June 10, 1941. G. L. BIGGS 2,245,381

KEY HOLDER

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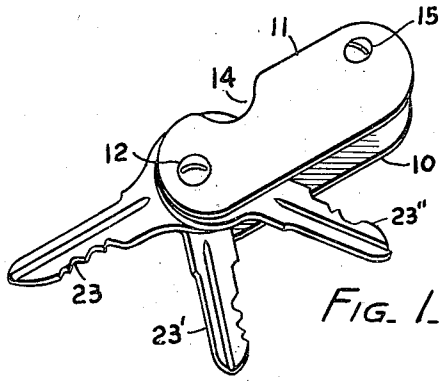

FIG. 1.

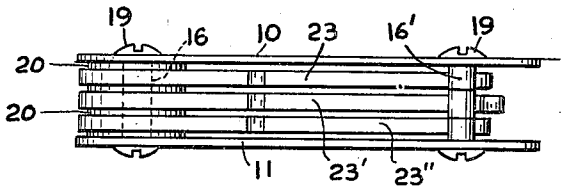

FIG. 2.

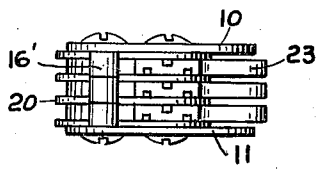

FIG. 3.

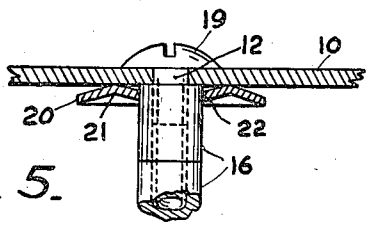

FIG. 5.

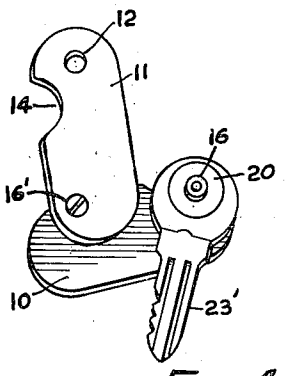

FIG. 4.

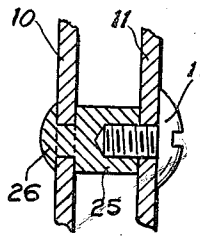

FIG. 7.

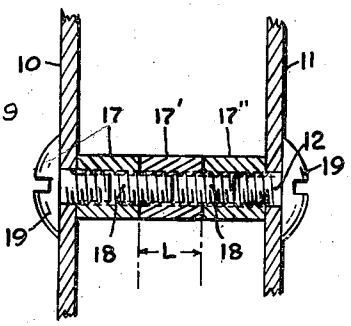

FIG. 6.

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KEY HOLDER

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6 Claims. (Cl. 70—456)

The present invention relates to improvements in an inherently simple key retaining casing to prevent diverse keys from becoming tangled or misplaced, and more particularly pertains to an ornamental and smoothly finished all-metal holder adapted to compactly and protectively carry an assortment of frequently used keys.

The apertured finger pieces of several keys are herein threaded in superimposed relation upon a sectionalized post pin and respectively kept spaced apart by perfected anti-rattle washers of the frictional type. These laterally resilient spacer means are arranged to thrust between a pair of independently demountable side plates of which a rounded end snugly houses the heads of several keys for selective rotation about a common pin axis.

By a convenient manipulation, any one of such interposed keys may be made accessible for use by shifting the same from its normal nested position into its operative position, whereupon the mated side plates serve as a firm grip to facilitate the turning of said one key. After withdrawal from its lock, the used key may be folded back into nested position without presenting any ragged shank edges that might otherwise wear and ultimately tear a hole in the owner's pocket. As applied to the so-called Yale style of key, my holder can be kept sufficiently small in size and light in weight to meet vest pocket storage needs. The instant devices are especially useful in servicing conventional automobile keys or the like, in that any one such key may by feel be selected in the dark of night and applied to a lock without defacing the escutcheon or any other adjacent body panel parts.

In addition, effective means have been contrived for extending the length of a structurally refined post pin so as to differently space my separable side plates into rigid adjustment and thereby neatly accommodate a larger or smaller number of keys to suit requirements. In addition, one of my side plates may be shifted relative to the other about a pin axis to permit of convenient key insertion or removal.

The primary object of my improvements is directed to a simple and thoroughly practical key holder assembly of the indicated character having comparatively few component parts, each capable of being rapidly and economically fabricated on a productive scale at the minimum of labor costs.

Embodied herein are also other structural aspects designed to carry out the foregoing principles, all of which features will hereinafter be more explicitly set forth.

Reference is had to the accompanying one sheet of drawings disclosing a specific embodiment of my invention, and in which drawing:

Fig. 1 represents a perspective view of an operatively assembled key holder embodying my improvements.

Figs. 2 and 3 respectively show a bottom edge and an end view of Fig. 1 with the keys placed into nested position.

Fig. 4 is illustrative of the manner in which my superimposed side plates may be angularly shifted edgewise for key replacement purposes.

Fig. 5 details a preferred truncated conical type of resilient spacer washer, and Fig. 6 a sectional post for adjustably mounting my side plates in stepwise spaced relationship.

Fig. 7 is similar to Fig. 6 but shows a different type of coupling post.

As practiced herein, my key holder may comprise a pair of identical side plates 10 and 11 stamped from relatively heavy rustless sheet metal having their severed edges smoothly polished to prevent pocket wear. The perimeter of each such flat plate is preferably given an elongated shape having opposed rounded ends, as shown. Near one such plate end is apertured at 12 for the reception of a headed pin screw presently to be defined. Corresponding longitudinal edges of the respective plates may be indented to constitute a thumb notch 14. Alongside this same edge, each plate is further provided with a mated marginal screw receiving aperture 15 located contiguous to the other rounded plate end, thus confining the required apertures to but two for each side plate.

These separable plates may be alignedly mounted in superimposed relation in a novel manner by the use of identical primary and secondary sectional posts or adjustable spacer pins, respectively designated in their entirety as 16 and 16'. Each such post may comprise a series of tubular metal sections or couplings such as 17, 17', etc., disposed axially in tandem alignment with squarely abutting ends and being internally threaded throughout the length L thereof. To constitute an assembled post, a plurality of said sections may be interconnected by separate headless worms or the like splicer tie means such as 18 cut to a length substantially equal to L. The opposed flat ends of my composite posts or key retaining pins are fixedly interposed between the assembled side plates and may have a headed post screw such as 19 inserted

into each end thereof and through an appropriate plate aperture in the Fig. 6 manner. The post is purposely kept larger in diameter than the size of either plate aperture 12 or 15.

These sectionalized spacer couplings may be rapidly and cheaply produced by screw machinery from continuous tubular stock. When assembled, the respective tips of the internal tie members 18 and 19 also tightly abut end to end as indicated. An inherently strong sectionalized post is thereby built up that is well adapted to rigidly mount my plates in a laterally fixed spacing and in which the several interlocked components are unlikely to become unscrewed in normal use. My side plates are kept sufficiently thick to afford an inherently stiff bridge medium between their spaced supporting posts.

The perforated finger pieces or heads of a plurality of Yale keys such as 23, 23', 23'' are intended to be strung upon the assembled primary post 16, as shown in Figs. 1 and 2. Since certain of such key head perforations are likely to be somewhat smaller than ⅛'', the outside diameter of my axially aligned tubular sections may be kept to a corresponding size and still provide for adequate plate securement. The sectionalized post length L is preferably such as to correspond to the room required for one or two additional keys. For instance, in Fig. 6 the overall plate spacing is intended for a three or six key holder dependent upon the key head thickness, although all such demountable couplings need not be held to one and the same dimension. It will be obvious that by taking out or adding a post section, the key capacity of my holder plates will be correspondingly altered in stepwise fashion. The solving of this requirement in a neat and commercially acceptable manner, has heretofore presented an inherently difficult problem.

My laterally dished spacer washer 20 is intended to be interposed between each of the assembled keys and also between the respective holder plates as in Fig. 1. This circular washer may be stamped up out of thin spring brass or the like sheet metal of about 0.010'' thickness into the truncated conical profile shown in Fig. 5 but without exerting an undue thrust upon the frictionally retained keys. The apertured crown thereof is invertedly indented to provide for a outstanding annular thrust nose component 21 disposed intermediate the washer perimeter and its central post receiving aperture 22 to afford a nose disposition that shall be materially larger in size than the diameter of the key head perforation so as to maintain the mounted keys in parallelism while being relatively shifted in the Fig. 1 manner. When said resilient agency is interposed, the next adjacent keys respectively bear against said nose and its washer perimeter. The overall post length is so adjusted that when a pair of fastening screws 19 are tightly drawn into place, they serve to properly spring the washers laterally to a limited extent and thereby provide for the desired frictional key action.

The notch 14 is so located that the thumb is enabled to simultaneously actuate all the key heads and shift their shanks out of nested position, whereupon some one key such as 23 may be selectively extended into its Fig. 1 operative position, the remaining keys then being returned into their original housed position so as to afford a grip for conveniently manipulating such selected key. The same notch allows a reverse manipulation of the key heads to throw all their shanks against the stop pin 16'.

The use of said circumscribing nose located remote from the washer aperture, not only accurately guides the shiftable keys without interference, but also frictionally retains an extended key in substantial alignment with the longitudinal plate edge against inadvertent folding about the primary post 16.

The secondary post 16', serves as supplemental plate spacing means and also acts as a stop when the keys are folded within the plate housing confines. It will be observed that the squared ends of my posts abut the inner plate faces and are of such diametral size as to overlie the spanned plate apertures. In the present device but two of the described spacer posts are needed to rigidly retain the similar side plates in parallelism. In the event a substitute key is to be inserted into my holder, it is merely necessary to remove one of the primary post screws such as 19 and then swing the loosened side plate edgewise about the secondary post into the oblique Fig. 4 position. The insertion of an additional key and washer would call for the use of an extra post section of which such spare parts are intended to be furnished as new holder equipment when sold to the trade.

In Fig. 7 there is illustrated a modified style of post section 25 of which one end is provided with a diametrically reduced size of teat 26 adapted to be permanently riveted over one side plate, as shown. The opposite post end may be tapped for the reception of the screw 19 when a single post section is resorted to, or a splicer stud 18 as in Fig. 6 when multiple sections are needed.

The foregoing disclosures will make evident the devising of a neat and compact key holder of the adjustable type that admirably lends itself to low cost fabrication and one that possesses long life under arduous service conditions. As will be understood by those skilled in this art, certain of my structural refinements may also find application to analogous purposes other than key holder needs, and that various structural changes in the details and disposition thereof may be resorted to in likewise carrying out my single illustrative embodiment, all without departing from the spirit and scope of the invention heretofore described and more particularly pointed out in the appended claims.

I claim:

1. A holder device comprising a pair of separable side plates respectively having an elongated face shape whose edges are spaced apart in substantial parallelism throughout the respective perimetric lengths thereof, the opposite end regions of each such plate being respectively provided with a shank receiving aperture therethrough of which corresponding plate apertures align axially, a pair of internally threaded tubular spacer posts respectively having both opposed ends shouldered and abuttingly interposed between the inner plate faces in a bridging relation to certain of such corresponding apertures and thereby fixedly hold said plates in a positively spaced relationship, and headed fastening means including a shank fitted through each of said plate apertures into abutting engagement with the shouldered post end contiguous thereto, said pair of posts and their fastening means constituting the sole support means extending between said side plates to fixedly retain the same in spaced relation against flatwise inward collapse and relative edgewise shift.

2. A holder device adapted to protectively encase a key provided with a perforated finger

piece, said device comprising a pair of separable side plates respectively having an elongated face, the opposite end regions of each such plate being respectively provided with a shank receiving aperture therethrough of which corresponding apertures align axially, mated internally threaded tubular spacer posts respectively having opposed shouldered ends abuttingly interposed between the inner plate faces in a spanning relationship to certain of such corresponding apertures to positively hold the plates in spaced relation against inward collapse and one of which posts is adapted to have a key finger piece rotatably mounted thereon, and a separate headed screw including a threaded shank fitted into each of said plate apertures and which threads operatively engage the post end contiguous thereto, the removal of a single screw normally in engagement with the aforesaid one post permitting a side plate to be shifted edgewise around the axis of the other post for key replacement purposes.

3. A holder device comprising a pair of laterally spaced side plates respectively having a screw receiving aperture therethrough that are axially aligned, sectionalized spacing post means interposed between and serving to fixedly hold said plates apart, said post means including a plurality of internally threaded coupling components disposed in abutting tandem relation and being screw interconnected by headless tie members to build up a post stepwise having different overall lengths, and complementary headed screw means respectively including a threaded shank entered through a different plate aperture for reversed engagement with the respective post extremities.

4. A holder device adapted to protectively house a plurality of keys that each include a perforated finger piece of approximately uniform thickness, said device comprising a pair of laterally spaced side plates, a sectionalized spacer post serving to fixedly hold said plates apart, said post including demountably coupled components arranged in tandem between said plates and having said finger pieces rotatably strung thereon, and washer means circumscribing said post and interposed to laterally space certain of the finger pieces, certain component post sections being given an axial length approximately equal to a multiple of the finger piece thickness plus that of its adjoining washer.

5. A holder device adapted to protectively house a plurality of keys respectively provided with a perforated finger piece, said device comprising a pair of superimposed side plates, a spacer post interposed between said plates and having said key finger pieces threaded thereon, and a laterally resilient dished washer sprung between certain of said finger pieces into frictional engagement therewith, the cross-section of said washer having a truncated conical face profile that provides for an annular nose component located intermediate the aperture and the perimeter of such washer, a diametral size of said annular nose being kept larger than that of a next adjacent finger piece perforation.

6. A holder device comprising a pair of laterally spaced side plates respectively having an aperture therethrough that are axially aligned, sectionalized spacing post means interposed between and serving to fixedly hold said plates apart, said post means including a plurality of coupling components disposed in abutting tandem relation and being screw interconnected by headless tie members to build up a post stepwise into different overall lengths, one such post extremity being provided with a teat adapted to be permanently riveted into the aperture of a contiguous plate and the opposite post extremity being axially tapped, and a headed screw including a threaded shank entered through the aperture of the other plate and into engagement with the last named post extremity.

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