M. P. BIXBY & J. B. TAYLOR.

KEYHOLE ILLUMINATOR.

APPLICATION FILED JULY 19, 1917.

1,284,570.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

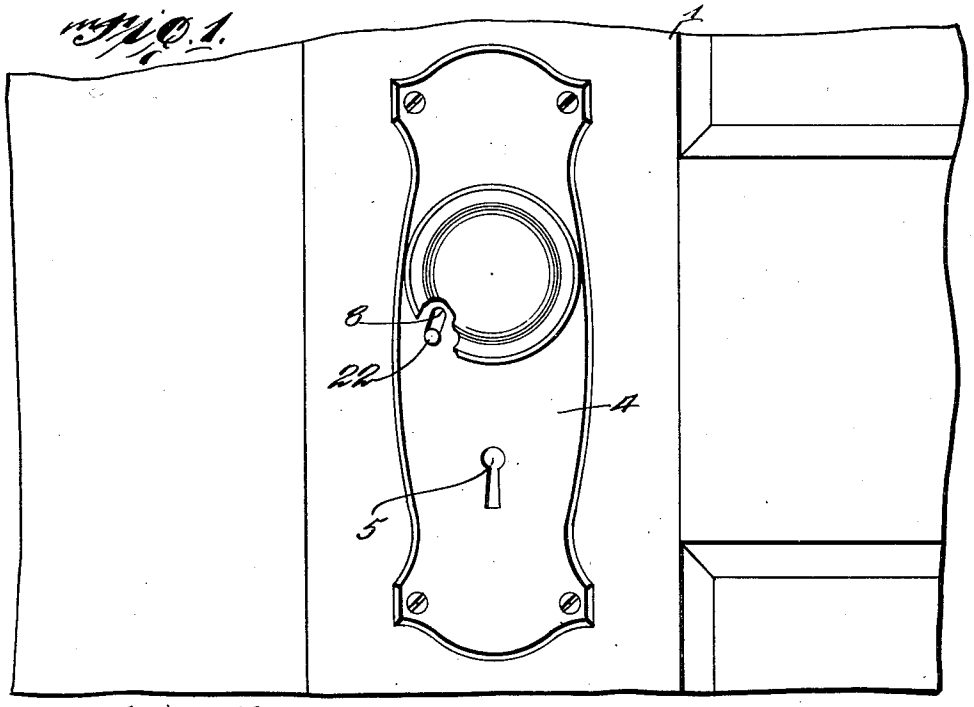


Fig. 5.

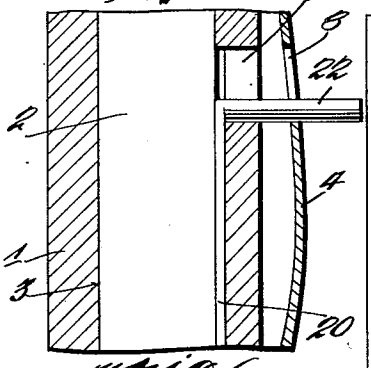


Fig. 10.

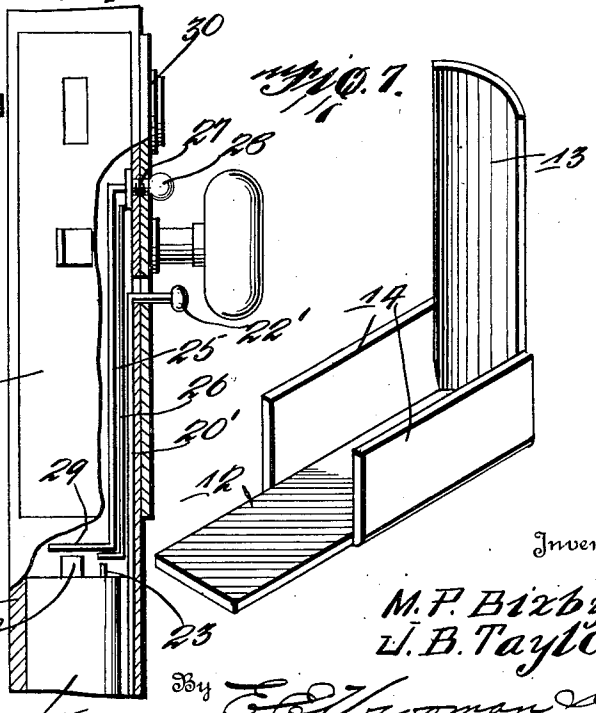
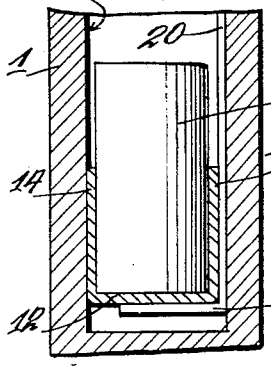


Fig. 7.

Fig. 6.



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2 SHEETS—SHEET 2.

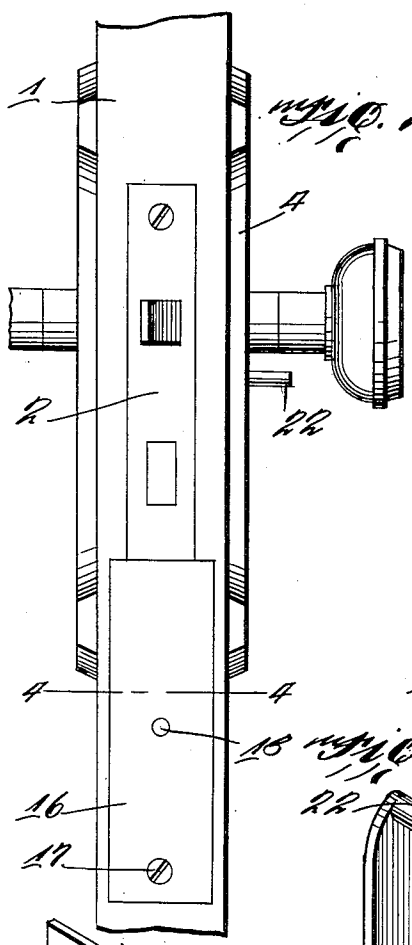


Fig. 2.

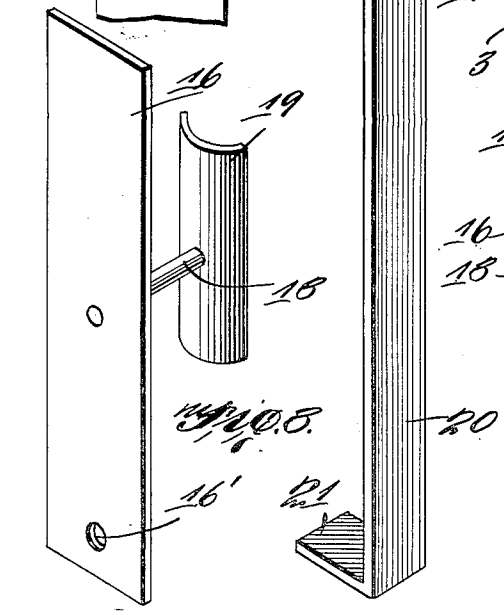


Fig. 8.

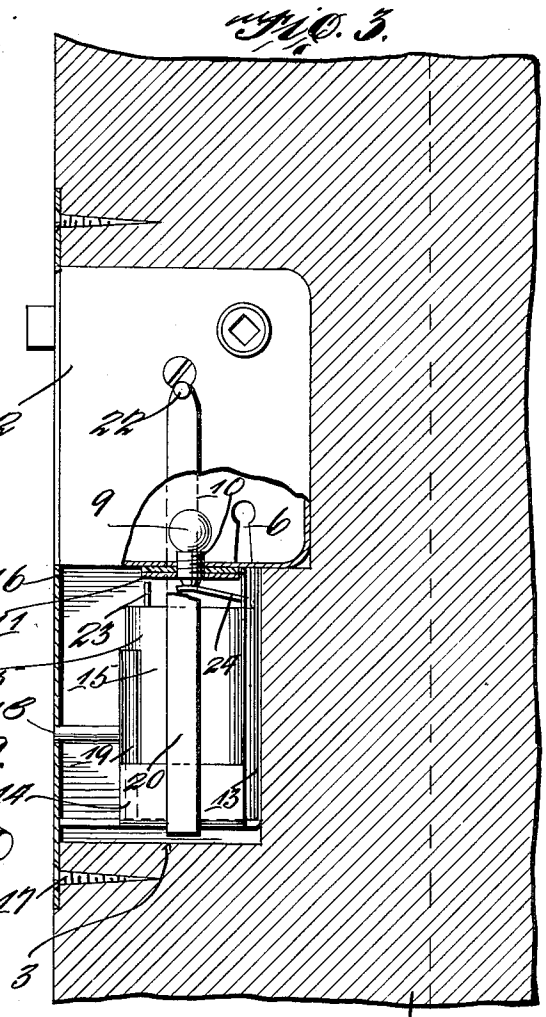


Fig. 3.

Fig. 9.

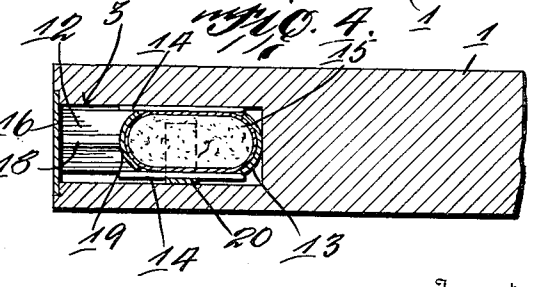


Fig. 4.

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MILO P. BIXBY AND JOHN B. TAYLOR, OF BUTTE, MONTANA.

KEYHOLE-ILLUMINATOR.

1,284,570. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed July 19, 1917. Serial No. 181,612.

To all whom it may concern:

Be it known that we, MILO P. BIXBY and JOHN B. TAYLOR, citizens of the United States of America, residing at Butte, in the county of Silverbow and State of Montana, have invented certain new and useful Improvements in Keyhole-Illuminators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a key hole illuminator, and has for its principal object the production of a simple and efficient means, whereby the key hole may be illuminated for positioning the insertion of a key thereinto.

Another object of this invention is the production of a key hole illuminator, which is provided with simple and efficient circuit closing means for lighting the lamp carried adjacent the key hole for illuminating the key hole.

A still further object of this invention is the production of a key hole illuminator wherein a cradle is carried within the pocket, so as to permit a battery to be carried by the cradle, whereby the lifting bar which engages the cradle may lift the same for causing the battery to close the circuit for lighting the lamp.

With these and other objects in view this invention consists of certain novel combinations and arrangements of parts, as will be hereinafter more fully described and claimed.

In the accompanying drawings:—

Figure 1 is a side elevation of a door plate, with the knob partly broken away, illustrating the grip of the lift bar.

Fig. 2 is a front elevation of a door and lock, thereby showing the grip of the lift bar projecting outwardly from the door.

Fig. 3 is a central vertical section through the device.

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 2.

Fig. 5 is a fragmentary sectional view through a portion of the structure illustrating the manner in which the grip of the lift bar projects outwardly.

Fig. 6 is a transverse section through the cradle showing the lift bar in elevation and illustrating the manner in which this lifting bar engages the cradle.

Fig. 7 is an enlarged detail perspective view of the cradle.

Fig. 8 is an enlarged detail perspective view of the retaining plate.

Fig. 9 is an enlarged detail perspective view of the lifting bar.

Fig. 10 is a sectional view through a portion of the bar, illustrating an elevation in a slightly modified form, in the manner in which the lamp is mounted.

By referring to the accompanyig drawings by numerals it will be seen that the door 1 is provided with a usual lock 2, carried adjacent and above the rectangular pocket 3, formed to communicate with the forward edge of the door 1. The usual plate 4 is carried upon the door 1 as shown in Fig. 1, and is provided with the usual key hole 5, formed in alinement with the key hole 6, formed in the lock 2. The door 1 is provided with a slot 7 and projects in alinement with the slot 8, formed through the plate 4.

In the preferred form the lamp 9 has its socket 10 projecting through the lower portions of the lock 2, as shown in Fig. 3, so as to be carried by the plates 11, in this manner it will be seen that the lamp 9 by being positioned within the lock 2 will be carried adjacent the key holes 6 and 5, whereby when the lamp is illuminated the key holes will also be illuminated for facilitating the insertion of a key thereinto.

The cradle comprises a base 12, having a curved elongated back 13, while the parallel side flanges 14 are formed upon the base 12 projecting thereabove, and extending along the side edges of the back 13. This cradle is positioned within the pocket 3, formed within the door 1 and carries a battery 15. At this time the closure plate 16 is positioned upon the door 1 so as to fit over the upward outer portion of the pocket 3. This closure plate 16 is provided with an opening 16′ formed therein, through which the screw 17 extends for fixedly retaining the closure plate 16 in a set position upon the door 1. A stem 18 is fixedly mounted upon the plate 16, while the retaining plate 19 is fixedly mounted upon this stem 18. This re-

taining plate 19 is bent along its longitudinal axis so as to be partially circular in cross section, whereby it may conform in contour to the shape of the battery 15, so as to fit upon the battery.

By referring particularly to Fig. 3, it will be seen that when the closure plate 16 is in a set position upon the door 1, the outer end of the base 12 of the cradle will bear against the closure plate thereby forming a guide for the lower portions of the cradle. It will also be noted at this time that the battery 15 will be held upon the cradle, since the back 13 will bear upon one side of the battery and the retaining plate 19, will bear upon the opposite side of the battery, while the flanges 14 will hold the battery against side displacement.

A lift bar 20 is elongated and has a foot 21 formed upon its lower end. The integral grip 22 is formed upon the upper end of the lift bar 20, and this grip 22 projects toward one side of the lift bar in the opposite direction of which the foot 21 extends. The foot 21 extends beneath the base 12 of the cradle, as shown in Fig. 6, while the lift bar 20 projects upwardly beside the bar and lock, as shown in Figs. 3 and 5, whereby the grip 22 projects outwardly through the slots 7 and 8.

The battery 15 is of course provided with the usual contact finger 23 and contact tongue 24.

When this key hole is in operation, it will be noted that the battery will be carried upon the cradle in the manner above specified, adjacent the lower portions of the pocket 3, when, however, it is desired to illuminate the key holes 5 and 6, the operator pulls the grip 22 toward the upper ends of the slots 7 and 8. This action will lift the lift bar 20, thus, causing the foot 21 to lift the cradle. As the cradle is lifted it will be, of course, obvious that the battery 15 will be moved upwardly since the retaining plate 19 will hold the battery upon the cradle, although permitting the battery to be lifted. As the battery is lifted, it is obvious that the contact tongue 24 will engage the lower end of the socket, which is shown in Fig. 3, while the contact finger 23 will come into engagement with the plate 11, thus, closing the circuit. As the lamp 9 is illuminated the rays of light projecting therethrough, will illuminate the key holes 6 and 5 and facilitate the insertion of a key into the key holes.

By referring particularly to Fig. 10, it will be seen that a slightly modified manner of acquiring the lamp is employed, where it is impossible to position the lamp within the lock, or when the key hole is so small as to prevent the lamp from being positioned upon the interior of the structure adjacent the key hole. Under such conditions the battery is mounted in all respects similar to that shown in the preferred form, and it is therefore not deemed necessary to make such a showing in Fig. 10, inasmuch as the only difference is the manner in which the light is supported. The door 1 is provided with a lock 2′, while the wires 25, and 26 extend to a socket 27 of the lamp 28. The lower ends of the wires or other conductors 25 and 26 are bent to provide contact feet 29. These contact feet 29 are positioned within the path of travel of the contact finger 23, and contact tongue 24, of the usual battery 15. As the lift bar 20′ is lifted by means of the grip 22′ it will be seen that the battery 15 being lifted will cause the finger 23 and tongue 24 to be lifted into engagement with the contact feet 29, thus, closing the circuit for lighting the lamp 28. This lamp being located at the outer surface of the door, will cause its rays of light to be projected to the key hole plate 30 for facilitating the insertion of a key into the key hole.

From the foregoing description, it will be seen that a very efficient key hole illuminator has been produced, by means of which the operator may easily close the circuit for the lighting of the lamp, thereby allowing the key hole to be illuminated, although upon the release of the grip of the lift bar, the battery and the cradle will return to their normal positions of the lower portion of the pocket formed in the door, since the retaining plate and the closing plate will constitute guides in causing the cradle to return to its normal position, and at the same time retain the battery upon the cradle. It is of course, obvious that many minor detail changes may be made in the construction of this invention, without departing from the spirit of the same, and it is, therefore, not desired to limit the construction of the device to the specific form, as herein shown, but to include all such forms as properly come within the scope of the invention as claimed.

What is claimed is:—

1. In a key hole illuminator, the combination with a door having a lock provided with a key hole, said door having an internal pocket, a lamp carried by said lock adjacent said key hole, of a cradle positioned within said pocket, said cradle comprising a horizontal base having a vertical back formed thereon, vertical, parallel flanges extending from said base and engaging the side edges of said back, a battery positioned upon said base, said back and flanges engaging said battery and holding same from displacement, a lift bar carried by said door and positioned under said cradle for lifting same and the battery, and means electrically connecting said lamp and battery when said bar is lifted for lighting the lamp.

2. In a key hole illuminator, the combination with a door having a lock provided with a key hole, said door having an internal pocket, a lamp carried adjacent said key hole, of a cradle positioned within said pocket, said cradle comprising a horizontal base and a vertical back, a battery resting upon said base and engaging said back, a lift bar engaging the under face of said base, said lift bar provided with a grip extending through said door, and means electrically connecting said lamp and said battery when said lift bar is actuated for lifting the cradle and the battery to an operative position.

3. In a key hole illuminator, the combination with a door having a lock provided with a key hole, said door also provided with an internal pocket, a lamp carried adjacent said key hole, a cradle positioned within said pocket, a battery resting upon said cradle, a closure plate fastened to said door, a horizontal stem extending from said closure plate, a retaining plate carried by said stem and engaging said battery, a lift bar engaging said cradle for lifting the cradle and the battery, and means electrically connecting said lamp and battery, when said cradle and battery are lifted, for lighting the lamp.

4. In a device of the class described, the combination with a door, a lamp carried by said door, a cradle carried by said door and provided with battery receiving means, a battery in said battery receiving means, a stationary battery-guiding plate carried by said door, a lift bar provided with an extension at one end projecting beyond the face of the door and provided at its opposite end with an extension under said cradle, and means electrically connecting said lamp with said battery, when said cradle and battery are lifted for lighting the lamp.

In testimony whereof we hereunto affix our signatures.

M. P. BIXBY.
JOHN B. TAYLOR.