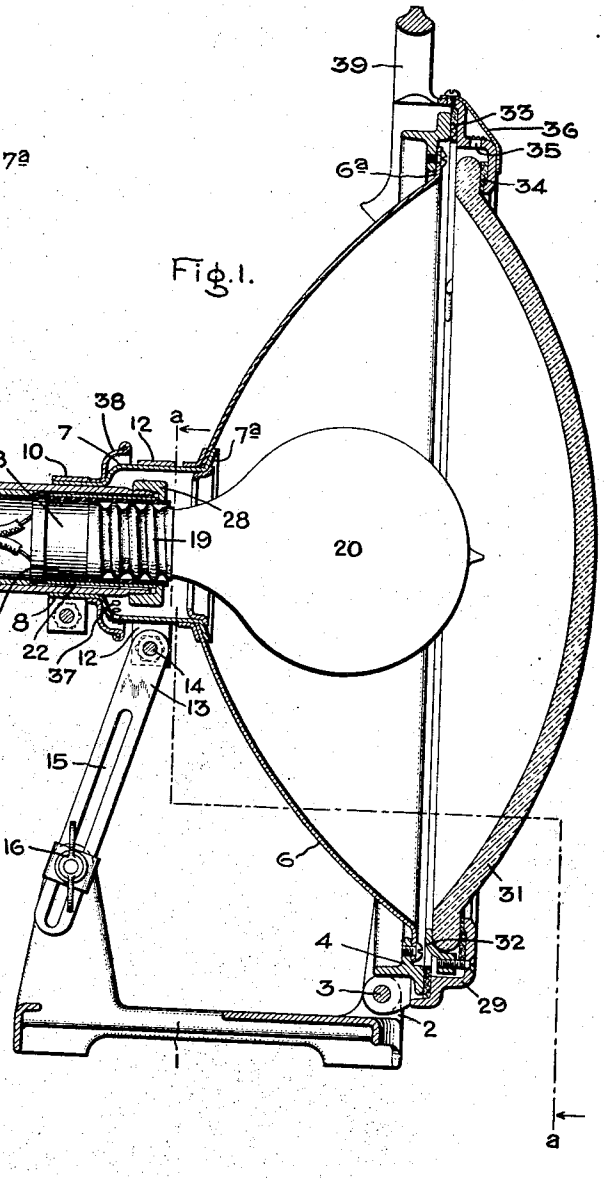


Fig. 1.

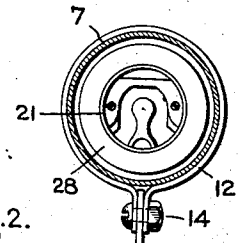
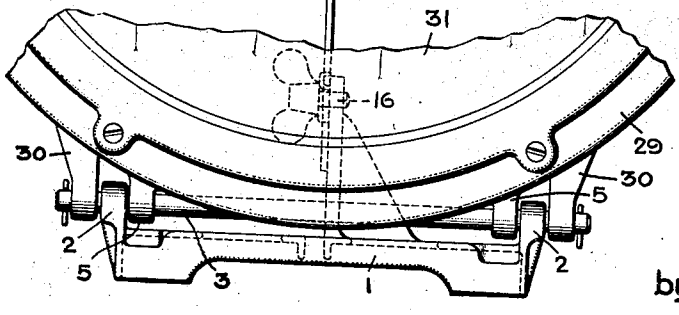


Fig. 2.



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UNITED STATES PATENT OFFICE.

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LIGHTING UNIT.

1,240,644. Specification of Letters Patent. Patented Sept. 18, 1917.

Application filed April 5, 1916. Serial No. 89,021.

To all whom it may concern:

Be it known that I, PERCY S. BAILEY, a citizen of the United States, residing at West Lynn, county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Lighting Units, of which the following is a specification.

My invention relates to a lighting unit which is particularly suitable for illuminating, in a satisfactory manner, limited areas, such as building fronts, sign-boards, etc.

To satisfactorily light such areas, it is necessary to use a reflector for the light, and in accordance with my invention the projector comprising the reflector is pivoted on the base from which it is supported, in order to direct the light to the desired region, and comprises means for adjustably securing the projector in position on its pivot.

My invention further provides means cooperating with the adjustable means referred to for adjustably securing the incandescent lamp along the axis of the projector, whereby the beam may be caused to spread more or less, in accordance with the requirements of the area to be lighted.

A further feature of my invention resides in a novel draft arrangement for keeping the base of the lamp cool.

Other novel features of my invention will be described in the specification and will be particularly pointed out in the claims.

For a fuller understanding of my invention, reference may be had to the accompanying drawings, in which I have shown one embodiment of my invention and in which Figure 1 is a vertical section through the lighting unit; Fig. 2 is a section on the line *a*—*a* of Fig. 1, looking in the direction of the arrows, and Fig. 3 is a detail view of the annular shell which is secured to the reflector.

Referring, now, to the drawing, 1 is a base support of any suitable form. The base is preferably provided with two upstanding lugs 2, formed with openings in which a rod 3 is received, on which rod the projector is pivoted. The projector comprises a frame 4, here shown as an annular ring, and provided with lugs 5, within which the rod 3 is received. A reflector 6 is secured to the frame 4 by means of a flange 6^a formed at the outer edge of the reflector. The forward end of an annular metallic shell 7 extends through an opening formed at the center of the reflector. The forward end of the shell is provided with an outwardly turned flange 7^a which engages the part of the reflector immediately surrounding the central opening, by which flange the shell is secured to the reflector axially therewith, the shell extending rearwardly from the reflector. The rear end of the shell is contracted at 8 and is formed with a plurality of slits, as at 9, so that when the same is compressed by the split ring 10, with which the same is surrounded, it will firmly engage the tube 11 which extends within the shell and receives the incandescent lamp for the projector, and thus secure the tube in position and keep the lamp at the desired point along the axis of the reflector. The main body of the shell 7 is surrounded by a clamp 12, to which is pivoted at 14 one end of a link 13, slotted at 15, through which slot a winged screw 16 passes, the screw engaging an upstanding lug on the base 1, so that the projector may be moved about on the bar 3 as a pivot and may be adjustably secured in any desired position. Within the tube 11, which acts as a holder for the incandescent lamp, is secured, by welding or otherwise, a cylindrical metallic piece 17 which is engaged by the porcelain, or other insulating base 18 of the lamp socket. To the insulating base 18 is secured a screw socket 19 within which the base of an incandescent lamp 20 is received. The porcelain base and lamp socket are surrounded by an insulating sleeve 21 and a metallic sleeve 22 in the usual manner. Current is supplied to the lamp by conductors 23 which pass through a hand grip 24, the inner end 25 of which is screw-threaded and engages the outer screw-threaded end of the tube 11. The cords may, if desired, be secured in position within the hand grip by cement 27. The inner end of the tube 11 is engaged by a screw-threaded collar 28, which holds the socket base in position against the member 17.

The window supporting frame comprises an annular ring 29, provided at its lower side with lugs 30 formed with openings within which the rod 3 is received, so that the window support is pivoted on the same axis as the projector itself. The window 31 for the projector is secured against the ring 29 by clamping brackets 32. The front of the headlight is made substantially air-

tight, except for the provision of a definite draft arrangement which will be described directly, by means of rings of felt 33 and 34 which are received between the rings 4 and 29 and between the ring 29 and the window 31, respectively. The upper edge of the ring 29 is provided with a series of openings 35 which are protected by a weather-strip 36. These openings together with a series of openings 37 located in the shell 7, preferably at the rear end of the main portion thereof, constitute the entrance and exit openings for an air draft that envelops the base of the lamp to keep the same cool. When the projector is thrown well back to throw the beam of light upwardly, then the openings 37 constitute the entrance for the draft, and the openings 35 the exit, whereas when the lamp is tilted forwardly, the direction of the draft is reversed. The openings 37 are protected by a dish-shaped weather-strip 38 closely surrounding the contracted end 8 of the shell 7, so that when the projector is tilted forwardly it is impossible for rain or moisture to enter the searchlight through the openings. The projector is preferably provided with a hand grip 39 of usual form.

In accordance with the provisions of the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is only illustrative, and that the invention can be carried out by other means.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. A lighting unit comprising a base support, a lamp frame pivoted thereto, a reflector secured to said frame, a shell secured to said reflector and extending rearwardly therefrom, and means attached to said shell and to said base support for adjustably securing the projector in position.

2. A lighting unit comprising a base support, a lamp frame pivoted thereto, a reflector secured to said frame, a shell secured to said reflector and extending rearwardly therefrom, and means comprising a slotted link attached to said shell and to the base support for adjustably securing the projector in position.

3. A lighting unit comprising a base support, a lamp frame pivoted thereto, a reflector secured to said frame, an annular metallic shell secured to said reflector axially therewith and extending rearwardly therefrom, a lamp socket holder extending within said shell, means connecting said shell and said base support for adjustably securing the projector in position, and means for adjustably securing the socket holder within said shell.

4. A lighting unit comprising a base support, a lamp frame pivoted thereto, a reflector secured to said frame, and a window supporting frame pivoted on the same axis as the lamp frame.

5. A lighting unit having a housing comprising a reflector and an annular shell secured to said reflector axially therewith and extending rearwardly therefrom, an incandescent lamp socket within said shell spaced therefrom, and draft openings located in said shell for the admission of air to the housing around said socket, and outlet openings located at the outer portion of the housing for exhausting said air, whereby the cooling air passes longitudinally along the space between the socket and shell.

6. A lighting unit comprising a base support, a projector comprising a reflector and window pivoted to said support, an annular shell secured to said reflector axially therewith and extending rearwardly therefrom, an incandescent lamp holder extending within said shell, draft openings located within said shell and at the top of the projector, respectively, and weather-strips for covering the respective openings and affording protection against entrance of water when the headlight is tilted in opposite directions.

In witness whereof, I have hereunto set my hand this 30th day of March, 1916.

PERCY S. BAILEY.