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KEY ASSEMBLY

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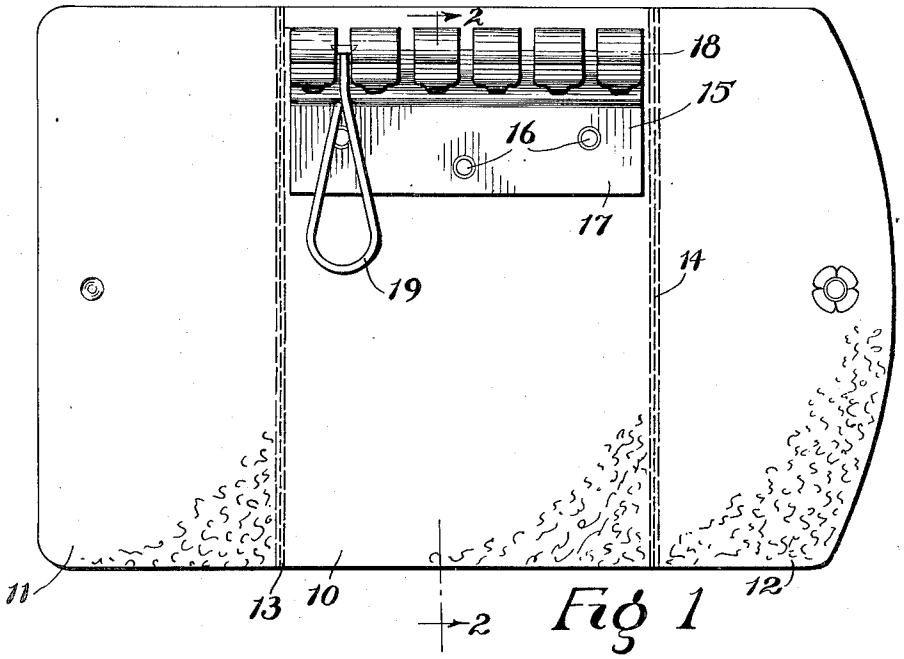
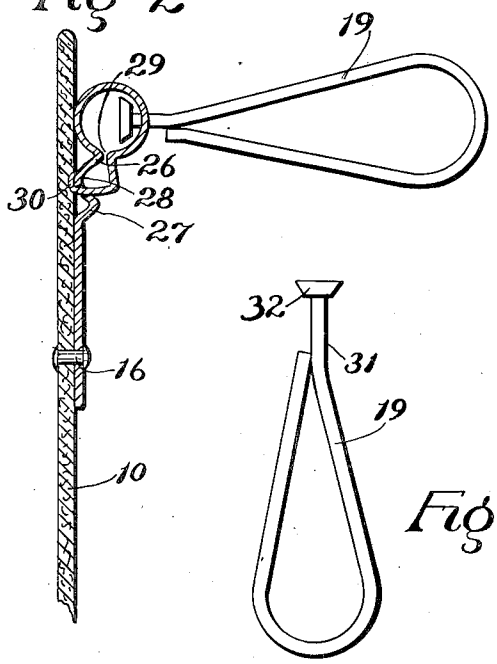


Fig 1

Fig 2



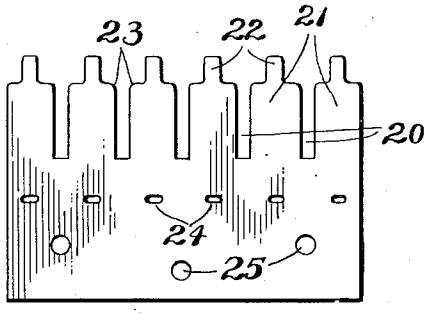


Fig 4

Fig 3

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KEY ASSEMBLY

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4 Claims. (Cl. 70—456)

1

This invention pertains to key cases and has more particularly reference to key cases having a holder mounted therein for detachably retaining a plurality of keys or other similar articles.

One object of the present invention is to provide a key case having a key holder mounted therein formed from a single metal plate having a plurality of spaced spring fingers formed on its upper end and bent forwardly, downwardly and inwardly to form a slotted barrel in which a plurality of key hangers may be detachably mounted.

Another object of the invention is the provision in a key holder of the foregoing type of a camming means on the face of the holder cooperating with the spring fingers to retain the key hangers in the slots of the barrel.

Another object of the invention is the provision in a key holder of the foregoing type of means to facilitate the entrance of the key hanger into the slots and to prevent their accidental removal therefrom.

A further object of the invention is the provision in a key holder of the foregoing type of a plurality of ridges formed thereon to strengthen and add rigidity to the holder.

A still further object of the invention is the provision of a key holder of the foregoing type in which the key hangers are free to swivel and oscillate in the slots in the barrel.

Other objects and advantages of the invention will appear in the specification, when considered in connection with the accompanying drawings, wherein:

Fig. 1 is a front view of a portion of an open key case showing the key holder attached thereto;

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is an elevational view of a key hanger; and

Fig. 4 is a plan view of a developed blank for the base plate.

Referring to the drawings, there is shown a key case of the usual envelope type, preferably made of leather, and comprising a back panel 10 and two side flaps 11 and 12, foldable along lines 13 and 14 to close the envelope.

A key holder 15 is fastened to the inside of the back panel, as by rivets 16. The key holder comprises a substantially flat base plate 17 provided with a slotted barrel 18 at its upper edge and having one or more key hangers 19 detachably mounted in each of the slots.

The key holder is preferably made of thin sheet steel or other spring material and is first formed into a blank, as shown in Fig. 4, and,

2

thereafter, the blank is brought into the shape shown in Figs. 1 and 2 by die pressing or other suitable forming operations. The blank, as shown in Fig. 4, comprises a substantially rectangular shaped piece of flat sheet steel having a plurality of parallel inwardly extending vertical slots 20 formed in its upper edge, dividing the upper portion into a plurality of spaced parallel spring fingers 21.

Each of the fingers 21 has an integral lug or tang 22 formed on its free end and has its edge rounded, as shown at 23, for a purpose hereinafter to be described. A series of openings 24 are formed in the blank, one opening being located below the root of each of the fingers and in vertical alignment with the tang formed on the free end of the finger.

Three or more openings 25 are provided in the lower portion of the blank for the reception of the rivets 16 which fasten the key holder to the key case. The blank is bent into the shape shown in Figs. 1 and 2 by die pressing or other suitable forming methods. In this process, a transversely extending pair of parallel convex ridges 26 and 27 with a concave groove 28 therebetween are formed on the face of the blank at a point below the root of the finger with the row of openings 24 being located in the groove 28. This corrugation strengthens and adds rigidity to this portion of the blank and the upper ridge 26, lower ridge 27 and groove 28 perform other functions hereinafter to be explained.

The barrel 18 is formed at the upper end of the base plate by bending the fingers 21 from a point at or near the roots in a forwardly, downwardly and inwardly direction to a point 29 which is spaced from and aligned with the crest of the upper ridge, then they extend downwardly and outwardly to a point spaced from and aligned with the openings 24. At this point, the tangs formed on the fingers are bent rearwardly to extend through the openings 24 and the projecting ends 30 of the tangs are bent back upon the rear of the blank, as clearly shown in Fig. 2.

In Fig. 3, there is shown a key hanger 19, in the form of a snap hook having a shank 31 and an enlarged head 32. The head is preferably made in the shape of an inverted truncated cone and has a flat top and bottom. The diameter of the head, or its lateral dimension, is somewhat greater than the width of the slots 20 between adjacent fingers so that the hanger, when threaded into a slot, will be held therein by the head. The thickness of the head, or its longitudinal dimension, is greater than the normal

spacing of the fingers from the upper ridge at point 29 so that the head of the hanger cannot, without the application of a greater force than is encountered in ordinary use, slide through the space between the upper ridge and the fingers. The shank of the hanger is of less width than the slots 20 to permit the hanger freedom to oscillate and swivel within the slots. It will be understood that the hangers may take other forms than that of a snap hook, as long as appropriate means is provided for attaching to it a key or other similar article.

When the blank has been formed into the shape shown in Figs. 1 and 2, the adjacent rounded corners 23 of the fingers form a flared entrance into the slots 20, as clearly shown in Fig. 1.

To insert a hanger into one of the slots in the slotted barrel, the hanger is held so that the shank is approximately perpendicular to the base plate, the head is inserted in the flared entrance to the slot and forced in a wedging or camming action through the open space between the crest of the upper ridge and the fingers, the head of the hanger camming the fingers forwardly, due to their resiliency, to permit the head to pass under the fingers and into the barrel. The operation is reversed to remove a hanger from the barrel. The groove facilitates the insertion of the head into the flared entrance to the slot and the lower ridge tends to retain the hanger in the flared entrance to the slot if ever a hanger accidentally becomes disengaged from within the barrel.

From the foregoing description, it will be seen that there has been provided an improved key holder and key case wherein key hangers may readily be removed and inserted at the front of the holder and wherein other advantages of the invention have been fully realized.

Obviously, the present invention is not restricted to the particular embodiment thereof herein shown and described. Moreover, it is not indispensable that all of the features of the invention be used conjointly, since they may be employed advantageously in various combinations and sub-combinations.

What is claimed is:

1. A key holder comprising a base plate having at least two spaced parallel spring fingers extending from its top edge, each of said fingers being curved from a point near its root in a forward, downward and backward direction to a point spaced from the front face of said plate, then extending downwardly and forwardly to a point below said first named point; a key hanger including a shank having an enlarged head, the lateral dimension of the head being greater than the space between adjacent spring fingers and the longitudinal dimension of the head being greater than the normal spacing of said fingers from said plate whereby said key hanger when positioned normal to said plate may readily be inserted and removed from the space inside the curve of the fingers, the fingers being of sufficient resiliency to permit their being flexed forwardly to permit the passage of the head of the key hanger between the surface of the plate and the overlying edges of the adjacent fingers; and means connecting the ends of the spring fingers to said plate to limit the amount of outward flexing of the fingers.

2. A key holder as set forth in claim 1, wherein the plate is provided with an opening below the root of each spring finger and wherein the means limiting the outward flexing of the spring fingers includes a tang extending from the free end of each finger through the opening in the plate below its root and having its projecting end bent upwardly into position to engage the back surface of the plate.

3. A key holder as set forth in claim 1, wherein a plurality of transverse ridges are formed in the plate adjacent to the lower edges of the spring fingers to provide rigidity to the plate to prevent bending with resulting enlargement of the space between adjacent spring fingers thereby permitting accidental displacement of the key hanger.

4. A key holder comprising a base plate having a pair of transverse convex ridges with a concave groove therebetween formed on its face and being provided with a transverse row of spaced openings located in said groove, the portion of the plate above said ridges being slotted to form a plurality of spaced parallel spring fingers, each of said fingers having an integral tang extending therefrom, said fingers being curved from a point near their roots in a forward, downward and backward direction to a point spaced from the upper of said ridges, thence extending downwardly and forwardly to a point spaced from said row of openings, each of said tangs being bent rearwardly to extend through one of said openings and having its projecting end bent upwardly into a position to engage the back of said plate; and a plurality of key hangers having enlarged heads swivelly and oscillatably mounted in said slots, the lateral dimension of the heads being greater than the width of the slots and the longitudinal dimension of the heads being greater than the normal spacing of the fingers from the upper ridge, the construction being such that the heads will normally be retained within the curve of the fingers but may readily be removed therefrom and re-inserted therein by forcing the heads between the upper ridge and the overlying edges of the adjacent fingers, the resiliency of the fingers permitting them to be flexed outwardly to permit passage of the heads with the tangs limiting the outward flexing of the fingers.

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