March 19, 1929. W. E. HEATH 1,705,667

KEY RETAINING DEVICE

Filed Feb. 28, 1928

Fig.1.

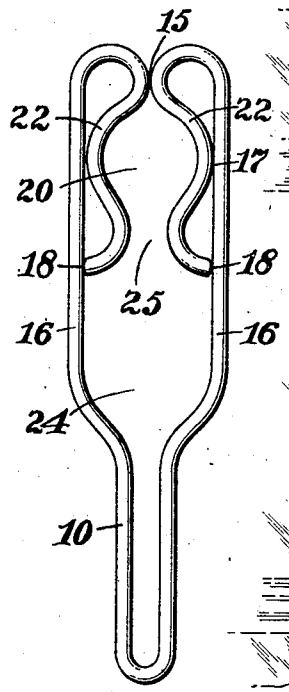


Fig.2.

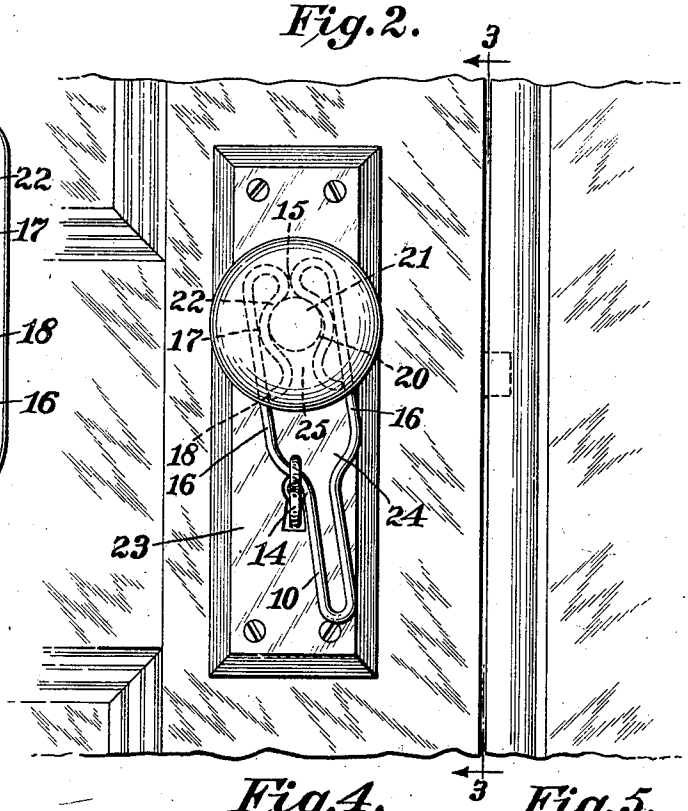


Fig.3.

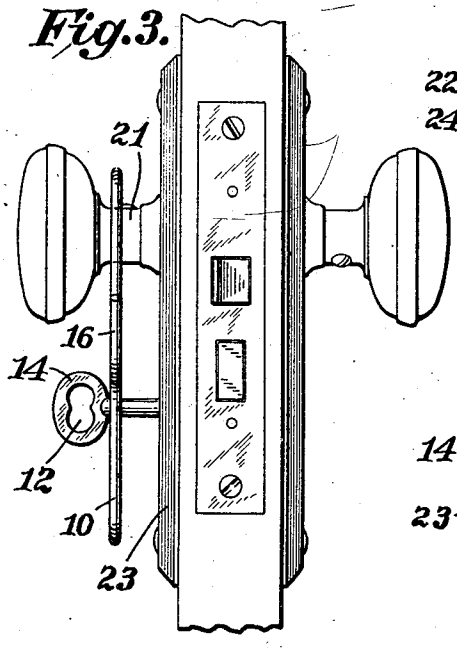


Fig.4.

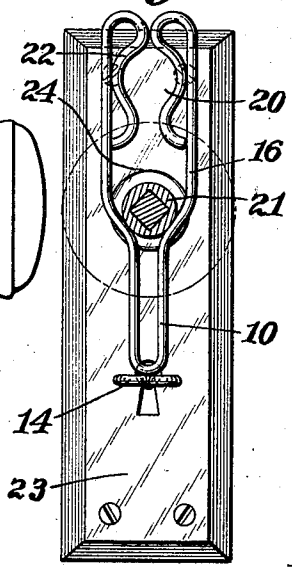
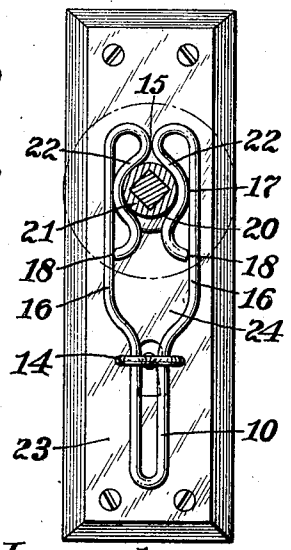


Fig.5.



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UNITED STATES PATENT OFFICE.

WILLIAM E. HEATH, OF WASHINGTON, DISTRICT OF COLUMBIA.

KEY-RETAINING DEVICE.

Application filed February 28, 1928. Serial No. 257,758.

This invention relates to devices for engaging a door key so that it cannot be removed from the lock, by operating with any instrument inserted through the key-hole from the outside of the door.

The object of this invention is to provide a device which may be readily slipped over the door-knob and inserted through the usual aperture in the handle of the key and which will be sufficiently rigid to prevent bending or yielding if an attempt is made to turn the key from the outside; and to so construct the key retaining device that it may be readily disengaged from the key and either allowed to remain suspended from the knob or be removed during the daytime. A further purpose is to provide a device of this character which will be attractive in appearance.

In the following detail description, I shall refer to the accompanying drawings in which:—

Figure 1 is a plan view of a key-retaining device embodying my invention; Figure 2 is a fragmentary elevation of a door showing my device suspended from a door-knob but disengaged from the key; Figure 3 is a side elevation on the line 3—3 of Figure 2; Figures 4 and 5 are front elevations of the lock shown in Figure 2, showing the key-retaining device in inoperative position and in operative position, respectively.

In the locks commonly used, a key can be inserted from either side of the door. If a key is inserted in the keyhole from the inside of the door, it can be pushed out of the lock by inserting something through the key-hole from the outside. A skilful manipulator may even unlock a door with the very key left in the lock by manipulating it from the outside with the proper tool. I am able to absolutely prevent such manipulation by means of the key-retaining device disclosed herein.

I prefer to make this key-retainer or securing device of rather heavy wire bent into the configuration shown in Fig. 1. The downwardly extending closed U-shaped shank portion 10, is adapted to be inserted into the opening or aperture 12 in the handle 14 of the ordinary door key, as shown in Figure 5. The end portions of the wire are bent and curved toward each other until they abut at the point 15 and are then continued in a compound curve which touches the inner edges of the side members 16, at 17 and at the ends of the wires at 18. The recess 20 thus formed is substantially circular, closed at the top and open at the bottom and slightly larger than the stem 21 of the door-knob.

The upper portion of the retainer is reinforced by the inwardly and downwardly returned end portions 22 and these portions are themselves greatly stiffened by their curvilinear form. The side portions 16 are made long enough to provide an opening or enclosure 24 between the ends 18 and the shank portion 10, which will receive the stem 21 of the door knob during one step in the operation of securing or releasing the key.

The operation of securing the key in the lock 23 will be evident from the previous description of the construction. The side members 16 are first sprung slightly apart so that the open upper end may be slipped over the stem of the door-knob into the position shown in Figure 2. This is the usual daytime or released position of the retainer in which it may hang for convenience on the knob, the door-key being free. The retainer is then pushed upwardly, the arms or side members 16 yielding outwardly until the throat 25 opens sufficiently to permit the stem 21 of the knob to pass into the opening 24. The retainer is then swung into a vertical position with the lower closed end of the yoke 10 in alinement with the aperture of the key after it has thrown the bolt of the lock and the handle 14 is in horizontal position, as shown in Figure 4. The retainer is now pushed downwardly, the shank portion 10 passing down through the key handle, the side members 16 first spreading outwardly to allow the stem 21 to pass and then snapping together with the stem clamped between the curved supports 22, as indicated in Figure 5. In this position it is impossible to turn the key or to force the retainer by any manipulation from the outside of the door. The shank portion passing through the aperture in the key is very strong and rigid, the two wires co-acting and being firmly united by the short turn at the lower closed end. The knob engaging and supporting portion is exceedingly rigid, each side member being reinforced by the downwardly extending reversely curved parts which are also braced at a plurality of

points against the inner edges of the main side wires. The key is therefore securely held in locked position within the lock.

I claim:

1. A key retaining device, comprising a wire bent back upon itself to form the parallel sides of an elongated shank having a closed end adapted to extend through the aperture in the handle of a key, and a supporting portion having parallel sides spaced apart and end portions bent toward each other and curved backwardly within the space between said parallel sides and curved to fit around the stem of a door-knob.

2. In a key retaining device as set forth in claim 1, said backwardly curved portions abutting at their outer portions.

3. A key retaining device, comprising a wire bent back upon itself to form the parallel sides of an elongated shank having a closed end adapted to extend through the aperture in the handle of a key, and a supporting portion having parallel sides spaced apart and end portions bent toward each other and extending in reverse curves within the space between said parallel sides.

4. A key retaining device, comprising a wire bent back upon itself to form the parallel sides of an elongated shank having a closed end adapted to extend through the aperture in the handle of a key, and a supporting portion having parallel sides spaced apart and end portions bent back into the space within said supporting portion and curved to form a substantially circular configuration adapted to receive the stem of a door knob.

In testimony whereof I affix my signature.

WILLIAM E. HEATH.