June 8, 1954 C. H. SMITH 2,680,844

LENS FOR FLASHLIGHTS AND THE LIKE

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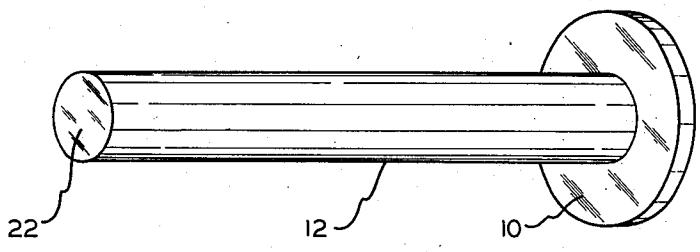


FIG. I.

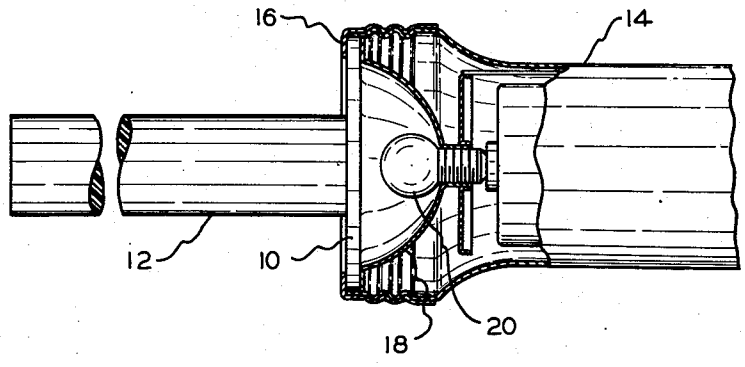


FIG. II.

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LENS FOR FLASHLIGHTS AND THE LIKE

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1 Claim. (Cl. 340—321)

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This invention relates to lenses for electric lamps and more particularly to lenses for flashlights, with special reference to flashlamps employed for traffic control or signalling purposes.

In the prior U. S. Patent No. 2,340,530 dated February 1, 1944, there is disclosed a traffic control flashlight having a combined glow and beam emitting elongated rod form of lens which is colored red along its exterior surface and adjustably screwed at its one end onto a metal sleeve adapted to be secured within the lamp bulb supporting and reflector housing end of the flashlight casing. This known flashlight lens is specially designed to give a red glow along the surface of the elongated rod lens and a concentrated beam at the outer end of the rod by passage of the light rays longitudinally along the rod, which is made from a highly transparent plastic material.

In contra-distinction to this known rod form of glow and beam emitting lens the present invention provides a lens which comprises a base portion disposed in bordering relationship to a combined glow and beam emitting rod whereby light transmitted from the latter is bounded by light transmitted from said base portion, with considerable and highly advantageous effect compared with the simple rod form of lens, rendering the lens admirably suited for use on electric lamps or flashlights for traffic control or signalling purposes, for example, by pointing the lens at the desired objective, while retaining the full glow rod effect when the lamp or flashlight, with the lens attached thereto is waved like a baton.

It is, therefore, an object of the invention to provide an improved form of lamp or flashlight lens combining a glow rod and beam action, with the beam action considerably improved by light transmitted through a bordering light transmitting lens portion.

Another object of the invention is to provide a combination glow rod and beam directing lens with the glow colored by a base portion of the lens rendering the lens suitable for use on an electric lamp or flashlight for traffic signalling or control purposes.

The above and further objects and advantages of the invention will appear clearer from a consideration of the following description with reference to the drawings and from the annexed claim:

In the drawings:

Figure I is a perspective side elevational view of a lens construction in accordance with the invention, and

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Figure II is a fragmentary longitudinal section of the lens of Figure I in operative position in a typical flashlight casing and bulb-reflector assembly.

Referring to the drawings; my improved lens is shown constituted by a base 10 and an elongated rod 12, both of solid construction and formed from a light transmitting material, with the rod 12 at least, formed from a highly transparent plastic material along which light rays are capable of being freely transmitted in the form of a rod of light as known in the art appertaining to plastic rod lighting. Conveniently, the base is also formed from the same material as the rod, with both separately formed and adhesively united with one another with any suitable and well known transparent cement or plasticizer.

The rod 12 is formed to have a glow characteristic by its exterior surface being rendered dull, as by sandblasting. But the base 10 and the remainder of the rod, including its ends, are left in their clear transparent condition.

The base 10 projects beyond the confines of the adjacent rod end and present an annulus, as shown, through which an area of light is capable of being transmitted in encompassing relationship to the light transmitted by the rod.

To adopt the lens for traffic control or signalling purposes the base 10 is rendered in a distinctive color, such as red or green, with the rod, including its exterior dulled surface, left in its natural substantially white color.

The base 10 may be made to fit into the bulb end of a conventional flashlight casing 14 in place of the usual lens glass disc and be retained in position by the usual screwed casing collar 16 with the rod 12 projecting outwardly from the front of the casing, as shown in Figure II. Alternatively, provision could well be made for affixing my improved lens against the outer surface of the usual flashlight casing lens. This would involve the use of some affixing or attachment device, such as forms no part of my present invention and needs no description herein.

When secured upon a flashlight casing the base lens 10 is located within the area of the light reflector 18 so that light from the lamp 20 is freely transmitted along the rod 12 as well as through the surrounding base 10.

With the base colored red, for example, and the rod left in its natural substantially white color the lens assembly, when mounted upon a lamp casing as shown in Figure II will, with the lamp bulb 20 illuminated, give a distinctive red colored glow along its length while at the same

time a brilliant red colored beam will be projected from the outer rod end 22, which brilliance is considerably enhanced by the presence of the encompassing area of red colored light transmitted through the base 10.

Having thus described my invention, what I wish to secure by Letters Patent and claim is as follows:

A signalling and light emitting lens adapted to be fitted into the bulb end of a conventional flash light casing said lens comprising an elongated glow rod portion adapted to glow along its exterior surface and to project a light beam from its outer end, said glow rod being formed from a highly transparent plastic material permitting the light rays to pass longitudinally therethrough but having its exterior surface rendered dull, a base lens portion of light transmitting material, said glow rod portion abutting at its inner end with said base lens portion, said base lens portion radially extending beyond the exterior surface of said glow rod in the form

of a radial annular flange, through which light rays are capable of being transmitted in encompassing relationship to the light transmitted by said glow rod portion, said annular flange of said base lens being adapted to fit into the bulb end of the flashlight casing, with the peripheral portion of said flange functioning to mount the lens within the flashlight casing and an annular portion of said flange between said peripheral portion and exterior surface of said glow rod portion being located within the area of the light reflector of the flashlight casing.

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