Nov. 2, 1943. E. K. MADAN 2,333,541

FLASH-LIGHT SHIELD

Filed Feb. 13, 1942

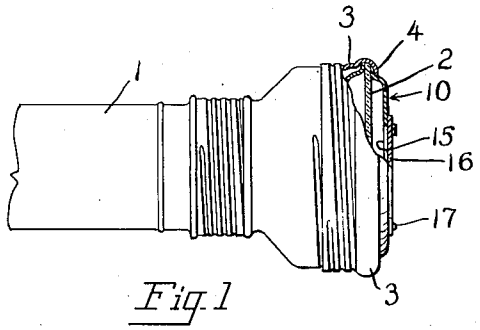


Fig. 1

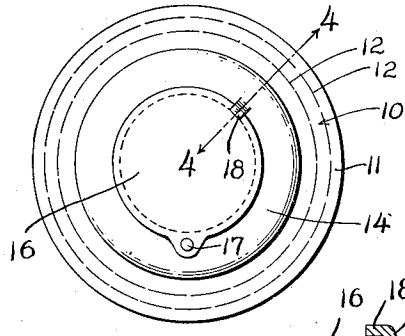


Fig. 2

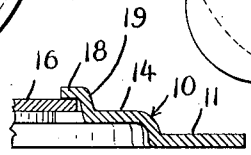


Fig. 4

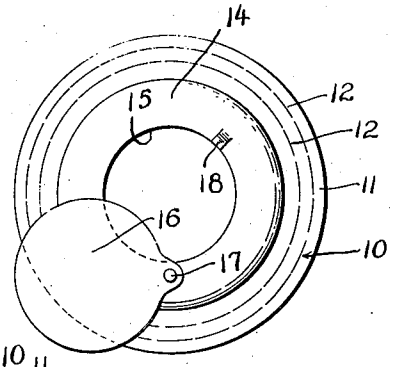


Fig. 3

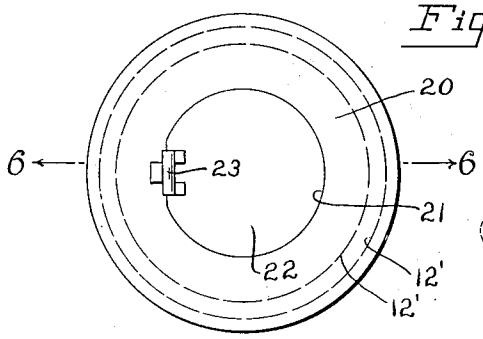


Fig. 5

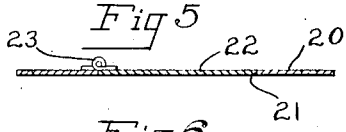


Fig. 6

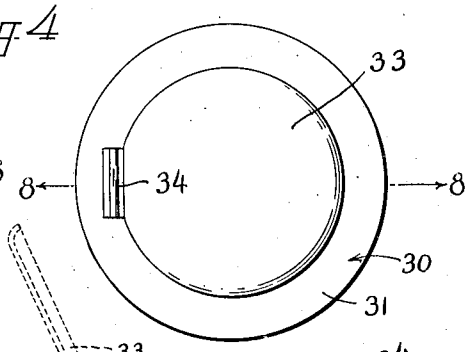


Fig. 7

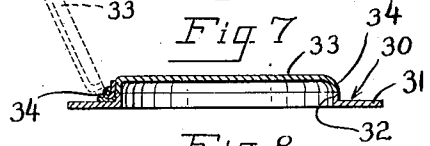


Fig. 8

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FLASHLIGHT SHIELD

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2 Claims. (Cl. 240—10.6)

This invention relates to flash-lights, and more particularly to a shield for placement over a flash-light lens to render the flash-light useful during "black-out" periods.

The primary object of the present invention is to provide a shield for the lens of a flash-light which is translucent and will permit the passage of only a subdued light therethrough such as is permissible during "black-out" periods. The shield is provided with an opening therein to permit unimpeded transmission of light, permitting ordinary use of the flash-light at times other than during "black-out" periods. A translucent closure for said opening is provided which may be quickly and easily moved into place over the opening for completely subduing the light projected from the flash-light.

Another object of the present invention is to provide means which will firmly and securely hold the closure tightly in position to prevent escape of non-subdued light when the closure is in closed position over the opening in the shield.

A further object of the present invention is to provide a lens shield for flash-lights which may be easily and permanently attached to a flash-light overcoming the inconveniences of the type of lens shield which must be placed over the lens during "black-out" periods and completely removed to permit ordinary use of the flash-light.

Another object of the present invention is to provide a lens shield as specified which includes a flat rim portion for insertion between a flash-light lens and its retaining rim, which shield has a raised or offset portion carrying the closure member for the opening in the shield, which raised or offset portion of the shield permits the closure member to be freely moved into open or closed position without distortion being caused by its engagement with the rim of the lens retainer of the flash-light and also prevents binding of the pivot or hinge of the closure member with the resultant disruption of the closure.

A still further object of the present invention is the provision of a flash-light shield as specified which readily lends itself to the use of identifying indicia, in that suitable indicia to indicate the rank or position of the user may be imprinted or otherwise placed upon the closure member in such manner that it will be clearly visible when the closure member is in closed position and the entire light of the flash-light is subdued to permit only sufficient transmission of light for close vision, such as will come within "black-out" regulations.

With these and other objects in view, as may appear from the accompanying specification, the invention consists of various features of construction and combination of parts, which will be first described in connection with the accompanying drawing, showing a flash-light shield of the preferred form embodying the invention, and the features forming the invention will be specifically pointed out in the claims.

In the drawing:

Figure 1 is a fragmentary view of a flash-light, partly in section, showing the improved shield attached thereto.

Figure 2 is a plan view of the shield, showing the closure member in closed position.

Figure 3 is a plan view of the shield, showing the closure member in open position.

Figure 4 is an enlarged detail section taken on the line 4—4 of Figure 2.

Figure 5 is a plan view of a modified form of the shield.

Figure 6 is a cross-sectional view taken on the line 6—6 of Fig. 5.

Figure 7 is a plan view of a further modified form of the lens shield.

Figure 8 is a cross-sectional view taken on the line 8—8 of Fig. 7.

Referring more particularly to the drawing, 1 indicates a flash-light of any approved construction, which includes a lens 2, held in place by means of the removable cap 3. The annular rim 4 of the cap 3 forms a binding rim for holding the lens 2 in place.

The improved lens shield, which is adapted to convert the flash-light into one usable during "black-out" periods, comprises a main body disc 10, constructed of Celluloid or any other suitable material, which may be translucent or even opaque, if so desired. The disc 10 has a flat annular rim 11 which, when the shield is attached to the flash-light 1, is engaged by the rim 4 and the lens 2 so that when the cap 3 is threaded upon the main body of the flash-light, the shield is securely and permanently held in place over the lens 2.

Owing to the fact that flash-lights have different diameters, and to provide a commercial article which may be made in quantities for use with flash-lights of various diameters, the flat rim 11 is provided with concentric scored lines or circles 12, spaced at predetermined distances from the perimeter of the disc, for use as indicia to assist in the cutting down of the overall diameter of the disc to fit the particular flash-light with which it is to be used.

The central portion 14 of the disc 10 is raised or

offset laterally from the rim 11, as clearly shown in Figures 1 and 4 of the drawing, for accommodation of lenses having convex outer surfaces, and also to position the outer face of the raised or laterally offset portion 14 beyond the outermost surface of the rim 4. The offset or raised portion 14 is preferably circular and concentric of the perimeter of the disc proper and is provided with a central opening 15 for permitting unimpeded transmission of light from the flash-light through the disc, allowing the flash-light to be used for the ordinary purposes for which flash-lights are employed. A closure member 16 in the form of a flat disc is provided for closing the opening 15 during "black-out" periods. This closure member 16 is formed of translucent material and in the forms shown in Figures 1 to 4 of the drawing inclusive, the member 16 is pivotally connected, by means of a pivot pin 17, to the raised portion 14 of the disc 10 so that it may be swung outwardly from its position over the opening 15 when desired. By provision of the raised or offset portion 14 the closure member 16 will be permitted to swing into open or closed position without coming into engagement with the lens binding rim 4 and consequently distortion will be avoided. The raised portion also provides accommodation for the inner end of the rivet or pin 17, preventing its contact with the lens 2.

Stop means are provided for limiting the closing movement of the member 16. This stop means is very simple in construction, consisting of a tongue 18 cut from the main body of the disc 10 at one side of a center-line passing through the centers of the opening 15 and of the pivot pin 17. The tongue 18 is offset outwardly from the offset portion 14 of the disc 10 so that when the closure member 16 is swung into closed position it will be engaged beneath the tongue 18 and against the laterally extending back portion 19 of the tongue, which will prevent further movement of the closure member 16 beyond its closed position. The tongue 18 has its radially extending portion spaced from the outer surface of the raised or offset portion 14 of the disc 10 a sufficient distance only to receive the closure member therebeneath for firmly gripping and holding the closure member flat against the raised portion 14 to prevent accidental transmission of light when the closure member 16 is in closed position.

If it is so desired, the main body of the shield, that is, the rim 11 and the raised or offset portion 14, may be opaque, and only the closure member 16 translucent, or the reverse may be employed, that is, the closure member may be opaque and the main body of the shield translucent, depending upon the desires of the user.

The construction of the shield lends itself readily to the employment of indicating markings, such as the various official designations of rank of the Army and Navy, or various civilian services, as air raid wardens, etc., which indicia may be imprinted or otherwise placed in contrasting and preferably opaque manner upon the closure disc 16, when the disc is translucent, so that when the disc is in closed position and the flash-light turned on, the subdued light will have a tendency to accentuate the insignia or indicia printed upon the disc. In instances where the closure member 16 is opaque, the indicia may be translucent.

In Figures 5 and 6 of the drawing, a slightly modified form of the improved shield is shown. In this form the main body or disc 20 of the lens shield is provided with the scored markings 12', as in the preferred form. However, the disc 20 is flat and does not have a raised portion. It is provided with a central opening 21, which is closed by means of a closure member 22. The member 22 lies flush with the surface of the disc 20, when it is in closed position, fitting within the opening 21 snugly, and it swings outwardly from the disc 20 on a hinge 23, when opened. While the closure 22 is shown as hinged to the disc 20, it is understood that it may be pivoted thereto, as shown in Figures 1 to 4 of the drawing, without departing from the spirit of the present invention.

Figures 7 and 8 of the drawing show a still further modified construction of the invention, and in this form the shield comprises the main disc 30, which has an annular rim 31, adapted to be engaged beneath the lens confining rim of a flash-light. In this form the portion of the disc 30 surrounding the central opening therein is turned laterally, preferably at right angles to the rim 31 of the disc, as shown at 32 in Figure 7 of the drawing, and the closure member 33 for closing the opening may have edgewise engagement with the turned portion 32, or its downturned rim 34 may be of such diameter as to overlap the outturned portion 32 of the disc. The closure member 33 is shown attached by means of a hinge 34 to the main disc so that it may be swung outwardly into open position to permit use of the flash-light as an ordinary flash-light. While the closure 33 is shown hinged to the disc, it is to be understood that it may be otherwise suitably connected to the disc, as in the manner shown in Figures 1 to 4 of the drawing, without departing from the spirit of the present invention.

It will be noted that in all of the forms shown in the drawing and above described, a shield has been provided for flash-light lenses which will permit the subduing of the light emitted by the flash-light to meet the requirements of "black-out" regulations, but which will permit the flash-light to be quickly and easily converted for use as an ordinary flash-light, and that there are no separate parts to be put on and taken off of the flash-light to change it from "black-out" use to ordinary use, all parts being permanently carried by the flash-light.

It will be understood that the invention is not to be limited to the specific construction or arrangement of parts shown, but that they may be widely modified within the invention defined by the claims.

What is claimed is:

1. The combination with a flash-light including a lens and a lens retainer embodying a lens rim, of a lens shield including a disc for mounting over the lens and being of such size that its rim portion will fit between a lens and the rim of the lens retainer, the main body of said lens shield inwardly of its rim being offset laterally to extend outwardly of the outermost portion of the lens retaining rim, said offset portion provided with a centrally disposed opening therein to permit transmission of unsubdued light, a closure member pivotally connected to said disc for movement into and out of closing portion of said opening, a tongue cut from said disc and offset laterally therefrom for overhanging engagement with the edge of the closure member for holding it tightly in flat engagement with said disc, said tongue being located at a predetermined point beyond a centerline bisecting the center of the opening and the pivotal action of

the closure member so as to form a stop for limiting the closing movement of the closure member.

2. As a new article of manufacture, a lens masking shield for flash lights comprising a disc of such diameter as to fit over a flash light lens, said disc being provided with a raised portion lying within the perimeter of the disc, said raised portion being provided with an opening for the passage of light rays from the flash light, a closure member pivotally connected with said raised portion for movement into and out of closing position with respect to said opening, said closure member lying flatwise against said raised portion, a tongue cut from said disc and offset laterally therefrom for overhanging engagement with an edge of said closure member when the latter is moved to a position for closing said opening, said tongue being so arranged as to hold the closure member tightly against said raised portion, said tongue being located to one side of a straight line intersecting the pivotal axis of the closure member and the axis of said opening to provide a stop for limiting the closing movement of the closure member.

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