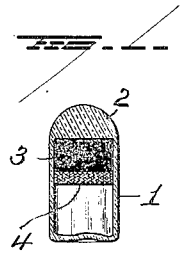
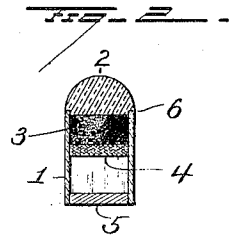
April 21, 1925. 1,534,937

H. FOLEY

LUMINOUS DEVICE

Filed Jan. 24, 1920





INVENTOR

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UNITED STATES PATENT OFFICE.

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LUMINOUS DEVICE.

Application filed January 24, 1920. Serial No. 353,788.

To all whom it may concern:

Be it known that I, HAMILTON FOLEY, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Luminous Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in luminous devices and more particularly to such as are adaptable for use to illuminate portions of surfaces or bodies, such as gun sights, gages, dials, push buttons and other objects having exposed surface portions,—the object of the invention being to provide a luminous device for the purpose stated in which luminous material shall be hermetically sealed within a container and the latter adapted to be inserted into a socket in the object to which it may be desired to apply the said luminous device.

A further object is to provide a luminous device comprising a glass body portion provided at one end with a lens and containing luminous material behind the lens.

With these and other objects in view, the invention consists in certain novel features as hereinafter set forth and pointed out in the claims.

In the accompanying drawings; Figure 1 is a view of a luminous device showing an embodiment of my invention, said view being on an enlarged or exaggerated scale, and Figure 2 is a similar view showing a modification.

1 represents a miniature glass tube the outer end of which is closed in such manner as to form a lens 2, which latter may be made by properly manipulating the tube in a suitable flame. The lens 2 may thus be made an integral part of the tube. The tube 1 constitutes a container for luminous material 3 which is inserted therein in a manner to become disposed immediately behind the lens. The luminous material may consist of phosphorescent zinc sulphide, and an infinitesimal quantity of radio-active material, such as a radium salt or compound, mixed with the zinc sulphide to activate and render the whole continuously luminous. Such luminous compound may be used in small quantity and may be held in place spaced from the inner end of the tube by a small disk 4 of asbestos. After the luminous material and the asbestos disk shall have been placed within the tube, the inner end of the latter may be closed by fusion or otherwise,—the asbestos disk serving to insulate the luminous material and thus obviate any deleterious effect which the heat employed in sealing the inner end of the tube, might otherwise have upon the luminous material.

Instead of closing the inner end by fusion, I may employ a plug 5 of any suitable material as shown in Figure 2, and instead of forming the lens 2 by fusing the end of the tube, I may make the lens separate from the tube and fuse or otherwise unite it to the latter, as shown at 6, Figure 2.

My improved luminous device is quite small and the luminous material is effectually protected. The device is applicable for use with numerous articles where illumination of a surface or other part is desired, and it may be inserted into a socket in the device to be illuminated and secured in such socket by cement or otherwise. The lens at the exposed end of the tube serves greatly to enhance the luminosity of the device and renders the latter eminently efficient for illuminating such objects as gun sights, dials, push buttons, gages and various other devices.

My improvement is especially efficient during the twilight hours preceding the rising and succeeding the setting of the sun.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. A luminous device comprising a tube having a lens integral with one end and an integral closure at the other end, said tube containing self-luminous material behind the lens.

2. A luminous device comprising a hermetically sealed glass tube provided at its outer end with a lens, luminous material contained within the tube behind the lens, and asbestos material in the tube behind the lens.

3. A luminous device comprising a hermetically sealed tube provided at its outer end with a lens, self luminous material in the tube and against the lens to be viewed through the lens whereby the latter acts to collect the light rays.

4. A luminous device comprising a hermetically sealed tube provided at its outer end with a lens, self luminous material partially filling the tube and against the lens to be viewed through the lens whereby the latter acts to collect the light rays, and a suitable means in the tube behind the self luminous material to hold the same in place relative to the lens.

5. Means for illuminating the surface of gages, dials, etc., comprising a hermetically sealed tubular container adapted to be embedded endwise in the object to be illuminated, said container being provided with a lens at one end to be exposed adjacent to the part to be illuminated, and self luminous material in the container at its lens end so that the lens will collect the light rays and illuminate said surface.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

HAMILTON FOLEY.

Witnesses:
W. R. BAUM,
R. S. FERGUSON.