Dec. 25, 1934. J. W. CLARKE 1,985,483

COMBINED DOORKNOB AND LIGHTING DEVICE

Filed Jan. 18, 1933

Fig. 1

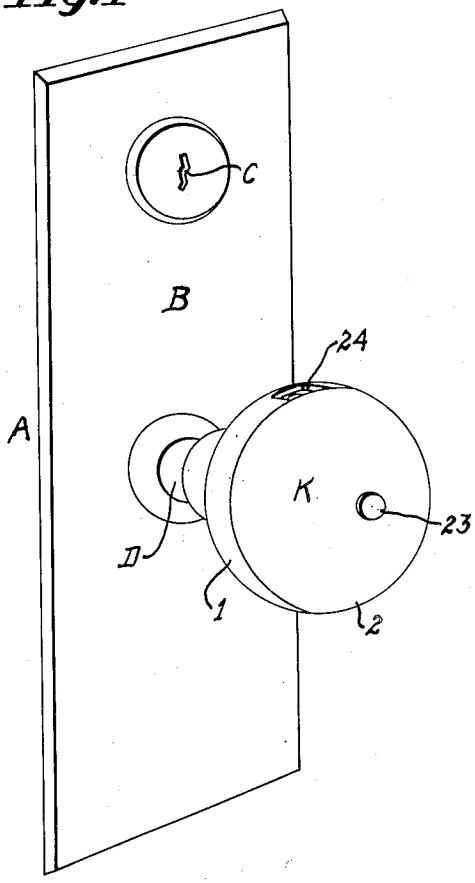


Fig. 2

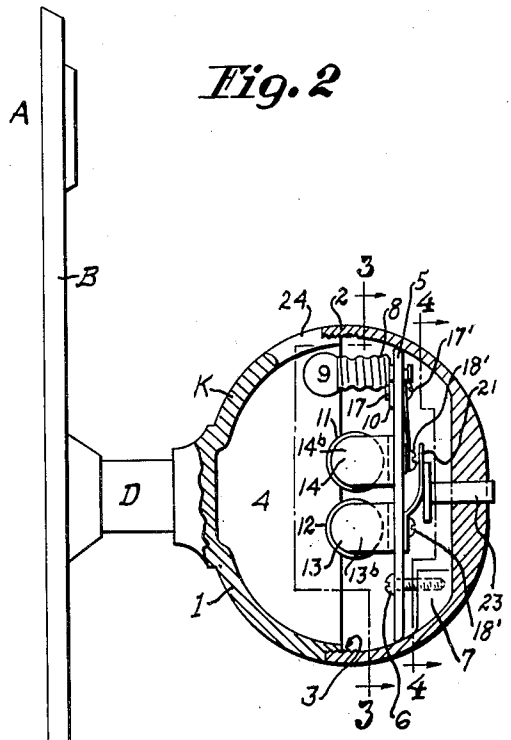


Fig. 3

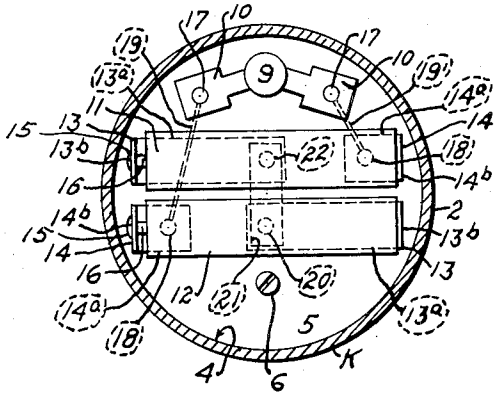
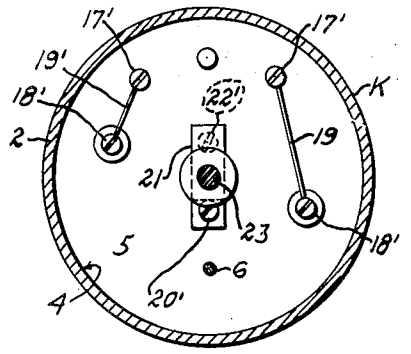


Fig. 4



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COMBINED DOORKNOB AND LIGHTING DEVICE

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2 Claims. (Cl. 240—2.13)

This invention relates generally to door-knobs, and more specifically to an improved door-knob which has associated therewith light-producing means for illuminating a key-hole located adjacent to said door-knob, the predominant object of the invention being to provide a door-knob of this description which, while of extremely simple construction and arrangement, will very efficiently perform the function for which it is intended.

It is well known that considerable annoyance and inconvenience is frequently caused to persons attempting to unlock doors in darkness by the inability of such persons to see the key-holes into which the keys must be inserted to operate the locks of the doors. The device of the present invention is intended to eliminate such annoyance and inconvenience, and this object is realized by associating with a door-knob a suitable lighting device. Preferably the lighting device is located within the hollow interior of the door-knob and an actuating element is provided which projects slightly beyond the surface of the door-knob and which may be depressed, or otherwise moved, to cause the lighting device to function. The door-knob is provided with an aperture which is so located that light rays produced by the lighting device within the door-knob pass therethrough and fall upon the adjacent key-hole so as to illuminate said key-hole.

Fig. 1 is a perspective illustrating my improved door-knob as it will appear when in use.

Fig. 2 is a vertical section of the structure illustrated in Fig. 1.

Fig. 3 is a cross-section taken on line 3—3 of Fig. 2 looking in the direction indicated by the arrows.

Fig. 4 is a cross-section taken on the line 4—4 of Fig. 2 looking in the direction indicated by the arrows.

In the drawing, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, A designates a door which is provided with the usual escutcheon plate B. The escutcheon plate illustrated in Figs. 1 and 2 includes the usual key-hole C into which a proper key must be inserted in order to actuate the locking mechanism (not shown) associated with the door A.

Extended through the escutcheon plate B is the usual stem D by which the catch of the door is actuated, and fixed to said stem in the ordinary manner is the improved door-knob K. In accordance with the particular embodiment of the invention shown in the drawing for the purpose of illustrating said invention, the door-knob K is made in two parts 1 and 2 (Fig. 2), the part 1 being fixed to the stem D in any suitable manner and the part 2 being associated with said part 1 so as to provide a complete knob. Preferably the parts 1 and 2 of the knob are provided with hollow interiors and said parts are screwed together, as indicated at 3 in Fig. 2, so as to produce a complete knob having an inner chamber 4 made up of the hollow interiors of the two knob parts 1 and 2.

Arranged within the inner chamber 4 of the door-knob K is a disk 5 formed of suitable electrical insulating material, said disk being of substantially the same diameter as the diameter of the inner chamber 4 and being secured in place by a screw 6, or other suitable fastening device, which passes through an aperture formed through the disk and extends into an extension 7 formed on the knob part 2 within the inner chamber 4. Associated with the disk 5 is a socket element 8 which receives in the usual manner a small electric bulb 9. The socket element 8 is disposed in cooperative relation with electrical contact elements 10 which extend outwardly therefrom in opposite directions, the electric bulb being caused to contact electrically with said contact elements by being moved into contact therewith when it is moved into the socket element 8 in a manner to cause the bulb to be a part of the circuit of which the contact elements form parts.

Supported by the disk 5 is a pair of dry batteries 11 and 12 which serve as the source of electrical energy for actuating the electric bulb 9. Each of the dry batteries 11 and 12 is supported by a pair of brackets 13 and 14 which are separate from each other, said brackets comprising portions 13^a and 14^a which are arranged parallel with the adjacent face of the disk 5, and portions 13^b and 14^b which are extended at approximate right angles with respect to the portions 13^a and 14^a adjacent to the opposite ends of the dry batteries 11 and 12. Preferably certain of the portions 13^b and 14^b of the brackets are provided with depressions 15 into which extensions 16, located at the adjacent ends of the dry batteries, extend.

Extended through the disk 5 from the outer end portions of the electrical contact element 10 are screws 17 which are screwed into screw-threaded apertures formed in said contact elements and are provided with head portions 17' which seat against the opposite face of said disk. Also the bracket elements 14 of the dry batteries 11 and 12 have associated with them similar screws 18 which are screwed into screw-threaded apertures formed in said bracket elements, are passed through openings formed through the disk

5, and have head portions 18' which are seated against the opposite face of the disk 5.

The screw 17 associated with one of the contact elements 10 is electrically connected to the screw 18 associated with the bracket element 14 of the dry battery 12 by an electrical conductor 19, and in like manner the screw 17 associated with the other contact element 10 is electrically connected to the screw 18 associated with the bracket element 14 of the dry battery 11 by an electrical conductor 19'. Also, a metallic screw 20 which is screwed into the bracket element 13 of the dry battery 12 passes through an opening formed through the disk 5, and the head portion 20' of this screw clamps in place on end portions of a resilient make-and-break contact element 21. The free end of the make-and-break contact element 21 is movable toward and from the head portion 22' of a screw 22 which passes through the disk 5 and is screwed into a screw-threaded aperture formed in the bracket element 13 of the dry battery 11. The knob part 2 of the knob K is provided with an opening at its approximate center which supports a push button 23, the outer end portion of said push button being extended a slight distance beyond the outer surface of the knob, as shown in Fig. 2.

In the operation of the improved device, the person who desires to lock or unlock a door equipped with the improved device will depress the push button 23, whereby the free end of the resilient make-and-break contact element 21 will be pressed into electrical contact with the head portion 22' of the screw 22. This completes an electrical circuit which includes as elements thereof the contact elements 10, the screws 17, the conductors 19 and 19', the screws 18, the bracket elements 13 and 14, the batteries 11 and 12, the screws 20 and 22, and the make-and-break resilient contact element 21, and because the electric light bulb 9 is electrically connected in said circuit, said bulb will be energized. When the electric bulb 9 is so energized by depressing the push button 23, light rays from said bulb will pass through the aperture 24 formed through the wall of the knob portion 1 so that said light rays will fall upon the key-hole C in a manner to illuminate same. When the pressure is removed from the push button, the resilience of the make-and-break contact element will cause the free end thereof to move away from the head portion 22' of the screw 22, whereby the electric circuit leading to the bulb will be broken and said bulb will cease to function.

I claim:

1. A door-knob provided with a hollow interior, light-producing means located within the hollow interior of said door-knob, said light-producing means including an electric light bulb and a battery providing a source of electrical energy for energizing same, a supporting element in the form of a vertically disposed plate secured within the hollow interior of the door-knob to which said electric light bulb and said battery are secured, the wall portion of said door-knob being provided with an aperture through which rays of light may pass from said light-producing means for the purpose of illuminating an adjacent key-hole, and means including a push button operable from the exterior of said door-knob for actuating said light-producing means.

2. A door-knob provided with a hollow interior, light-producing means located within the hollow interior of said door-knob, said light-producing means including an electric light bulb and a source of electrical energy for energizing same, a supporting element in the form of a vertically disposed plate secured within the hollow interior of the door-knob to which said electric light bulb and said battery are secured, the wall portion of said door-knob being provided with an aperture through which rays of light may pass from said light-producing means for the purpose of illuminating an adjacent key-hole, and means operable from the exterior of said door-knob for actuating said light-producing means, the last-mentioned means including a push button and a make-and-break contact element operable thereby to make and break an electrical circuit leading to said electric light bulb.

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