Sept. 3, 1946. A. N. HANNA 2,407,153

KEY HOLDER

Filed Oct. 24, 1944

Fig. 1.

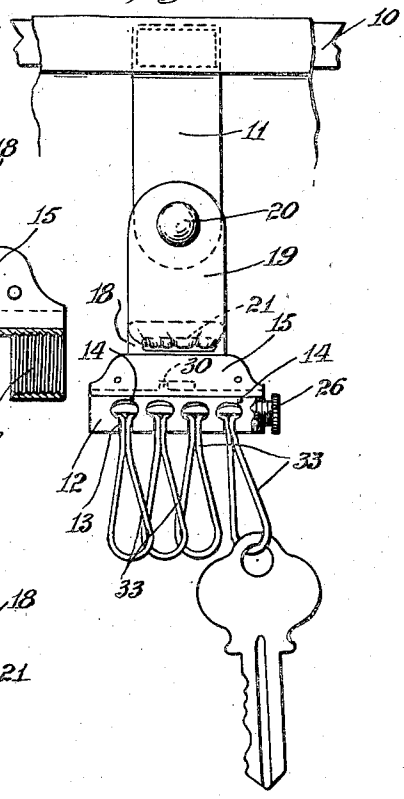


Fig. 2.

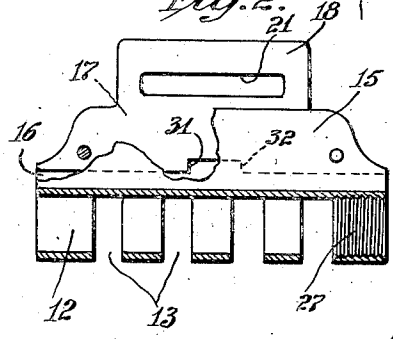


Fig. 3.

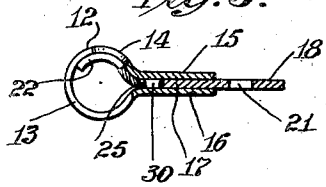


Fig. 4.

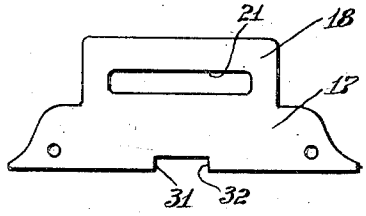


Fig. 5.

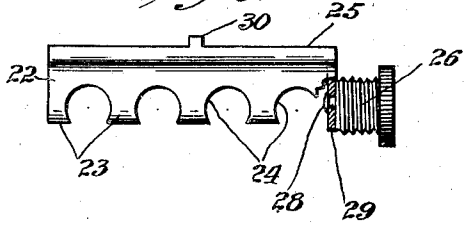


Fig. 6.

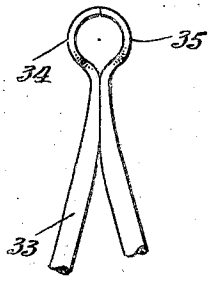


Fig. 7.

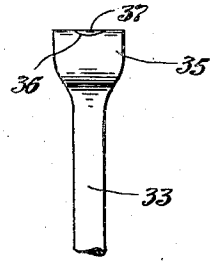
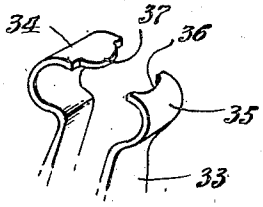


Fig. 8.



Atto N. Hanna

INVENTOR

BY Francis P. Mentworth

his ATTORNEY.

Patented Sept. 3, 1946

2,407,153

UNITED STATES PATENT OFFICE

2,407,153

KEY HOLDER

Atto N. Hanna, Atlantic Highlands, N. J.

Application October 24, 1944, Serial No. 560,145

7 Claims. (Cl. 70—456)

1

The invention relates to key holders, and more particularly to a key holder of the type in which a plurality of keys are detachably mounted for independet movement, by means of split, looped key carriers detachably secured to a slotted fitting.

In key holders of the type to which the invention relates, accidental escape of the carriers from the fitting is prevented by a slidable or a pivotal retainer plate capable of opening or of closing the slots in the fitting in which the key carriers are mounted, and permitting free movement of any carrier in relation to the others in the fitting. When a slidable retainer plate is used, no means has been provided for preventing accidental movement of the plate. When a pivotally mounted retainer plate was used, this plate was usually moved against spring tension into a position to close the various slots and held in this position by a latch mechanism, the release of which permitted the spring to open all slots and thus permit the removal of or the mounting of key carrier loops in the slotted fitting.

With either type of retainer plate mechanism above referred to, there is always likelihood of accidental actuation of the plate by contact with surrounding objects with the resultant possible escape from the fitting of one or more of the key carriers. To guard against this, the usual practice is to provide the key holder with an enveloping case of leather or other material.

It is well known that when a woman desires to remove an article from her hand bag, she usually has difficulty in finding such article and has to handle numerous other articles while locating that required. Such fumbling amongst articles in a hand bag is very apt to actuate the retainer plate in a key holder of the type above referred to and permit the escape of a key carrier or carriers into the hand bag.

With the above conditions in mind, I have produced a key holder having a slidable retainer member, manually actuated by a positively acting, self-locking mechanism which has no springs and cannot be accidentally actuated to permit the escape of the key carriers. A key holder embodying the invention has three sheet metal parts, two of which form a base fitting, the third being a slidable retainer plate. These parts are so constructed that the sliding movement of the retainer plate in the base fitting is guided and limited, the co-operating parts of said base fitting and said retainer plate which ensures this mode of operation being brought into and maintained in their proper relative positions when locating and securing the tubular, slotted head of the base

2

fitting in relation to the other plate of the fitting without requiring a special operation or additional parts.

The construction of the key holder of the invention is such that it may be detachably mounted within and adjacent the frame of, a lady's hand bag where it will be conveniently accessible when wanted without search of the bag or disturbance of other articles therein. By suspending the holder within the bag access may be had to other articles and the key holder may be removed from a bag without moving such other articles. The use of a positively acting, self-locking retainer plate permits access to other articles in a bag without likelihood of the accidental actuation of the retainer plate to open the slots in the base fitting so as to permit the escape of a key carrier into the bag.

A key holder embodying the invention is not only simple in construction and attractive in design, but the parts thereof may be quickly and economically produced and assembled.

In a holder embodying the invention, I preferably use a looped key carrier, the ends of which entering the slotted head of the base fitting, while necessarily divided to permit the placing of a key in the loop, are so formed as to not only permit free substantially universal movement of the carrier but to prevent any relative movement of either end of the loop in relation to the other, both axially and radially of the tubular head of the base fitting.

The invention consists primarily in a key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, a semi-cylindrical retainer slide having a plurality of spaced wards adapted to obstruct the enlarged portions of said slots respectively, a plate secured to said head, co-operating means on said base fitting and said retaining slide for guiding and limiting the movement of said slide, and positively acting, self-locking means for actuating said slide; and in such other novel features of construction and combination of parts as are hereinafter set forth and described and more particularly pointed out in the claims hereto appended.

Referring to the drawing,

Fig. 1 is a view in elevation of a fragmentary portion of the frame of a woman's hand bag having a key holder embodying the invention attached in relation thereto;

Fig. 2 is a detail view of the base fitting shown partly broken away and partly in section;

Fig. 3 is a sectional view of the base fitting with the retainer slide in position in the tubular head of the fitting;

Fig. 4 is a detail view of the guide and stop plate of the base fitting;

Fig. 5 is a detail view of the retainer slide partly broken away to disclose the details of the actuating mechanism; and

Figs. 6, 7 and 8 are front, side and perspective views of the upper end of a key carrier loop.

Like letters refer to like parts throughout the several views.

In the accompanying drawing, a fragmentary portion of the frame of a woman's hand bag is shown at 10. Secured to said frame by means of its trim, is a flexible tab 11 having secured thereto one of the parts of a snap fastener by means of which a key holder embodying the invention may be suspended within the bag adjacent its top so that it not only is held apart from other articles in the bag but is readily accessible when a bag is opened.

The key holder as shown in the drawing embodies therein a base fitting including therein a tubular head 12 having a plurality of segmental circumferentially extending slots 13 each provided with an enlargement 14 towards the top of the slot. This head is of formed sheet metal and has parallel edge flanges 15—16 by which it is permanently secured to a guide and stop plate 17 located and clamped between said flanges by means of rivets, as shown, or other well known means.

The said flanges and the lower portion of the plate 17 are symmetrical in contour to give an attractive finish to the holder.

The enlargements 14 are adjacent one of the flanges as 15.

The plate 17 has an extension 18 beyond the flanges 15—16 and has secured thereto a flexible tab 19 carrying a part of the snap fastener 20, the other part of which is carried by the bag tab 11. While the manner of attaching the tab 19 to the plate is immaterial to the invention, I preferably provide the extension 18 with a slot 21 through which the material of the tab 19 may be passed and have its ends united by the snap fastener part to close the bight in the strip material.

Slidably mounted within the head 12 is a segmental guard slide 22, shown in Fig. 5, having a plurality of wards 23 corresponding in number and spacing with the slots 13. The plate or slide is of sheet metal having cutout portions 24 between the wards of substantially the same dimensions as the enlargements 14 of the slots 13 with which they are adapted to be brought into register to allow key carriers to be mounted in, or removed from, the base fitting.

The slide 22 is provided with a flange 25 having a sliding fit between the head flanges 15—16 which are spaced apart by the plate 17 to an extent to ensure a close sliding fit between said flange 25 and the flanges 15—16.

To impart movement to the slide 22 for positioning the wards 23 so as to obstruct or expose the various enlargements 14 of the slots 13, I provide a manually operative, positively acting and self-locking actuating mechanism for said slide. As shown in the drawing, this mechanism comprises a thumb screw 26 connected to one end of the head 12 by screw threads 27 and to said slide by a swivelling connection 28 with an end disk 29 carried by said guard slide 22.

The top edge of the flange 25 engages the bottom edge of the plate 17 and the screw 26, alone or in conjunction with the end disk 29, prevents displacement of the slide within the head 12. In this manner the guard slide 22 is limited to a right line movement by the screw 26.

To limit the lineal movement of the slide 22 by the screw 26 to that required to position the wards 23 so as to obstruct or to clear the various enlargements 14 of the slots 13, I provide cooperating means upon the base fitting and upon said slide which as shown consists of a stop tongue 30 projecting from the edge of the flange 25 so as to be engageable with spaced stop shoulders 31—32 at opposite ends of an angular recess 33 in the bottom of the guide and stop plate 17.

The head 12 is adapted to hold in each slot 13, a looped key carrier of springy material. Each carrier has a divided end towards which the sides of the loop are constricted. The ends of a loop are sprung apart when mounting a key in, or removing it from, the carrier, and automatically close when released after such separation. The divided end of the carrier is provided with an enlargement of dimensions to pass freely through an opening 14 to within the tubular head 12, the constricted portion of the loop being of dimensions to pass through a slot 13 and permit a substantially universal movement of the carrier in relation to said head. In a key holder embodying the invention, I preferably use a looped key carrier 33, the free ends of which are formed so as to provide the ends when closed, with a short substantially cylindrical end formed by curved portions 34—35, of a length and a diameter to pass freely through an enlarged portion 14 of a slot 13 but not through the slot itself. The adjacent end portions of the loop are flattened and converged so as to pass freely through a slot 13 and merge into the cylindrical and tubular head portion in a curve. This permits the loop to turn freely about the axis of the head 12 and swing at an angle in relation to such axis, both movements being limited by the edges of the slot 13 or a ward 23 of the guard slide 22. To prevent accidental opening of a loop while in the head 12 as a result of side slippage of one arm of a loop in relation to the other and its escape through a slot 13, I provide interlocking means upon the head portions of the loop consisting of a recess 36 in one of the curved portions, as 35, and a tongue 37 upon the other curved portion, 34, adapted to enter the recess and prevent movement of either end independently of the other when the loop is closed.

The head fitting including the tubular slotted portion 12 and its flanges 15—16, the guide and stop plate 17, and the guard slide 22 preferably are each made of sheet metal and may be economically blanked, pierced and formed with uniformity and accuracy. By thus standardizing a few parts of simple design, whether made of metal or other suitable material, no adjusting or fitting of parts is required during assembly and ease of operation is assured without the use of lubricants.

Preparatory to assembly of parts, the thumb screw 26 is mounted by its swivelling connection 28 with the end disk 29 of the guard slide 22. The slide is then slipped into the tubular head 12 and its screw threads engaged with the screw threaded portion 27 at the end of said head 12 with the top flange 25 of the slide between the flanges 15—16 of the head. The lower part of the guide and stop plate 17 is then passed be-

tween the flanges 15—16 until its lower edge engages the top edge of the flange 25 with the shoulders 31—32 of plate 17 positioned at opposite sides of the tongue 30. The flanges 15—16 and plate 17 are then riveted together.

A strip of flexible material which may be selected to accord with the material forming the lining and trim of a hang bag is then passed through the slot 21 in the extension of the plate 17 and the bight of the material closed by means of the snap fastener 20.

When it is desired to mount a key carrier in, or remove it from, the base fitting, the screw 26 is turned to draw the guard slide 22 to the right, Fig. 1, with a right line movement due to the engagement of the edge of the flange 25 with the edge of the guide and stop plate 17. Turning of the slide 22 in the head 12 is prevented by the flanges 15—16 between which the flange 25 is confined and has movement.

This positions the various wards 23 at one side of the enlarged openings 14 substantially simultaneously with the engagement of the tongue with the stop shoulder 32 on the plate 17 thus providing space for the insertion of the head of a key carrier to within the tubular head 12. By turning the screw 26 in the opposite direction, a reverse right line movement is imparted to the slide 22, engagement of the tongue 30 with the stop shoulder 31 limiting the amount of such movement. Whether or not the slide is moved to the full permissible extent, the various wards 23 are so positioned to obstruct the openings 14 to an extent to prevent accidental escape of a key carrier from the base fitting.

The tongue 30 on the guard slide 22 and the shoulders 31—32 on the plate 17 not only limit the lineal movement of the slide 22 but limit the screw action so as to prevent the escape of the slide from the head 12 due to the screw 26.

By using a screw threaded actuating mechanism for the guard slide 22 as described, a positive, gradual application of power to the slide is utilized and since several turns of the screw 26 are required to impart that movement necessary to position the wards 23 as described, the screw not only serves as a means for actuating the slide but also as a lock for preventing such movement of the slide as will change the position of the wards. With the construction and mode of operation described, accidental movement of the slide to an extent to permit the escape of a key carrier loop from the base fitting is practically impossible.

The key holder being suspended from and detachable in relation to the top frame 10 of a hand bag, is, when the bag is opened, readily accessible without disturbing other articles in the bag, and in addition to this convenient access to the key holder, likelihood of accidental turning of the screw 26 is negligible.

A key carrier constructed as described, prevents accidental opening of the loop by movement of one arm in relation to the other because of the interlocking tongue 37 and recess 36.

While a key holder made throughout of metal is shown in the drawing, it is obvious that materials other than metal may be used if desired.

It is not my intention to limit the invention to the precise details of construction shown in the drawing, it being obvious that such may be varied without departing from the spirit and scope of the invention.

Having described the invention, what I claim as new and desire to have protected by Letters Patent is:

1. A key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, said head having screw threads adjacent one end thereof, a semi-cylindrical retainer slide having a plurality of spaced wards adapted to obstruct the enlarged portions of said slots respectively, co-operating means on said base fitting and said retaining slide for guiding and limiting the movement of said slide, a manually operative screw mounted in said screw threads, and a swivelling connection between said screw and said retainer slide.

2. A key holder embodying therein a base fitting having a tubular head provided with parallel flanges and a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, said head having screw threads adjacent one end thereof, a semi-cylindrical retainer slide having a plurality of spaced wards adapted to obstruct the enlarged portions of said slots respectively and a flange having a sliding fit between the flanges of said head, a plate secured to said head engageable with and guiding the movement of said slide, a tongue projecting from the flange of said slide co-operating with spaced shoulders on said plate for limiting the movement of said slide, a manually operative screw mounted in said screw threads, and a swivelling connection between said screw and said retainer slide.

3. A key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, said head having screw threads adjacent one end thereof, a semi-cylindrical retainer slide having a plurality of spaced wards adapted to obstruct the enlarged portions of said slots respectively and a disk at the end thereof adjacent said screw threads and having a sliding fit within said head, a plate secured to said head, co-operating means on said base fitting and said retaining slide for guiding and limiting the movement of said slide, a manually operative screw mounted in said screw threads, and a swivelling connection between said screw and said disk.

4. A key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, a slide member having a plurality of spaced wards adapted to obstruct and a plurality of openings adapted to register with the enlarged portions of said slots, cooperating means on said base fitting and slide member for guiding movement of said slide member, and screw operated means connecting said base fitting and slide member for forming a device for positively actuating said slide member and for locking the same in its actuated position.

5. A key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, a slide member having a plurality of spaced wards adapted to obstruct and a plurality of openings

adapted to register with the enlarged portions of said slots, cooperating means on said base fitting and slide member for guiding movement of said slide member, and interengaging screw means on said tubular head and slide member for forming a device for actuating said slide member positively in its opposite sliding directions and for locking the same in its actuated position.

6. A key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, a slide member having a plurality of spaced wards adapted to obstruct and a plurality of openings adapted to register with the enlarged portions of said slots, cooperating means on said base fitting and slide member for guiding movement of said slide member, and means comprising a part on one end of said tubular head and a part on the contiguous end of said slide member interengageable for locking the slide member to said base fitting.

7. A key holder embodying therein a base fitting having a tubular head provided with a plurality of segmental, circumferential slots each having an enlarged portion, each of said slots being adapted to receive a looped key carrier, a slide member having a plurality of spaced wards adapted to obstruct and a plurality of openings adapted to register with the enlarged portions of said slots, cooperating means on said base fitting and slide member for guiding and limiting movement of said slide member, and means comprising a screw part on one end of said tubular head and a mating screw part on the contiguous end of said slide member for locking the slide member to said base fitting.

ATTO N. HANNA.