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SELF-LUMINOUS KEYHOLE LOCATOR

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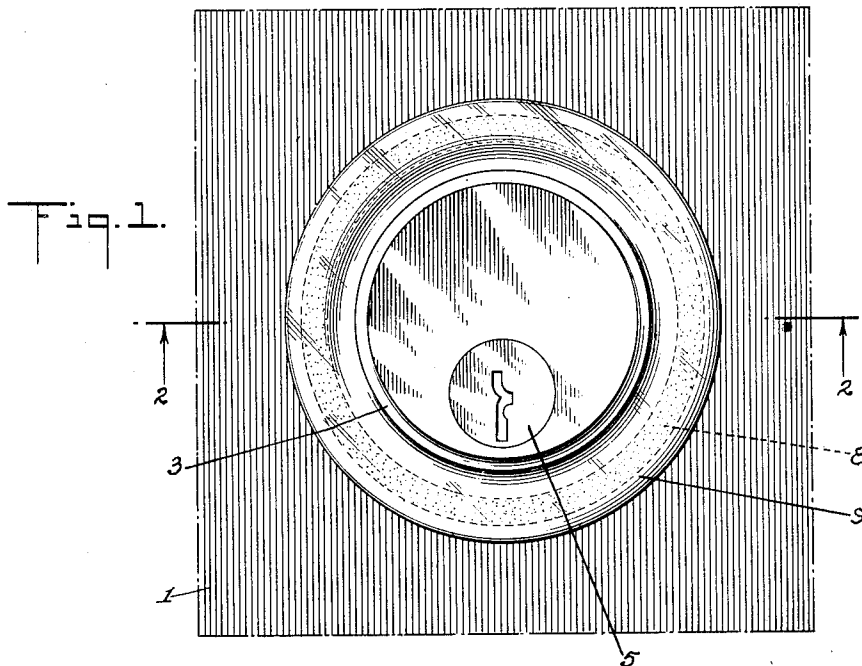
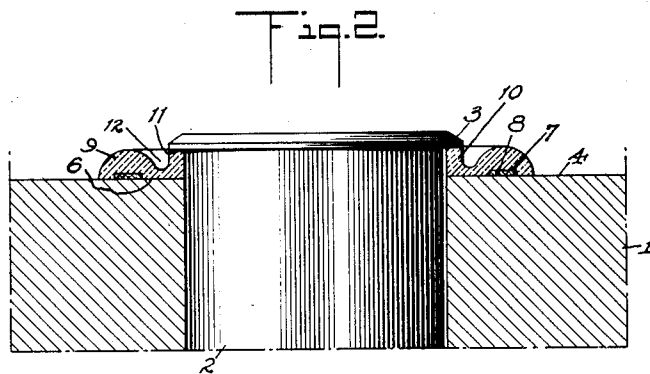
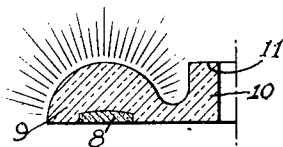


Fig. 3.

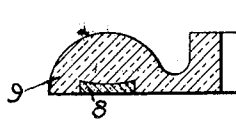


Fig. 4.

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SELF-LUMINOUS KEYHOLE LOCATOR

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2 Claims. (Cl. 250—76)

This invention is concerned with self-luminous markers and more especially with an improved self-luminous marker for locating keyholes, knobs and the like when the latter are not normally visible under ordinary light.

A principal object is to provide an improved self-luminous ring which is readily adaptable to locks of the removable tumbler type.

Another object is to provide a self-luminous member having a main body portion of a specially chosen transparent plastic material which enhances the visibility of the self-luminous material carried thereby.

A feature of the invention relates to a self-luminous marker having a carrier or support of a specially chosen non-vitreous transparent material which enhances the visibility of the self-luminous material while optically magnifying the same.

A further feature relates to a self-luminous marker having the self-luminous material attached to a transparent support of "Lucite".

A still further feature relates to the novel organization, arrangement, relative disposition of parts and choice of materials whereby there is provided an improved and highly efficient self-luminous marker or locator for keyholes and the like.

Other features and advantages which are not specifically enumerated will be apparent after a consideration of the following detailed descriptions and the appended claims.

While the invention will be disclosed herein as embodied in a self-luminous marker for a lock of the tumbler type, in certain of its aspects it is applicable to other uses as will be apparent to those familiar with the art. Accordingly in the drawing,

Fig. 1 is a front view of a typical tumbler type lock having a self-luminous ring marker according to the invention.

Fig. 2 is a sectional view of Fig. 1 taken along the line 2—2 thereof.

Fig. 3 is an enlarged sectional view of a part of a modification of Figs. 1 and 2.

Fig. 4 is an enlarged sectional view of a modification of Fig. 3.

Referring to Figs. 1 and 2, the numeral 1 represents a section of a door or other support carrying the lock 2 which is preferably, although not necessarily, of the tumbler type. The front of this type of lock is usually provided with a peripheral flange 3 which is normally designed to rest flush against the front face 4 of the door. The door is provided with an opening to receive the

tumbler 2 which is fastened in place by suitable screws or bolts (not shown), the lock being usually provided with a rotatable barrel 5 having a keyhole of any desired configuration.

For the purpose of locating the lock, and to a certain extent rendering the keyhole visible while in total darkness, there is provided in accordance with the invention, a special form of self-luminous ring which surrounds the lock and is clamped between the flange 3 and the face 4 when the tumbler 2 is fastened in place. This ring comprises a carrier or support for the self-luminous material and is formed of a non-vitreous transparent plastic material preferably that sold under the trade name "Lucite". I have found that by suitably shaping the cross section of the "Lucite" ring, it is possible not only to clamp it tightly in place between members 3 and 4, but also to increase the visibility of the self-luminous material to a marked extent.

Preferably, the transparent ring is provided with a substantially flat rear face 6 to rest against face 4. Face 6 is formed with an annular recess 7 wherein is placed the self-luminous material 8. Preferably, the material 8 contains a salt or salts of radium or mesothorium, so as to be self-luminous, and may be applied in a liquid or semi-liquid state and compressed into recess 7 until it is substantially flush with face 6. The self-luminous material hardens upon drying and adheres to the surface of recess 7.

The front side of the ring is formed with a convex ridge 9 in optical alignment with recess 7 and the inner marginal portion 10 is provided with a flat 11 to be engaged by the under flat face of flange 3 as shown clearly in Fig. 2. There is thus left between the sections 9 and 10 a reentrant section or annular groove 12 so that the light from the material 8 can emerge in substantially all radial directions from the curved section 9. I have found that by proportioning the curvature and thickness of the section 9, it acts as a magnifying lens for the material 8 and increases the visibility of the ring to a marked extent. By actual tests, I have found that a ring constructed with the magnifying section 9 as shown of a transparent plastic having the properties of a methyl methacrylate plastic such as "Lucite", increases the visibility by as much as 100%. I have also found that there is a peculiar action between the above-noted self-luminous materials and the "Lucite" whereby the luminosity is materially intensified over rings formed of glass and plastic materials other than "Lucite". For example, if the same quantity and quality of

self-luminous material is attached to a glass ring or a plastic ring of plastics other than "Lucite", and without the magnifying section 9, the ring will be substantially invisible in total darkness at distances over fifteen feet. Whereas with the ring formed of "Lucite" as above described with the magnifying section 9, it is visible at distances as great as thirty feet in total darkness. While the ring may be formed in any well known manner, I prefer to form it by a molding operation, so as to fashion the lens section 9 with a high degree of optical accuracy. It will be obvious of course that the invention is not limited to any particular shape for the ring and while a circular shape is shown, it may be square, rectangular elliptical and the like.

While in the embodiment of Figs. 1 and 2, the base of recess 7 is flat. If desired, this base may be given a curved shape so as to form with the curved portion 9 a concavo-convex lens as shown in Fig. 3. Or if desired, the base of the recess 7 may be shaped as shown in Fig. 4 to form with the surface 9 a double convex lens.

Various changes and modifications may be made in disclosed embodiments without departing from the spirit and scope of the invention.

What I claim is:

1. A self-luminous locating marker comprising a body of non-vitreous transparent plastic of the methyl methacrylate type having its front surface and cross section shaped to form a magnifying lens, and a quantity of self-luminous material of the radio-activated type supported on the rear of said body for magnification by said lens.

2. A self-luminous marker comprising a magnifying lens body of a transparent non-vitreous plastic, a recess in the rear of said body, and a quantity of radio-activated self-luminous material in said recess, said plastic being of the methyl-methacrylate type such as "Lucite" whereby the visibility of the marker in darkness is at least 50 percent more than a similar marker wherein the lens body is of the vitreous type.

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