July 11, 1950 W. R. DOSS ET AL 2,514,940

KEY HOLDER

Filed March 17, 1949

Fig. 1.

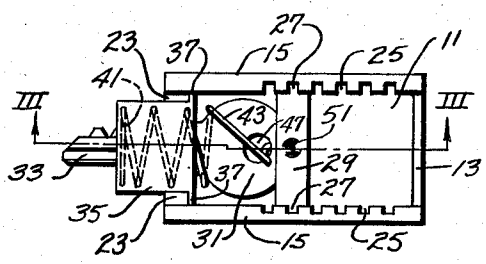


Fig. 2.

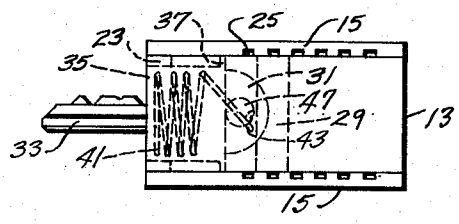


Fig. 3.

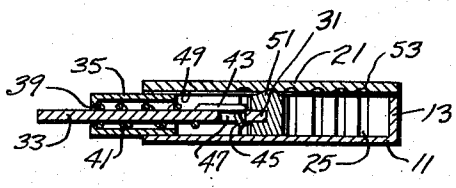


Fig. 4.

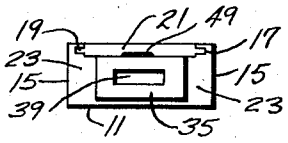
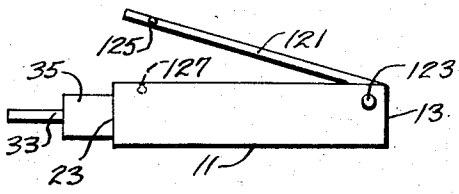


Fig. 5.



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KEY HOLDER

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Application March 17, 1949, Serial No. 81,958

9 Claims. (Cl. 70—414)

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This invention relates to certain new and useful improvements in containers for keys, and particularly relates to a new and improved key container which is adapted to effect ejection of the key from a lock when locking has been accomplished.

The present application is a continuation in part of our co-pending application, Serial No. 756,576.

There have been previous attempts to provide key containers which include automatic ejection means, but these previous attempts have been presently characterized by their inflexibility in use preventing their satisfactory employment alternatively with keys of varying sizes and lengths.

The principal object of this invention is to provide a key holding container which includes means for ejecting the key from a locked lock and which is adjustable to accommodate keys of various sizes and lengths.

A further object of the invention is to provide such a key holder with a removably fixed abutment for engaging the handle end of a key.

A further object of the invention is to provide a compact, substantially flat container of the character described.

And a further object of the invention is to generally improve the design, construction and utility of key ejecting holders.

The means by which the foregoing and other objects of the present invention are accomplished and the manner of their accomplishment will readily be understood from the following specification upon reference to the accompanying drawings, in which:

Fig. 1 is a top plan view of the key holder of the present invention with the top thereof removed.

Fig. 2 is a similar view with the preferred form of top in position and with the ejector mechanism of the device compressed.

Fig. 3 is a longitudinal sectional view taken as on the line III—III of Fig. 1.

Fig. 4 is a front end view of the container without a key; and

Fig. 5 is a side elevation of a variation of the device.

Referring now to the drawings in which the various parts are indicated by numerals; the main body of the device consists of a shallow box-like base 11, having a rear wall 13 and side walls 15. The base 11 is open at the top and the side walls 15 are preferably longitudinally grooved as at 17 to receive and slidably engage the tongues 19 formed along the longitudinal edges of a top 21. The top 21 is of a size to form a complete closure for the open top of the box-like base 11. At its front end the box-like base 11 is open and is provided with vertical wall portions 23 which

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extend a minor distance inwardly to provide shoulder-like abutments for the purposes hereinafter pointed out.

Each of the side walls 15 are provided with a plurality of longitudinally spaced, vertically disposed grooves 25 which are adapted to slidably receive the end lugs 27 of an abutment member 29. Preferably the abutment member 29 along its forward face is provided with a shallow horizontally disposed groove (see Fig. 3) which is adapted to engage an edge portion of the handle 31 of a conventional key 33. At its forward end the device is provided with a box-like member 35 which is of rectangular cross section and is of a size to reciprocally slide between the front wall portions 23 and between the top 21 and the base 11. At its rearward end the box 35 is open and is provided with laterally projecting flanges 37 which are adapted to engage the shoulder-like interiors of the front wall portions 23 to stop the forward movement of the box 35 outwardly from the base 11. At its forward end the box portion 35 is provided with an opening 39 which is adapted to loosely surround the shank of a key 33. Housed within the box 35 is the major portion of a compression spring 41, which spring at its rearward end is provided with a distorted portion 43 which is adapted to overlie the face of the key handle 31 and which includes a downwardly projecting, off-set hook portion 45 which is provided to engage the standard aperture 47 with which key handles are provided.

Preferably the top 21 along its underside is provided with a shallow channelway 49 which extends longitudinally of the top and is disposed along the longitudinal mid line thereof to overlie a boss 51 with which the abutment member 29 is preferably provided. The channelway 49 is further preferably provided with indentations 53 which are spaced to correspond with the spacing of the vertical grooves 25 and which are adapted to engage the boss 51 to retain the top 21 against undesired sliding movement.

In some instances it is preferable to substitute for the top 21, which slidably engages the side walls 15, a top 121 which is pivoted to the side walls 15 as by a pin 123. Preferably the top 121 is provided with a latch pin 125 adapted to engage a suitable slot 127 adjacent the forward edge of the side walls 15.

In the use of the device it may be adjusted to accommodate the key 33, depending upon the size and length thereof. When the size has been determined the abutment member 29 is positioned so that its lugs 27 engage a selected pair of vertical grooves 25, the abutment member being seated against the base 11 with its grooved face forwardly disposed. The spring 41 may be removed from the spring box 35 and the shank of the key 33 threaded through the convolutions

of the spring with the distorted portion 43 brought into engagement with one face of the key handle 31 and the hook 45 engaged with the key aperture 47. The edge portion of the key handle 31 may then be engaged with the groove of the forward face of the abutment member 39 and the flanges 37 seated in engagement with the inner faces of the front wall portions 23. The tongues 19 of the top 21 may then be slidably engaged with the longitudinal grooves 17 and moved to position, effecting completion of the closure of the container. the channel 49 sliding along the boss 51 and the boss 51 engaging the indentation 53 which is in alinement with the lug engaged vertical grooves 25.

It will thus be seen that the key 33 is housed within the completed casing and is ready for use. When use is desired the forward end of the shanks of the key is inserted in the lock opening and further pressure moves the box member 35 into the interior of the container, compressing the spring 41, the end of the spring 41 bearing against the front wall of the box 35 and the rearward hook and bearing against the interior of the key aperture 47. The key obviously may then be turned in the lock in usual fashion, engagement of the key shank with the lock tumblers preventing sliding movement of the key out of the lock and retaining it therein with the box 35 and spring 41 telescoped within the casing. When the key is again turned to normal unlocked position. so as to free the key from the tumbler restraint, the action of the spring 41 is effective to force the box 35 outwardly and to thereby effect the withdrawal or ejection of the key from the lock, thus preventing accidental presence of the key in the lock in undesired manner.

If desired the container may be provided with the pivoted top 121. in which case the top would merely be snapped into closed position after the key, spring 41, and spring box 35 had been positioned as previously described. It will of course be understood that the abutment member 29 may be permanently fixed in a single suitable position, but it is preferred that the abutment be removable and adjustable to accommodate keys of varying sizes.

It will be seen that a key 33 may be simply and readily fastened within the casing without any change in its original shape or size and that it may as readily be removed if desired and another key substituted therefor.

We claim:

1. A holder for a key having a shank and an apertured handle, which comprises a shallow, box-like casing having vertical side walls, an open top and a hollow interior, an abutment member adjustably positioned transverse said casing, the interior of said side walls being provided with a plurality of longitudinally spaced, vertically disposed grooves, said abutment member having end lugs removably engaging an opposed pair of said grooves, said casing having an open front flanked by shoulders, a hollow box member slidably projecting through said open front and provided at its rear end with laterally projecting flanges engaging said shoulder to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior, said box member having a slotted front end, a compression spring housed in said box member and extending into said casing interior, having at its rear end a hook portion, and a cover slidably engaging said side walls to effect closure of said casing, said cover

having a longitudinal channel formed along its underside and including a plurality of indentations spaced therealong, said abutment member including an upwardly projecting boss coacting with said channel indentations to restrain sliding movement of said cover, said key when positioned in said holder having its handle housed within said casing and abutting said abutment member and its shank projected forwardly through said slotted front end, said spring surrounding said positioned key with said hook engaging the aperture of said key handle, said spring oppositely seating against the inner face of the front end of said box member to urge said box member outwardly.

2. A holder for a key having a shank and an apertured handle portion, which comprises a shallow, box-like casing having vertical side walls, an open top and a hollow interior, an abutment member positioned transverse said casing, said casing having an open front flanked by shoulders, a hollow box member slidably projecting through said open front and provided at its rear end with laterally projecting flanges engaging said shoulders to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior, said box member having a slotted front end, a compression spring housed in said box member and extending into said casing interior, having at its rear end a hook portion, and a cover slidably engaging said side walls to effect closure of said casing, said cover having a longitudinal channel formed along its underside, said abutment member including an upwardly projecting boss coacting with said channel to restrain sliding movement of said cover, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said slotted front end, said spring surrounding said positioned key with said hook engaging the aperture of said key handle, said spring oppositely seating against the inner face of the front end of said box member to urge said box member outwardly.

3. A holder for a key having a shank and an apertured handle portion, which comprises a shallow, box-like casing having vertical side walls, an open top and a hollow interior, an abutment member adjustably positioned transverse said casing, the interior of said side walls being provided with a plurality of longitudinally spaced, vertically disposed grooves, said abutment member having end lugs removably engaging an opposed pair of said grooves, said casing having an open front flanked by shoulders, a hollow box member slidably projecting through said open front and provided at its rear end with laterally projecting flanges engaging said shoulders to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior, said box member having a slotted front end, a compression spring housed in said box member and extending into said casing interior, having at its rear end a hook portion, and a cover slidably engaging said side walls to effect closure of said casing, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said slotted front end, said spring surrounding said positioned key with said hook engaging the aperture of said key handle, said spring oppositely seating against the inner face of the front end of said box member to urge said box member outwardly.

4. A holder for a key, which comprises a casing having vertical side walls, an open top and a hollow interior, an abutment member positioned transverse said casing, said casing having an open front flanked by shoulders, a hollow box member slidably projecting through said open front and provided at its rear end with laterally projecting flanges engaging said shoulders to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior, said box member having a slotted front end, a compression spring housed in said box member and extending into said casing interior, and a cover slidably engaging said side walls to effect closure of said casing, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said slotted front end, said spring surrounding said positioned key with one end engaging the aperture of said key handle, and the opposite end seating against the inner face of said box member front end to urge said box member outwardly.

5. A holder for a key, which comprises a shallow, box-like casing having vertical side walls, an open top and a hollow interior, an abutment member positioned transverse said casing, means adjustably securing said abutment member in position, said casing having an open front flanked by shoulders, a hollow box member slidably projecting through said open front and provided at its rear end with laterally projecting flanges engaging said shoulders to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior, said box member having a slotted front end, a compression spring housed in said box member and extending into said casing interior, having at its rear end a hook portion, and a cover slidably engaging said side walls to effect closure of said casing, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said slotted front end, said spring surrounding said positioned key with said hook engaging the aperture of said key handle, said spring oppositely seating against the inner face of the front end of said box member to urge said box member outwardly.

6. A holder for a key, which comprises a shallow, box-like casing having vertical side walls, an open top and a hollow interior, an abutment member adjustably positioned transverse said casing, the interior of said side walls being provided with a plurality of longitudinally spaced, vertically disposed grooves, said abutment member having end lugs removably engaging an opposed pair of said grooves, said casing having an open front, a hollow box member slidably projecting through said open front and including means for engaging an abutment on said casing to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior and the front end having an opening therein, a compression spring housed in said box member and extending into said casing interior, and a cover slidably engaging said side walls to effect closure of said casing, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said box member, said spring surrounding said positioned key with one end engaging said key handle, the opposite end of said spring

engaging said box member to urge said box member outwardly.

7. A holder for a key, which comprises a shallow, box-like casing having vertical side walls, an open top and a hollow interior, an abutment member positioned transverse said casing, and having means removably engaging said side walls, said casing having an open front, a hollow box member slidably projecting through said open front and provided at its rear end with means for engaging an abutment on said casing to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior and the front end having an opening therein, spring means housed in said box member and extending into said casing interior, a cover slidably engaging said side walls to effect closure of said casing, and means restraining sliding movement of said cover, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said box member, said spring means engaging said positioned key and oppositely engaging said box member to urge said box member outwardly.

8. A holder for a key, which comprises a casing having vertical side walls, an open top and a hollow interior, an abutment member positioned transverse said casing, means carried by said member removably engaging said side walls, said casing having an open front, a hollow box member slidably projecting through said open front and provided at its rear end with means for engaging an abutment on said casing to stop forward movement of said box member, the rear end of said box member being in open communication with said casing interior and the front end having an opening therein, a compression spring housed in said box member and extending into said casing interior, and a cover slidably engaging said side walls to effect closure of said casing, said key when positioned in said holder having its handle within said casing abutting said abutment member and its shank projected forwardly through said box member, said spring surrounding said positioned key with one end engaging said key handle, and the opposite end engaging said box member to urge said box member outwardly.

9. A holder for a key, which comprises a casing for housing the handle of said key, a member telescopically engaging said casing for slidably embracing the shank of said key, means urging said member outwardly from said casing, said casing including a transversely disposed abutment member positioned to engage an edge portion of said key handle, and means removably securing said abutment member to said casing for adjustment longitudinally of said casing.

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