Nov. 14, 1961 R. C. LEGAT 3,008,323

KEY HOLDER

Filed Aug. 13, 1959

Fig. 1.

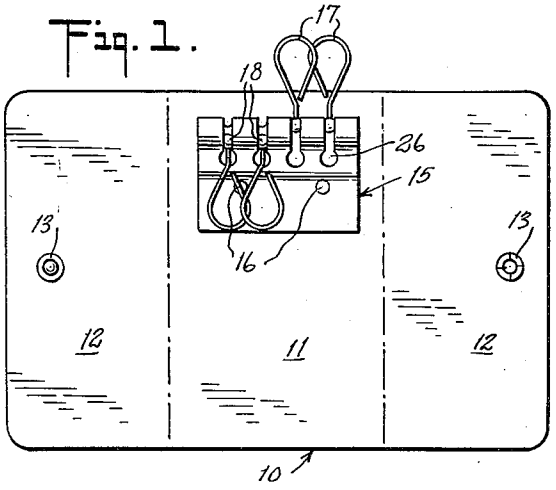


Fig. 2.

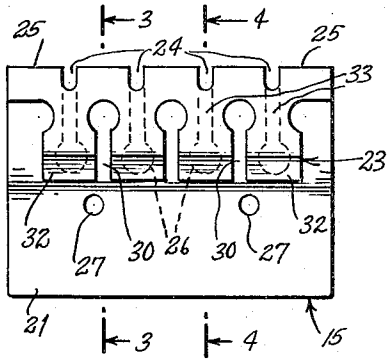


Fig. 3.

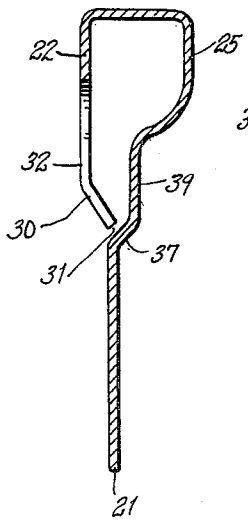


Fig. 4.

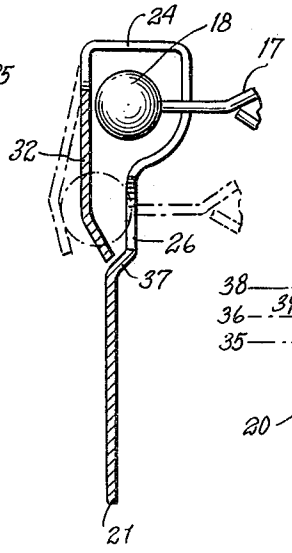
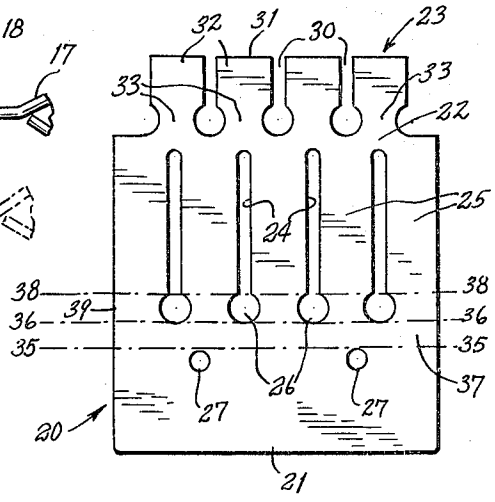


Fig. 5.



INVENTOR.
ROBERT C. LEGAT
BY Carey, Hart & Staple
ATTORNEYS

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KEY HOLDER

Robert C. Legat, New Britain, Conn., assignor to The G. E. Prentice Mfg. Co., Kensington, Conn., a corporation of Connecticut

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This invention relates to key holders and more particularly to a key holder for detachably retaining a plurality of key hooks on each of which may be mounted a key.

The object of the invention is to provide a key holder formed from a single piece of metal cut and formed so that out of the metal of such plate spring fingers are formed to releasably retain the key hooks on the holder until positively removed therefrom.

A further object of the invention is to provide an improved form of key holder which can be cheaply manufactured and which will enable the attachment and detachment of the hooks with relative ease while assuring positive retention of the attached hooks.

Other objects of the invention, as well as the advantages and novel features of construction thereof will appear from the following description when read in connection with the accompanying drawings in which:

FIG. 1 is a front elevational view of an open key case provided with a key holder constructed in accordance with the invention;

FIG. 2 is an enlarged rear elevational view of the key holder shown in FIG. 1;

FIG. 3 is a vertical sectional view taken along the line 3—3 of FIG. 2;

FIG. 4 is a vertical sectional view taken along the line 4—4 of FIG. 2 and indicating in dotted outline the manner in which the enlarged head on the end of a key hook may be connected to the holder; and

FIG. 5 is a view of a flat blank from which the key holder of the invention is formed.

In the drawings, the reference numeral 10 indicates generally the usual type of key case construction in which the key holder of the invention is to be incorporated. As shown, such a case, made of flexible leather or the like, usually comprises a center panel 11 having integrally formed therewith side flaps 12, 12 which may be lapped over the contents of the case in the usual manner. The side flaps of the case may be secured in closed condition by the usual snap fastener members 13, 13. The key holder of this invention is indicated generally in FIG. 1 of the drawings by the numeral 15 and is secured, as by rivets 16, to the center panel of the case 10. The keys of the wearer are connected to the holder 15 by means of hooks 17 of usual snap hook form and each provided with the usual enlarged head 18. The hook head 18 may be made in any form suitable for the purposes of the invention, but preferably is of substantially spherical form, as illustrated, so that it may the more readily be inserted into and withdrawn from the holder.

The key holder 15, in accordance with the invention, is made from a single piece of thin sheet steel or other suitable spring material. In making the holder, the sheet metal piece is first blanked out into the form shown in FIG. 5 of the drawings. The blank is rigid and includes a substantially rectangularly shaped section 20 having a bottom edge 21 and an upper edge portion 22 to which is integrally connected a reduced upper blank section 23. The upper portion of the blank section 20 is cut-out to provide a plurality of centrally arranged, parallelly disposed, elongated, closed slots 24 extending at right angles to the bottom edge 21. The slots 24 divide the upper portion of the blank section 20 into a plurality of spaced,

substantially rigid members 25 which are connected together at their upper ends by the upper edge portion 22. The lower ends of the slots 24 are enlarged to form escape openings 26. In that region of the blank section 20 that lies between the escape openings 26 and the bottom edge 21 thereof are provided two spaced openings 27 for receiving the rivets 16 by which the blank section 20 is secured to the center panel 11 of the key case.

The reduced blank section 23 connected by the upper edge portion 22 to the top of the blank section 20 is substantially narrower in width than blank section 20 and has a height substantially less than one-half the height of section 20. The blank section 23 is cut out to provide a plurality of open slots 30 alternately arranged with relation to the closed slots 24 and aligned with the members 25 of blank section 20. The slots 30 extend from the upper edge 31 of the blank to the edge portion 22 forming the junction between the blank sections 20 and 23. The slots 30 divide the blank section 23 into a plurality of spaced spring members or fingers 32 which are alternately arranged with relation to the rigid members 25 and which are aligned with the slots 24 of section 20. As the slots 24 and 30 are of substantially the same width and are spaced apart substantially the same distances, the fingers 32 are of a width substantially the same as that of the rigid members 25. The width of each finger 32 is greater than the diameter of the escape openings 26 so that the free end of each finger will completely block or cover an opening 26 as will hereinafter become more clear. The closed or lower ends of the slots 30 are enlarged and the root ends 33 of the fingers 32 are correspondingly reduced to increase the flexibleness of the fingers. It will be noted that in the construction disclosed there are provided three slots 30 to form four spring fingers 32 in alignment with the four closed slots 24 in section 20. The two outer fingers 32 are reduced in area in the root sections 33 thereof to the same degree as the two inner fingers so that all four fingers will function in a substantially similar manner.

In forming the support from the blank shown in FIG. 5, the blank section 20 is bent along the longitudinally extending lines designated 35—35 and 36—36 to form a forwardly inclined longitudinally extending portion 37 adjacent to the lower ends of the escape openings 26 and between the latter and the rivet openings 27. As is shown more clearly in FIGS. 3 and 4 of the drawings, the longitudinal portion 37 is inclined forwardly and upwardly at an angle of approximately 45° relative to the lower portion of section 20 which is attached to the key case. The longitudinal portion 39 of section 20 containing the escape openings 26, i.e. the portion between lines 36—36 and 38—38, is disposed vertically in offset relation to and in substantial parallelism with the lower portion of section 20. The portion of section 20 between the escape openings 26 and the edge portion 22 and consisting of the major part of the rigid members 25, is bent forwardly and upwardly and then inwardly to form the front and top of a generally tubular member around which the slots 24 extend. The edge portion 22 is disposed so that it extends down substantially vertically from the upper ends of the members 25 to form the upper inner side portion of such tubular member. The spring fingers 32 depend substantially vertically from the edge portion 22 and extend downwardly to the inclined longitudinal portion 37. As is shown more clearly in FIGS. 3 and 4 of the drawings, the lower free ends of the spring fingers 32 are bent forwardly so that each inclines from a point approximately midway between the lower and upper edges of the blank portion 39, forwardly and downwardly to a point located adjacent to the rear surface of the inclined plate portion 37 and approximately midway between the lower and upper edges of such portion 37. It will be under-

stood from the foregoing that the referred to generally tubular member will be formed by the blank portions 37 and 39, members 25, edge portion 22 and fingers 32, and is located at the top of such blank so as to be in transverse relation to the center panel 11 of the key case, as shown in FIG. 1 of the drawings.

It will be understood from the foregoing description of the key holder that the depending spring fingers 32 substantially form the back or inner side of said slotted tube or tubular member formed in part by the spaced members 25 and form with the blank portion 39 an entry chamber for the enlarged heads 18 of the key hooks below and in communication with the main portion of the tubular chamber which is defined by the members 25, edge portion 22 and fingers 32. In the region of such entry chamber the lower free ends of the spring fingers 32 extend in underlying relation across the escape openings 26 rearwardly of the latter. The lower end of each member 32 is spaced from the plate portion 39 a distance less than the transverse dimensions of the enlarged end portion 18 of the key hook, or the diameter of the form of head 18 illustrated, so that it blocks free passage of such hook portion 18 through the escape opening 26 associated with such lower end. When the hook portion 18 is inserted through an escape opening 26 and into the aforesaid entry chamber in attaching a key hook to the holder, it initially engages the inclined lower end of the associated spring member 32 and causes the member 32 to yield rearwardly (note FIG. 4). At the same time the inclined lower end of spring member 32 automatically cams the hook portion 18 upwardly on the front surface of such member to cause the shank of the hook to enter into the lower end of the slot 24 communicating with such escape opening. Thus, the user need not give any direct thought as to how he should operate the key hook 17 to bring the enlarged portion 18 thereof into connecting relation with the slot 24. Almost immediately after the hook has been forced up into the slot 24, the enlarged portion 18 thereof will pass from the entry chamber formed between the spring finger 32 and plate portion 39 and enter into the chamber of the tubular member formed by the members 25 and spring fingers 32. The spring finger 32 displaced by the hook will thereupon automatically return to its normal position and in doing so will reduce the space between such finger and plate portion 39 to a width less than the transverse dimensions of the hook portion 18 to cause the latter to become locked in the area defined by such tube or cylinder. To withdraw the hook, all that is necessary is to force the hook portion 18 down between the plate portion 39 and the spring finger 32 and it will automatically be cammed out through the associated escape opening 26 by the inclined lower end of the spring finger. The arrangement and construction of the spring fingers 32 with relation to the escape openings 26 and slots 24 provide an efficient means by which the connection of the hooks with the holder and their withdrawal therefrom is facilitated and which at the same time effectively retains the key hooks on the holder against inadvertent disconnection therefrom.

While I have hereinabove described and illustrated in the accompanying drawing a preferred embodiment of my improved key holder, it will be apparent to those skilled in the art that various changes may be made therein without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A key holder comprising a rigid plate bent to form a generally tubular member along the top of said holder, a longitudinal portion of said plate forming the front and top of said member being slotted to provide a plurality of transverse closed slots, each of said slots having an enlarged escape opening at its bottom end, and a plurality of spring fingers integral with the top end of said slotted plate portion and depending therefrom to form the inner side of said tubular member, each of said spring fingers being aligned with one of said slots and forming a back wall in the region of said slot and the free end of such finger extending in underlying relation over the escape opening of such slot, the distance between the portion of the plate containing such escape opening and said free end of the spring finger being less than the transverse dimensions of the enlarged head portion of a key hook to be used on said holder so that said free end is forced back from the escape opening on insertion of such enlarged head portion of the key hook through such opening.

2. A key holder as defined in claim 1, wherein the longitudinal portion of said plate containing said escape openings is bent forwardly and forms with the free ends of said spring fingers an entry chamber for the enlarged head portions of the key hooks below and in communication with the main portion of the chamber defined by said tubular member.

3. A key holder as defined in claim 2, wherein said longitudinal plate portion along its lower edge is inclined forwardly and upwardly from the lower part of the plate and in the region of said escape openings is disposed in offset, substantially parallel relation to such lower plate part, and wherein the free ends of said fingers terminate near said inclined lower edge.

4. A key holder as defined in claim 3, in which the lower free ends of said spring fingers are bent towards said inclined lower edge and terminate closely adjacent thereto.

5. A key holder as defined in claim 1, wherein the lower end of each of said spring fingers is bent downwardly and forwardly towards its associated escape opening.

6. A key holder as defined in claim 1, wherein a substantial portion of each of said depending spring fingers is disposed in substantial parallelism with the lower part of the plate, and in the region of the longitudinal portion of the plate containing said escape openings, said fingers are bent forwardly from such parallel portions thereof towards such longitudinal portion.

7. A key holder device in which key loops having enlarged heads may be removably secured comprising a member having a first base portion, a channel portion integral with and lying along one side of said first base portion and a second base portion integral with and extending from an edge of said channel portion to underlie said channel portion, said channel portion being provided with spaced transverse slots, each slot terminating at one end in an enlarged hole in one of said two first mentioned portions through which said heads may be inserted and said second base portion being provided with spaced slots to provide a plurality of resilient fingers with the free end portion of each finger underlying at least a portion of one of said holes to obstruct the free passage of an enlarged head of a key loop therethrough but being forcible away from said hole against its own resilience to permit such passage.

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