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2,601,644

KEY FASTENER

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Fig. 1

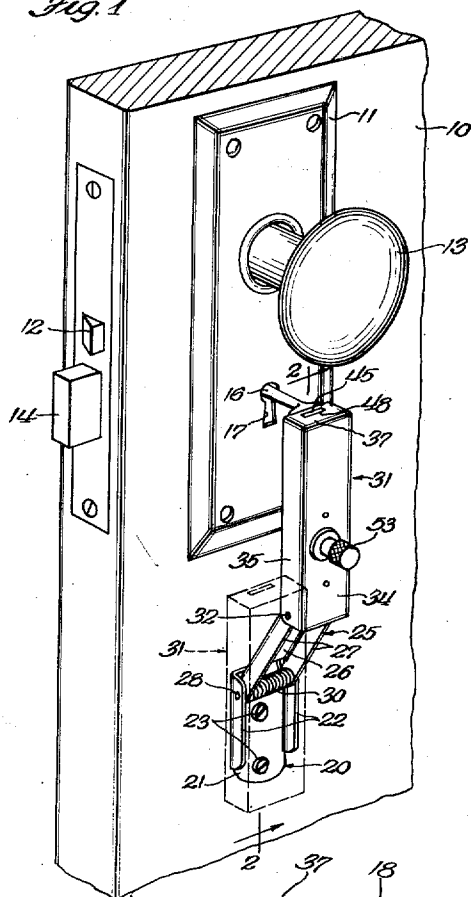


Fig. 2

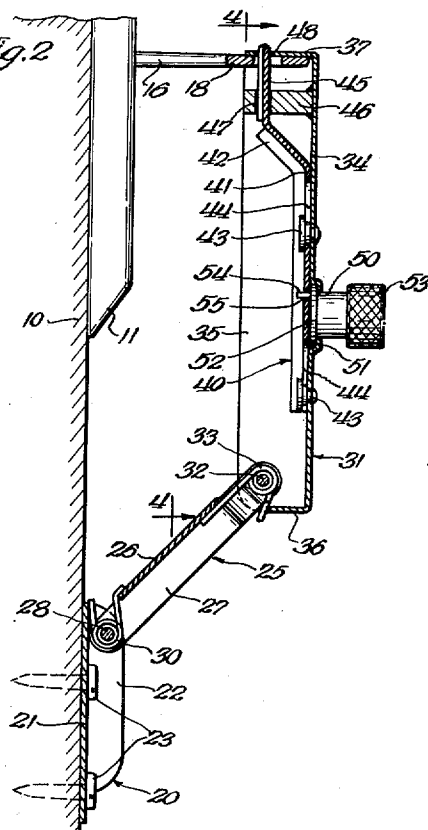


Fig. 4

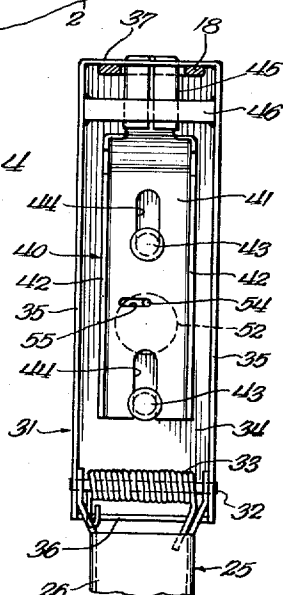
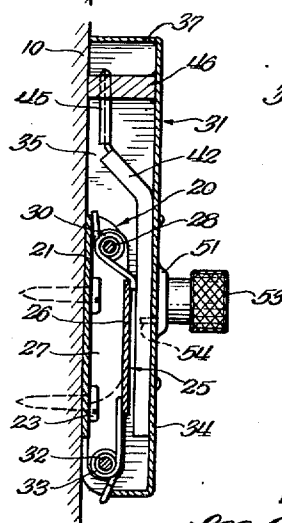


Fig. 3



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KEY FASTENER

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4 Claims. (Cl. 70-429)

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My present invention relates to a safety latch for doors, of the type which engages the ordinary door key to prevent turning or removal of the same. The device therefore comprises an anti-burglar mechanism which may be used in conjunction with the ordinary house lock.

The principal object of the present invention is to provide a sturdy mechanism of the foregoing character which cannot be bent or removed by manipulation of the key from outside the door.

A further object of the present invention is to provide a device of the foregoing character which comprises a plurality of articulated parts, the parts being urged to interfolded relation by spring means so as to normally lie in collapsed position against the surface of the door, but which may be readily extended into operative engagement with the door key by simply engaging and manipulating the knob which effects the key latching operation.

A further object of the present invention is to provide such a device of easily manufactured and assembled character.

The objects and advantages of the present invention may be more readily understood by reference to the accompanying drawing taken in connection with the following specification wherein like numerals refer to like parts throughout.

In the drawing, Fig. 1 discloses a portion of a door having the present invention mounted thereon, the invention being shown in full lines in engagement with the door key and in dotted lines in collapsed condition;

Fig. 2 is a vertical section taken substantially along line 2-2 of Fig. 1, the figure being on an enlarged scale;

Fig. 3 is a vertical section taken on a slightly different plane showing the device in collapsed condition; and

Fig. 4 is a partial section taken substantially from the plane of the line 4-4 of Fig. 2.

The present invention is illustrated in position upon the inner surface of a door 10, the invention being mounted beneath the usual escutcheon plate 11, and the door being provided with the usual latch and bolt mechanism including a latch 12 operated by the knob 13 and a bolt 14 operated by a key 16 projecting from the usual keyhole 17. The key herein illustrated is of the ordinary type comprising a straight shank having an open bow 18 at its outer end, but it is to be appreciated that the invention may be modified to accommodate any type of key.

The invention comprises a plurality of channel

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members, the same being shaped for their particular purposes. A first channel member 20 including a web 21 and flanges 22 provides a base which may be mounted upon the door by screws 23 passing through suitable openings in the web 21, the flanges 22 projecting outwardly from the surface of the door. A second channel member 25 including a web 26 and flanges 27, and of slightly narrower width than the first channel member 20, provides a hinged link which is pivotally attached to the upper end of the first channel member by means of a pivot member 28 passing through the overlapped flanges of the first and second channel members. The web 26 is shorter than the flanges 27 so as to provide an open space between the pivot 28 and the adjacent end of the web which one end of a spring 30 coiled about the pivot 28 between the flanges 27 may engage, the other end of the spring projecting upwardly into engagement with the web 21. The spring 30 therefore normally tends to hold the link 25 in depending relation to the pivot 28, the web 26 in that position of the link facing outwardly and the free edges of the flanges 27 engaging the surface of the web 21. A third channel member 31, formed to provide a boxlike cover, is pivotally attached to the free end of the second channel member 25 by means of a pivot 32. The pivot 32 is surrounded by a coiled spring 33 having one end anchored against a portion of the channel member 31 and the other end against the web 26 of channel member 25, the relationship of the spring being such as to cause the member 31 to be held against the surface of the door when the device is collapsed as in Fig. 3. The member 31 comprises a web 34 and longitudinal flanges 35, the web being of sufficient width that the flanges 35 may embrace the flanges 22 of the base member 21. The web 34 is longer than the flanges 35 and the ends thereof are bent downwardly to provide a lower end wall 36, against which the end of spring 33 thrusts, and an upper end wall 37. The arrangement of the articulated members is such that when the member 31 is pulled outwardly and upwardly the end wall 37 may be hooked over the bow 18 of the key 16 projecting from the keyhole 17.

A safety latch 40 is slidably mounted against the inner surface of the web 34, the latch preferably comprising a web portion 41 and relatively narrow stiffener flanges 42. The safety latch is guided for longitudinal movement within the member 31 by means of a pair of shoulder rivets 43 projecting inwardly from the web 34 through a pair of longitudinally spaced slots 44 in the

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web 41. The upper end of the safety latch is bent downwardly from the surface of the web 34 and then directed forwardly, the flanges being doubled against the surface of the web to provide a rigid tongue 45 extending parallel to web 34 in spaced relation thereto. A relatively thick guide block 46 extends transversely between the flanges 35 in spaced relationship to the upper end wall 37, the guide block 46 being welded or otherwise rigidly affixed to the channel member 31. The guide block is provided with a guide slot 47 through which the tongue 45 projects and the end wall 37 is provided with a slot 48 through which the tongue 45 may project when the slide is raised to its upper position as shown in Fig. 2. The surface of the web 34 is provided with an opening 50 surrounded by a raised flange 51 providing a seat for an annular collar 52 on the inner end of the shank of an operating knob 53 extending through the opening 50. The inner end of the operating knob supports an eccentric pin 54 which extends through a transverse slot 55 in the web 41 of the safety latch, the arrangement being such that rotation of the knob 53 may cause the latch to move from one extreme position to the other as limited by the extent of the slots 44. When in lowered position the tongue 45 is still engaged in the guide slot 47 but is clear of the space between the guide block 46 and the end wall 37. When in raised position the tongue traverses the space between the guide block and the end wall and is positively held at its opposite ends by the said members.

The device is simple to operate, being such that one simple motion raises the cover member so as to engage the upper end thereof over the key bow 18, this motion being accomplished by grasping the knob 53 and lifting the cover member upwardly and outwardly. At the termination of this motion the knob 53 may be twirled between the fingers to project the tongue through the eye in the key and into engagement with the slot 48 through the end wall 37. The key is thus positively held against being displaced in any manner, thus effectively blocking entry into the room. When the device is not in use the springs 30 and 33 automatically collapse the device against the door surface as seen in dotted outline in Fig. 1, the device thus presenting an inconspicuous, attractive ornament upon the door surface.

It is to be appreciated that, while herein illustrated as a separate article, the device may be incorporated into an escutcheon plate so as to prevent its becoming dismounted from the door by vandals. Likewise, it will readily be apparent that the invention permits of other modifications in arrangement and detail. All such modifications as come within the true spirit and scope of the appended claims are considered to be a part of my invention.

I claim:

1. A safety device for maintaining a key in a door lock to prevent illicit removal thereof by means of a tool inserted through the keyhole from the opposite side of the door, comprising a base member adapted to be mounted upon the door, a link pivotally attached to said base member, a box member pivotally attached to the end of said link, spring means normally urging said link into overlapping relation with said base member and said box member into overlapping relation with said link and base member, the arrangement being such that said box member may be transposed from the overlapping relation previously described to a position in which its

upper end may embrace the projecting bow of a key inserted and turned 90° in the keyhole, a transverse member in said box defining with said upper end a slot of only slightly greater width than the width of said bow, said bow being adapted to project into said slot whereby said key is restrained from turning in said lock, a safety latch slidably mounted in said box member for movement in a longitudinal direction and including a tongue at its upper end which may be engaged with the eye of said bow when said bow is engaged in said slot of said box member, said box member including means to support portions of said tongue on opposite sides of the bow whereby to prevent said box from being moved outwardly when said tongue is engaged in said eye and support portions, thereby preventing disengagement of said slot with said bow, and an operating knob projecting from said box member and including a portion operatively engaged with said safety latch to effect movement thereof.

2. A safety device for maintaining a key in a door lock to prevent illicit removal thereof by means of a tool inserted through the keyhole from the opposite side of the door, comprising a base member adapted to be mounted upon the door, a link pivotally attached to said base member, a box member pivotally attached to the end of said link, spring means normally urging said link into overlapping relation with said base member and said box member into overlapping relation with said link and base member, the arrangement being such that said box member may be transposed from the overlapping relation previously described to a position in which its upper end may embrace the projecting bow of a key inserted and turned transverse in the keyhole, a transverse member in said box defining with said upper end a slot of only slightly greater width than the width of said bow, said bow being adapted to project into said slot whereby said key is restrained from turning in said lock, a safety latch slidably mounted in said box member for movement in a longitudinal direction and adapted to engage the eye of said bow when said bow is engaged in said slot of said box member, said box member including means to support portions of said latch on opposite sides of the bow whereby to prevent said box from being moved outwardly when said latch is engaged in said eye and support portions, thereby preventing disengagement of said slot with said bow, and means for effecting longitudinal movement of said latch.

3. A safety device for maintaining a key in a door lock to prevent illicit removal thereof by means of a tool inserted through the keyhole from the opposite side of the door, comprising a base member adapted to be mounted upon the door, a link pivotally attached to said base member, a box member pivotally attached to the end of said link, spring means normally urging said link into overlapping relation with said base member and said box member into overlapping relation with said link and base member, the arrangement being such that said box member may be transposed from the overlapping relation previously described to a position in which its upper end may embrace the projecting bow of a key in a keyhole in said door, a safety latch slidably mounted in said box member for movement in a longitudinal direction and including a tongue at its upper end which may be engaged with the end of the key when embraced by the

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upper end of said box member, said box member including means to support portions of said tongue on opposite sides of the key whereby to prevent twisting or displacement thereof, and an operating knob projecting from said box member and including a portion operatively engaged with said safety latch to effect movement thereof.

4. A safety device for maintaining a key in a door lock to prevent illicit removal thereof by means of a tool inserted through the keyhole from the opposite side of the door, comprising a base member adapted to be mounted upon the door, a link pivotally attached to said base member, a box member pivotally attached to the end of said link, spring means normally urging said link into overlapping relation with said base member and said box member into overlapping relation with said link and base member, the arrangement being such that said box member may be transposed from the overlapping relation previously described to a position in which its upper end may embrace the bow of a key

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turned transverse to the keyhole, a safety latch slidably mounted in said box member for movement in a longitudinal direction which may be engaged with the eye of the key when embraced by the upper end of said box member, said box member including means to support portions of said latch on opposite sides of the key whereby to prevent twisting or displacement thereof, and means for effecting longitudinal movement of said latch.

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