May 16, 1933. C. H. HOWE 1,908,846

KEY CASE

Filed June 15, 1931

Fig. 1.

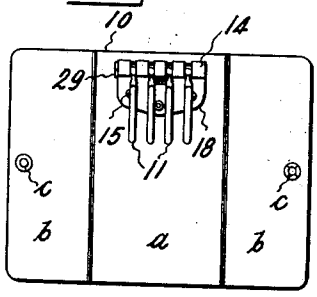


Fig. 3.

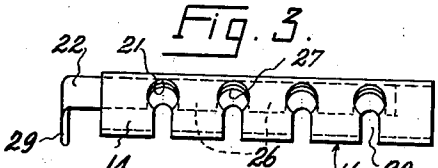


Fig. 4.

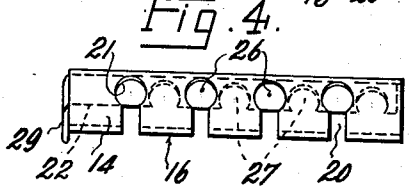


Fig. 2.

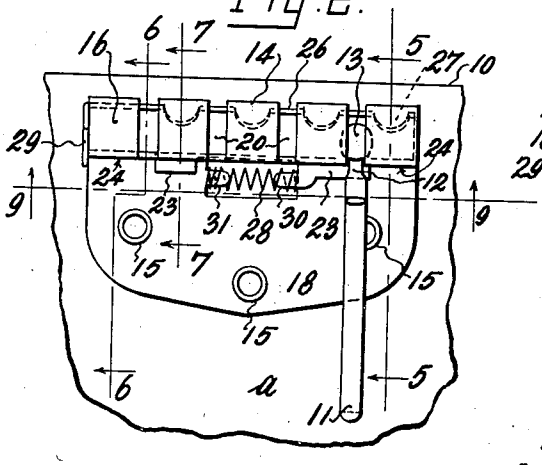


Fig. 6

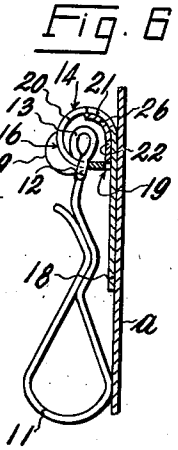


Fig. 5.

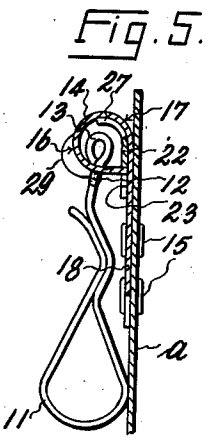


Fig. 8.

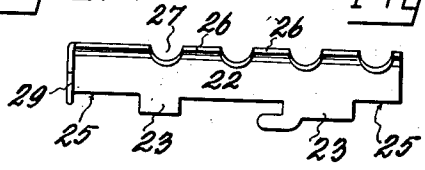


Fig. 10.

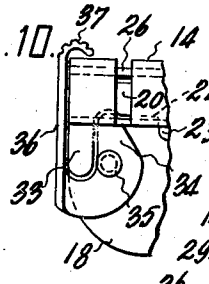


Fig. 11.

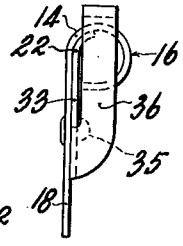


Fig. 7.

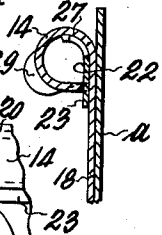


Fig. 9.

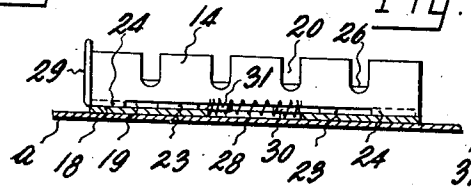


Fig. 12.

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UNITED STATES PATENT OFFICE

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KEY CASE

Application filed June 15, 1931. Serial No. 544,432.

This invention relates to improvements in key cases and, more particularly, to the means for securing the key holding hooks in the case.

The invention is an improvement on that of my copending application for U. S. Letters Patent, filed November 17, 1930, under Serial No. 496,197.

The invention has for an object the provision of a simplified and improved mounting for the reciprocable locking device which holds the key holders in place in their support, characterized by a better and less bulky article and one more attractive in appearance.

The invention also has for an object the provision of means, such for example as a spring, for holding the locking device in locking position.

The invention also has for an object the provision of a manually operable member for moving the locking device against the biasing influence of the spring, into position for removal or replacement of the key holders and for holding it in such position.

Another object of the invention is to provide a construction for the purpose, which can be readily manufactured by simple methods and at low cost.

Other objects will appear as the detailed description proceeds and will be pointed out in the appended claims.

The invention will be disclosed with reference to the accompanying drawing, in which:—

Fig. 1 is a front elevational view of a key case embodying the invention,—the case being shown in open position;

Fig. 2 is a fragmentary view, taken similarly to Fig. 1, but drawn to a larger scale to show the details of the key holder support;

Figs. 3 and 4 are top plan views of the key holder support, showing the same in position for insertion or removal of the key holders and in position for locking the key holders against removal, respectively;

Figs. 5, 6 and 7 are sectional views taken on the lines 5—5, 6—6 and 7—7 respectively, of Fig. 2;

Fig. 8 is an elevational view of the locking device;

Fig. 9 is a sectional view taken on the line 9—9 of Fig. 2;

Fig. 10 is a fragmentary view, taken similarly to Fig. 2, showing a modification in the means for moving the locking slide;

Fig. 11 is an end elevational view of the device shown in Fig. 10; and

Fig. 12 is a view similar to Fig. 10 but showing the locking slide moved to and locked in position for removal of the key holders.

Referring to the drawing; the body of the case is designated 10. The case may be of any desired form as this invention is concerned only with the means for fastening the key holders in place therein. As shown, the case is of usual form comprising a strip of leather or the like affording a central section *a* and two flaps *b*, which may be folded over and upon the central section in overlapping relation to enclose the key holders and which may be secured together in such relation by interengageable snap fastener elements *c*.

The key holders are shown at 11 and may be of any suitable form. As shown, they are in the form of snap hooks, each having a shank 12 and an enlarged and approximately ball-shaped head 13. One or more (four as shown) of these key holders are mounted in the tubular part 14 of a metal support suitably secured, as by rivets 15, to the body 10 of the key case. This tubular part has a substantially semi-cylindrical front wall 16 and an integrally connected back wall 17 which may, although it need not, be a continuation in part of the cylindrical surface and which extends beyond the tubular portion to form a plate-like part 18. The lower end of the front wall 16 is turned in to abut plate 18 at its ends, leaving between these ends a slot 19 (see Figs. 6 and 9). The semi-cylindrical front wall has a series of transverse slots 20, one for each key holder, and each slot is of a width such as to freely receive the shank 12 of its key holder and yet prevent passage of the head 13 therethrough. The key holders are free to swing

about the axis of portion 14 from the normal pendant position shown in Fig. 6 upwardly through an angle of approximately 180 degrees. Each key holder is preferably also free to turn about the axis of its shank 12 with a swivel action, the head 13 and tubular part 14 forming the equivalent of a ball and socket joint. While the swivel action is desirable, important and preferred, it is not indispensable and the advantages of this invention may be secured, at least in part, if the key holders simply swing and are restrained from swivelling movement.

Thus far, the key case structure is of usual form, except for the slot 19, the purpose of which will later appear. In accordance with this invention, there is provided at one point in each slot 20, preferably at the upper end thereof, an enlargement 21 which is of such size and shape as to permit the head 13 of the key holder to pass therethrough. The support, comprising the tubular portion 14, may be completely formed prior to insertion of the key holders,—the latter being later assembled therein by passing their heads through the enlargements 21.

The problem of the invention is to provide a satisfactory means for locking the heads 13 of the key holders in place in the tubular member 14. For this purpose, the device shown in Fig. 8 is provided. This device consists of a plate-like slide piece 22 which lies within the tubular support 14 and against the back plate 18 thereof. The slide 22 has extensions 23 which extend out of the support 14 through slot 19 and are free for a limited degree of longitudinal sliding movement (in a direction parallel to the axis of member 14). As shown, the right hand part 23 abuts the right hand abutment 24 (Fig. 9) and the slide 22 is movable to the left until the left hand part 23 abuts the left hand abutment 24. The slide extends upwardly into the tubular member, following along the inner surface of the back wall 17 thereof. Its upper end is rounded to conform with the curvature of the upper part of back wall 17 and is slidably engaged therewith. This prevents upward movement of the slide in the support 15 and downward movement is prevented by the lower edges 25 resting on and sliding on the unslotted lower portions of the support which form the abutments 24. It will thus be seen that the slide is held against vertical movement or any other movement except in a longitudinal direction. The slide 22 is provided at its upper end with a series of projections 26, one for each key holder 11, and these projections, as will be clear from Fig. 4, normally cover the enlargements 21 to an extent sufficient to prevent passage of the heads 13 of the key holders therethrough. Intermediate these projections 26, the upper edge of the slide is recessed, as at 27, or in any other suitable way, so that when the slide is shifted far enough to carry the projections 26 out of registration with the enlargements 21, the latter will be unobstructed, as clearly shown in Fig. 3. The heads 13 of the key holders may then be removed or inserted in the tubular member.

For limiting the movement of the slide 22, the lug extensions 23 and abutments 24 are provided, as above described. The engagement of the left hand lug 23 with the left hand abutment 24 defines the correct relative position of the parts in which the recesses 27 in the slide 22 will register perfectly with the enlargements 21 as shown in Fig. 3. The right hand lug 23 by its engagement with the right hand abutment 24, limits the movement of the slide in the opposite direction and defines its correct position for locking the key holders,—that is the position of Fig. 4 in which the projections 26 are in covering relation with the enlargements. A spring 28 serves to hold slide 22 in locking position but it may be moved against the force of spring 28 by a finger piece 29 formed on one end of the slide. Spring 28 is supported at its ends on tongues 30 and 31, one (30) being an extension of the right hand lug 23 and the other (31) being struck up from the opening in plate 18.

In Figs. 10 to 12 there is shown a modification of the means for moving the locking slide 22. At one end, the slide 22 is provided with a downward extension 33 which passes through an extension of the slot 19,—the left hand abutment 24 being omitted. A cam 34, pivoted at 35 to plate 18 has an operating handle 36, normally extending vertically as shown in Fig. 10. The upper end of this handle may be bent over in rounded form and corrugated, as at 37, to enable it to be easily moved when engaged by the finger of the operator. The slide 22 is held in normal and locking position by the spring 28 as before. On swinging handle 36 downwardly, cam 34 will engage part 33 and move it with slide 22 to the left. When handle 36 is moved into the position shown in Fig. 12, the slide 22 will be locked in the position shown in Fig. 3, allowing the operator to remove and replace key holders without giving any of his attention to the matter of holding the slide 22 in position. The cam 34 accurately locates the slide in proper position for removal of the key holders and holds it in such position against return movement by spring 28.

The operation will be clear from the foregoing description but there are some aspects of the invention that may be clearer from special mention. For example, the key holder support, as shown, is substantially of the same general form, style and appearance as the commercial structure now in wide use.

The addition of the locking slide 22 has been effected without materially altering the appearance of the support and without materially increasing the diameter of the tubular portion thereof. Such portion is kept of the same small diameter essential for a key case of the desired thin form which readily fits the pocket. In this connection, it is to be noted that the support, as shown in Figs. 2 to 6, is drawn double size. This result is effected by a locking device which follows along one wall only of the tubular support and preferably as shown along the back wall. There is usually room at such location in the old style key case for the reception of the slide 22 and no noticeable increase in diameter of the tubular portion 14 is necessary to make room in the old construction for the additional element. Were the locking device to follow completely around the inner periphery of the portion 14, an increase in its diameter would be necessary. Here, the inside area of the tube 14 is restricted, if at all, only by a single thickness of the metal comprising the locking device and this, because of its construction, may be made relatively thin and yet retain sufficient strength for its purpose. So also, by the described location of the slide 22, it is maintained out of the way of the heads of the key holders and does not interfere at all with their normal movements and need not necessarily even be engaged thereby. Also, the construction of the device is so simple that it is readily manufactured by punch press methods.

It is to be noted that the slots 20 do not extend to the edge of the metal piece from which support 14 is formed. The cylindrical parts on opposite sides of each slot 20 are tied together by a solid piece of metal at both ends of the slot. This is a feature of importance as minimizing the likelihood of the walls of a slot spreading apart in service sufficiently to allow a head 13 to pass therethrough. As a matter of fact, key holders have dropped out accidentally from just this cause in prior structures, wherein the walls of the slots 20 were tied together at one end only.

In the standard key case construction, it has been the practice to assemble the key holders in the support prior to the completion of its formation. A plate having a series of parallel slots extending from one edge inwardly is used for the support. The slotted part of this plate is rolled into roughly cylindrical form but, before being completely rolled down, the key holders are inserted. The present construction enables the support to be completely formed prior to the insertion of the key holders. Then, by pushing slide 22 into the position shown in Fig. 3, the heads 13 of the key holders may be placed within the tube 14, after which they are locked in place by the simple act of pushing the slide 22 into the position shown in Fig. 4. This construction also results in an advantage to the user, enabling him to remove and replace key holders whenever desired. Broken key holders may be removed and replaced quickly and conveniently. Also, the user may shift the key holders with the attached keys in the key case, or substitute one for another, to suit his own desires. He may remove key holders carrying keys that are not immediately needed, replacing them later only when they are likely to be used. There is a demand in the trade for a key case which will enable these results to be obtained.

The present locking means, operating by a longitudinal sliding movement, is effective for its purpose without causing movement of the key holders and without bodily shifting them and the keys carried thereby. The locking slide is readily operated since it does not bear the load of the key holders and keys. This also avoids the possibility present in the old construction, that movement of the parts might be interfered with and restrained by a key catching on some obstruction or by entanglement of the keys.

As distinguished from my prior application, the mounting of the locking device has been materially simplified and improved. A less bulky structure and one far more attractive in appearance has been provided. In addition, the locking slide is definitely biased to and held in locking position. It cannot readily be moved by accident or inadvertence into position to release the key holders. Also, as a convenience, the cam arrangement of Fig. 12 provides for holding the locking slide against the biasing spring, in position for release of the key holders.

The invention has been disclosed herein, in an embodiment at present preferred, for illustrative purposes, but the scope of the invention is defined by the appended claims rather than by the foregoing description.

What I claim is:

1. In a key case, a tubular support having a transverse slot with an enlargement at one point therein, a key holder having a head turnably mounted within said support and a shank extending out of the latter through said slot and freely movable therein, said head being of a size to pass freely through said enlargement but not through said slot, means independent of said support and longitudinally shiftable thereon from one position to another to prevent or permit passage, respectively, of the head of the key holder through said enlargement, and resilient means for returning said shiftable means to and normally holding it in one of said positions.

2. In a key case, a tubular support having a transverse slot with an enlargement at one point therein, a key holder having a head

turnably mounted within said support and a shank extending out of the latter through said slot and freely movable therein, said head being of a size to pass freely through said enlargement but not through said slot, means independent of said support and longitudinally shiftable thereon from one position to another to prevent or permit passage, respectively, of the head of the key holder through said enlargement, and resilient means for returning said shiftable means to and normally holding it in position to prevent passage of the key holder through said enlargement.

3. In a key case, a tubular support having a transverse slot with an enlargement at one point therein, a key holder having a head turnably mounted within said support and a shank extending out of the latter through said slot and freely movable therein, said head being of a size to pass freely through said enlargement but not through said slot, means independent of said support and longitudinally shiftable thereon from one position to another to prevent or permit passage, respectively, of the head of the key holder through said enlargement, resilient means for moving said shiftable means to and normally holding it in one of said positions, and means for positively holding said shiftable means in the other of said positions against the action of said resilient means.

4. In a key case, a tubular support having a transverse slot with an enlargement at one point therein, a key holder having a head turnably mounted within said support and a shank extending out of the latter through said slot and freely movable therein, said head being of a size to pass freely through said enlargement but not through said slot, means independent of said support and longitudinally shiftable thereon from one position to another to prevent or permit passage, respectively, of the head of the key holder through said enlargement, resilient means for moving said shiftable means to and normally holding it in one of said positions, and means for moving said shiftable means against the action of said resilient means into the other of said positions and postively holding it in such position.

5. A key holder support, comprising, a plate-like part having one end rolled over to form a substantially tubular portion, said portion having a longitudinal groove therein adjacent said part and having also a transverse slot with an enlargement at one point, therein, a key holder having a head turnably mounted within the tubular portion and of a size to pass freely through said enlargement but not through said slot and having also a shank extending out of said portion through said slot and freely movable therein, and a locking device mounted to slide longitudinally within said portion and having an extension slidably received in said groove and extending out of said tubular portion, said device having a part effective in one position of said device to cover the enlargement sufficiently to prevent passage of the head therethrough, said device being movable to another position to carry said part out of covering relation with said enlargement.

6. A key holder support, comprising, a plate-like part having one end rolled over to form a substantially tubular portion, said portion having a longitudinal groove therein adjacent said part and having also a transverse slot with an enlargement at one point therein, a key holder having a head turnably mounted within the tubular portion and of a size to pass freely through said enlargement but not through said slot and having also a shank extending out of said portion through said slot and freely movable therein, a locking device mounted to slide longitudinally within said portion and having an extension slidably received in said groove and extending out of said tubular portion, and a spring acting between said plate and extension tending to hold the latter at one end of said slot, said device having a part effective in one position of said device to cover the enlargement sufficiently to prevent passage of the head therethrough, said device being movable to another position to carry said part out of covering relation with said enlargement.

7. A key holder support, comprising, a plate having projecting from one edge a pair of spaced lugs one near each end thereof and having the part adjacent such edge rolled over to form a substantially tubular portion with said lugs abutting the body of the plate thereby forming a closed slot between the lugs, said tubular portion having a slot therein disposed transversely of its axis with an enlargement at one point in the slot, and a locking device longitudinally slidable within said portion and disposed contiguous with the back wall thereof with the ends of its lower edge slidably supported on said lugs, said device having guiding means extending into said first named slot to limit its longitudinal movement by abutment with one or the other of said lugs, said device when in one positior serving to cover said enlargement and when in another position to uncover said enlargement.

8. In a key case, a support comprising a plate with a portion adjacent one edge rolled over into substantially tubular form and until said edge abuts the body of the plate, said tubular portion having a closed slot in its lower wall adjacent said plate, a locking device longitudinally slidable in said portion having guiding means projecting through said slot and adapted by abutment

with the ends of the slot to limit the extent of longitudinal movement of the device, said tubular portion having a transverse slot with an enlargement at one point therein, and a key holder having a head turnably mounted within said tubular portion of a size to pass freely through said enlargement but not through said slot, said device when in one of its extreme positions preventing passage of the head of the key holder through said enlargement and when in its other extreme position permitting such passage of such head.

In testimony whereof I have affixed my signature.

CARLETON HOWARD HOWE.