May 24, 1932. L. G. BATES 1,859,276

KEY HOLDER

Filed April 12, 1929

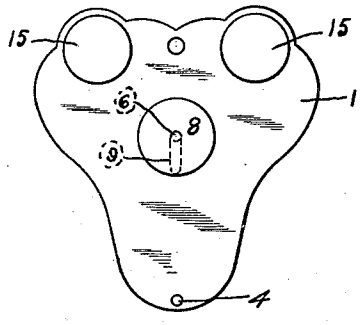


Fig. 1

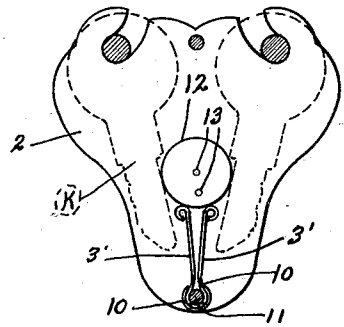


Fig. 5

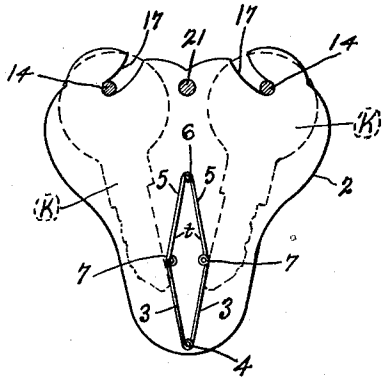


Fig. 2

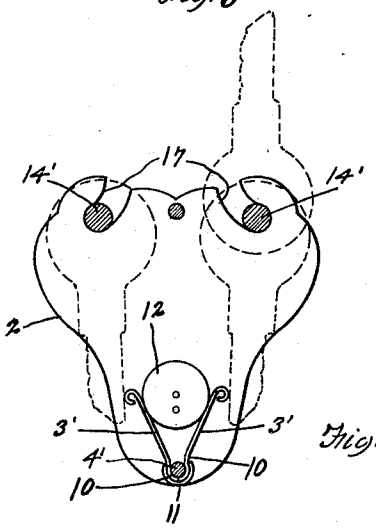


Fig. 6

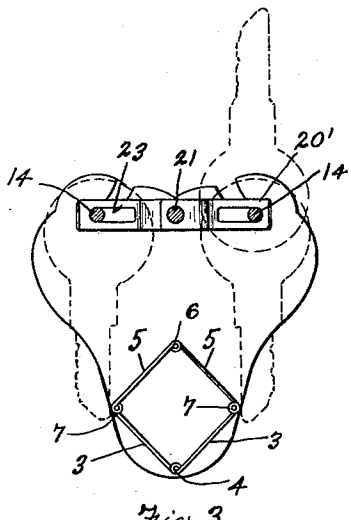


Fig. 3

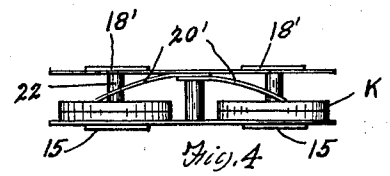


Fig. 4

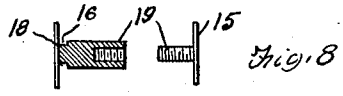


Fig. 8

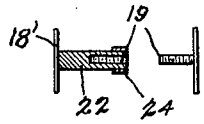


Fig. 9

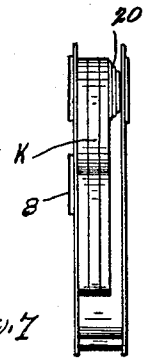


Fig. 7

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UNITED STATES PATENT OFFICE

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KEY HOLDER

Application filed April 12, 1929. Serial No. 354,484.

This invention relates to key holders; and it is among the objects of the invention to provide a holder of convenient character adapted to present the keys as desired. Other objects and advantages will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the features hereinafter fully described, and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail certain structure embodying the invention, such being illustrative however of but a few of the various ways in which the principle of the invention may be employed.

In said annexed drawings:

Fig. 1 is a plan view of a holder in accordance with the invention; Fig. 2 is a plan view of the same with the cover plate removed, and indicating the arrangement of keys in closed position; Fig. 3 is a similar view, indicating the keys in extended position; Fig. 4 is an end view, showing the closed position of keys; Figs. 5 and 6 are views analogous to Figs. 2 and 3, showing a modification; Fig. 7 is an edge view of a modification; and Figs. 8 and 9 are sectional details.

Referring more particularly to the drawings, there is shown a casing of protective material, using metal for instance as plates 1, 2, and adapted to receive keys K in pivotal mounting therein capable of being swung out as desired for use. The precise shape of the casing may vary, but for compactness, one end may be narrowed, conforming more to the inherent shape of two stacks of keys arranged back to back. In a position to engage the keys for thrusting them outwardly, is a thrust means, preferably in the form of a pusher piece, which in the embodiment shown in detail in Figs. 2 and 3 comprises thrust members *t*, which may be made up of arms 3 pivoted about a fixed post 4 and arms 5 pivoted about a post 6, the respective arms 3 and 5 being in turn hinged together at 7. The post 6 is carried by a slide 8 which presents a thumb-piece or actuating projection outside, a slotway 9 in the plate 1 allowing the necessary travel.

Instead of toggle-type thrust members, there may be provided fingers 3′, (Figs. 5, 6), these in normal position lying closely between adjacent series of keys. The fingers 3′ may be arranged as a V-shaped integral spring member, or for convenience in assembly, they may be made up as separate pieces, each having a partially hooked end 10 engaging about post 4′ and being held inseparably by a columnar clip 11, the latter being in the form of an incomplete cylindrical hollow clamp-like spring normally holding the thrust members in. For spreading the fingers and thus imparting the desired thrust to the retracted keys, a wedging or camming member 12 is arranged to engage between the fingers 3′. Movement of the wedging member 12 may be had by the thumb piece on the exterior of the casing or plate 1 as in the foregoing, and which is connected to the cam member 12 by a pin or pins 13 in the slot in the casing plate.

The keys are mounted pivotally on posts or studs 14, and to allow changes and insertion of keys, such posts are of removable or separable form. As shown in Figs. 1 to 6, and 8, such posts may be of a form having a head 15 and at the other end a groove 16, the post thus being adapted to enter notches 17 in one or both of the plates or casing, the head 15 being on the outer surface of one plate, and the groove 16 in the notch in the other plate and the adjacent head 18 outside. If the notches 17 be omitted, the posts may be put together through the holes in the plates and keys by virtue of the screw thread connection 19. Such threaded connection in any case allows desirable tightening. Preferably the plate 1 is provided merely with holes for the key-posts and the plate 2 has the notches. Convenience and security are thus combined.

For holding the keys against excessive freedom of movement, a restraining spring, in the form of a spiral spring 20 may be placed about the pivot post, so as to bear against the keys mounted thereon, as shown in Fig. 7; or preferably leaf springs 20′ are pivoted on frame-post 21 and the stem 22 of the post is inserted in the slot 23 of the spring, a collar 24 guarding against accidental removal.

In this manner, sufficient frictional resistance is opposed against the keys to satisfactorily retain them in any particular point which they may be turned.

The manner of use of the device will be clear from the foregoing. The keys, as indicated, are mounted on the pivot post, which is separated for the purpose, and by then replacing the post in position, the keys are held such as to allow swinging out or in as requirements may demand. To swing a key outwardly, the thumb piece 8 is pushed, thereby causing the thrust members to push the keys outwardly to a position in which the particular key desired can be quickly separated further and swung around to convenient position of usage.

Other modes of applying the principle of the invention may be employed, change being made as regards the details disclosed, provided the means stated in any of the following claims, or the equivalent of such, be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. A key holder, which comprises casing plates, key-receiving posts therefor and an expanding toggle for swinging keys on said posts out.

2. A key holder, which comprises casing plates, key-receiving posts therefor, notches for said posts, a frame-post intermediate of said key-posts, springs pivoted to said frame-post and having slots for the key-posts, and an expanding toggle for swinging keys on said posts out.

3. A key holder, which comprises casing plates, key-receiving posts therefor, one of said plates having holes and the other plate having notches for said posts, the posts being in separable screw-threaded sections, a frame-post intermediate of said key-posts, springs pivoted to said frame-post and having slots for said key-posts, an expanding toggle within the casing plates for swinging keys on said posts out, and a thumb-piece exteriorly of the casing for operating said toggle.

4. A key holder, which comprises spaced casing plates, and a removable key-receiving pivot post therein, one of said plates having a perforation and the other plate having a notch, both adapted to receive said post.

5. A key holder, which comprises a casing, a key-receiving post pivotally carrying a key thereon, an ejector for swinging a key on said post, and means for mounting said post for a restricted movement with the key thereon out of said casing for key-changes.

6. A key holder, which comprises a casing, a key-receiving pivot post, and combined means for mounting said post for a restricted movement with the key thereon out of the casing and for resiliently holding the keys on the post.

7. A key holder, which comprises spaced casing plates, and a separable key-receiving pivot post, said plates having receiving openings for said post, and means for mounting said post for a restricted movement with the key thereon out of said casing for key changing.

8. A key holder, which comprises a casing, a key-receiving pivot post, an ejector for swinging a key on said post, and a swingable member pivoted to said casing, and carrying said post.

9. A key holder, which comprises a casing, a key-receiving pivot post, and a leaf spring pivoted to said casing to swing therefrom and carrying said post.

10. A key holder, which comprises spaced casing plates, a pair of key-receiving posts therebetween, and a pair of swingable post-carrying members pivoted in common to an intermediate pivot.

11. A key holder, which comprises spaced receiving plates, a pair of key-receiving posts therebetween, and a pair of leaf springs pivoted in common to an intermediate pivot and each being connected at its remote end to one said key-receiving post.

12. A key holder, which comprises casing plates, and a separable-section receiving post therebetween, one of said plates having a marginal notch to receive said post.

13. A key holder, which comprises spaced casing plates, a key-receiving post therebetween, one of said casing plates at least having a notch to receive said post, and a spring pivoted at one end between said plates and being connected at its other end to said key-receiving post.

14. A key holder, which comprises a casing, a key-receiving post therein, and a spring pivoted to said casing to swing therefrom and having a slot for said post.

15. A key holder, which comprises spaced casing plates, a pair of key-receiving posts therein, one of said plates at least having a notch to receive said post, and a pair of springs pivotally connected within said casing and each having a slot at its free end for receiving one of said posts.

16. A key holder, which comprises a casing adapted to pivotally receive two rows of keys, and ejector means movable between such rows to simultaneously eject both.

17. A key holder, which comprises a casing adapted to pivotally receive two rows of keys and wedge-acting means between such rows to simultaneously eject both.

18. A key holder, which comprises a casing adapted to pivotally receive two rows of keys, and expanding means between such rows to simultaneously eject both.

Signed by me this 9th day of April, 1929.

LAWRENCE G. BATES.