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A. N. HANNA

2,233,127

KEY CASE

Filed April 30, 1940

Fig. 1.

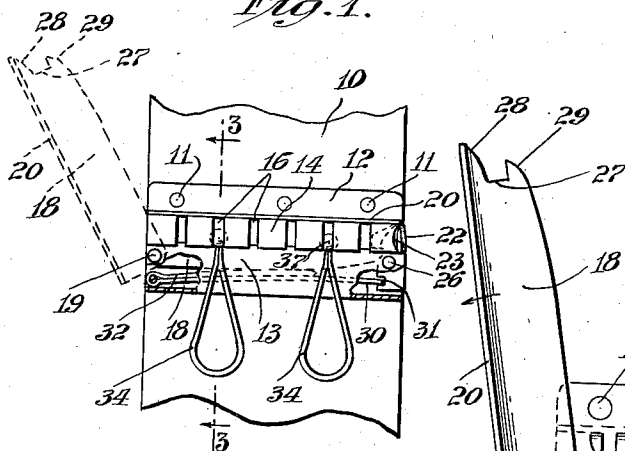


Fig. 2.

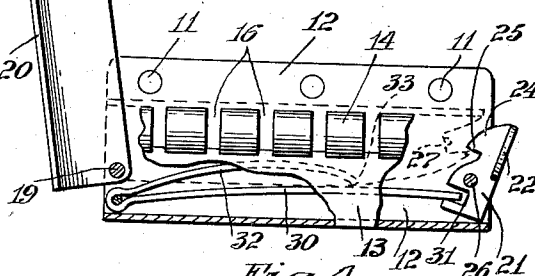


Fig. 3.

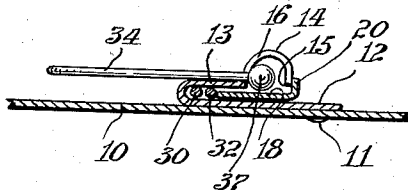


Fig. 4.

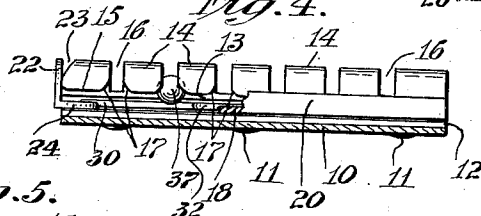


Fig. 5.

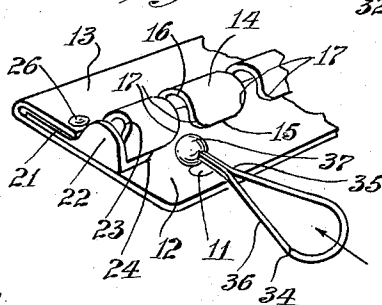
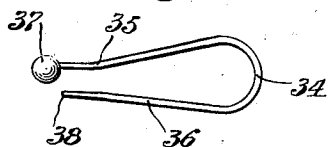


Fig. 6.



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2,233,127

KEY CASE

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9 Claims. (Cl. 70—456)

The invention relates to key cases, and more particularly to key cases of the type in which the keys are carried by split rings pivotally mounted upon a metal fitting secured to an enveloping case of flexible material.

Key cases of the type to which the invention relates have been extensively used for many years. The envelope of flexible material, usually of leather or a leather substitute, enclosed the hook supporting fitting and the various keys upon the hooks, so as to protect the pockets of the user of a case while permitting convenience in the selection of any key within the case.

In most key cases heretofore used, the hooks were permanently assembled in relation to the fitting, keys being placed in and removed from the case by flexing the material of the hook. In some key cases heretofore used, the hooks were removably mounted in relation to the fitting, retaining means being provided to prevent the accidental escape of any hook and its contained key. In such cases, however, the construction was such as to make the removal of the hooks an awkward operation. Furthermore, the operative mechanisms of the retaining means were exposed, and there was great likelihood of a disarrangement or loss of parts because of this.

With the above conditions in mind, I have provided a key case in which the fitting supporting the various hooks may be quickly and economically formed of thin gauge sheet metal. The fitting is of a form which will facilitate not only the mounting and removal of the various hooks in relation thereto, but which will impart the necessary degree of rigidity throughout the entire fitting. The arrangement of parts is such as to conceal and retain all of the parts operative to retain the various hooks in relation to said fitting, and permit the convenient mounting and removal of any selected hook without disturbing other hooks.

The retaining means is so constructed and located as not only to be concealed when various slots, by means of which hooks are retained in the fitting, are closed to prevent the escape of any of the hooks, but to prevent any part of any hook from interfering with the free operation of this retaining means.

A spring acts upon the retaining means with a tendency to move it out of operative relation to the various hooks, and movement of said means by the spring is controlled by a latch mechanism manually actuated to release the retaining means, but automatically operated when this means is moved into a position to close the

various slots in the fitting. A spring is provided to permit this automatic action and to hold the latch in a position to retain this means in its closed position, except when its movement is desired for the purpose of removing any hook with its contained key from the fitting, or to facilitate the use of the key, or permit the mounting of a key in, or its removal from, a hook.

Each hook is so constructed that it may have a free swinging and pivotal movement in relation to the fitting, and preferably the opening in the hook is so positioned that the walls of a slot in which the hook is mounted will prevent accidental opening of a hook and the possibility of the loss of a key therefrom.

The construction and arrangement of the various parts of a key case embodying the invention are such as to permit the production of the fitting of inexpensive sheet metal material, the use of a minimum number of parts, and a convenient and rapid assembling of the parts.

The invention consists primarily in a key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate out of said trough, and a spring actuated latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket adjacent the free end thereof, and said latch member having a bolt head adapted to enter said socket; 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 of a key case embodying the invention, with portions of the envelope broken away;

Fig. 2 is a view similar to Fig. 1, upon a larger scale, with parts broken away to disclose the various mechanisms controlling the retaining plate;

Fig. 3 is a section on the line 3—3 of Fig. 1 upon an enlarged scale;

Fig. 4 is a view from the top of Fig. 2 with a portion of the flange of the retaining plate broken away;

Fig. 5 is a fragmentary view of the latch end of the fittings; and

Fig. 6 is a detail view of a key hook in the open position for the reception of a key.

5 Like numerals refer to like parts throughout the several views.

In the accompanying drawing, the flexible enveloping casing is shown at 10. Secured to this casing, in any desired manner, as by means of
10 rivets 11, is a sheet metal fitting comprising a back plate 12 having along one edge thereof a troughed portion formed by bending an integral part of the blank including the back plate 12, as indicated at 13. The free edge of the part 13 is
15 formed outwardly away from, and then toward the back plate in semi-cylindrical form, as shown at 14, the edge 15 of this bent portion being spaced from the back plate 12 as shown in Figs. 3 and 4 of the drawing.

20 The rounded portion 14 is provided with a plurality of slots 16 extending from adjacent the trough forming portion 13 and opening outwardly of the edge 15 of the portion 14.

As will more fully appear hereinafter, the purpose of spacing the edge 15 from the back plate 12 is to provide clearance for the mounting and removal of key retaining hooks in the metal fitting, and also provide space for a retaining plate closing the various slots 16 so as to prevent the
25 escape of a key hook from the fitting.

30 It is desirable to bring the edge 15 as close as possible to the back plate 12 so as to relieve the retaining plate from stresses tending to open same while a key is in use. To secure this condition, I provide the end of each slot, adjacent the edge 15,
35 with an enlargement 17, the dimensions of which are such as to permit an enlarged head of a key hook to enter or be withdrawn from, the semi-cylindrical portion 14.

40 To secure key hooks within the semi-cylindrical portion 14, I provide a retaining plate 18 adapted to pass between the edge of the slotted cylindrical portion 14 and the back plate 12, this plate being adapted to enter the space between the turned
45 portion 13 and the back plate 12 forming the trough extending along one edge of the back plate.

The portion 13 is parallel with, and spaced from, the back plate a distance to afford space for the reception of the retaining plate 18, and is of a depth to accommodate this plate and also
50 a spring mechanism operative thereon and upon a latch mechanism co-operating therewith.

The plate 18 is pivotally supported adjacent one end of the trough, as by means of a pivot 19.

55 Projecting from one edge of the plate 18 is an overhanging flange 20 of a depth to overlay the edge portion 15 of the semi-cylindrical portion 14 and co-operate with the plate 18 in closing the ends of the slots 16, so as to prevent the escape of
60 a key hook from the semi-cylindrical portion 14.

It will be noted that the portion of the semi-cylindrical portion 14 adjacent the edge 15 is positioned between the enlarged head of a key hook and the flange 20, so that said flange and the
65 plate 18 will be subject to no stresses as a result of pull upon the hook when a key is in use. Furthermore, this flange will prevent the distortion of any ring-like part of the semi-cylindrical portion formed by the various slots 16 as a result
70 of such a pull upon the hook, so that no securing means for the free edge 15 of the semi-cylindrical portion is necessary.

By utilizing the retaining plate as a reinforcement upon opposite sides of each of the slots 16,
75 the necessity for extreme accuracy in the forma-

tion of the fitting and additional assembling cost, are avoided.

The free end of the retaining plate 18 extends to adjacent the end of the trough opposite to that where this plate is pivotally supported.

Mounted adjacent this end of the trough is a latch member 21 having a fingerhold 22 at one end of the semi-cylindrical portion 14. The end of the portion 14 adjacent this fingerhold is chamfered at 23 (see Fig. 5) to permit the thumb-nail to be inserted between this semi-cylindrical portion and the fingerhold 22. The latch member 21 is provided with a bolt head 24 having a rounded edge 25 positioned adjacent the fingerhold 22.

15 The latch member 21 is mounted upon a pivot 26 passing through the portions 13 and 12.

The free end of the plate 18 is provided with a bolt socket 27, the portion of the plate above this socket and adjacent the flange 20 being rounded, 20 as shown at 28, to provide clearance for the movement of the bolt head 24 into said socket, and to permit the flange 20 to be co-extensive in length with the semi-cylindrical portion 14. The lower edge of the retaining plate 18 is rounded, as shown 25 at 29, to provide a wedge-like portion co-operating with the rounded nose 25 of the bolt head forming a part of the latch member.

Secured within the trough between the portion 13 and the back plate 12 is a forked spring, 30 the free end of one arm 30 of which enters a spring seat 31 in the latch member 21 below the pivot 26, in a manner to tend to force the bolt head 24 inwardly of the semi-cylindrical portion 14 into engagement with the retaining plate 18. 35 The other arm 32 of this spring is arched, and the free end thereof, as shown at 33, engages the arm 30, so that flexure of the arm 32 toward the arm 30 will apply tensioning pressure upon the latter arm and thus require flexure of both arms when 40 actuating the latch member.

The spring arms 30 and 32 are formed from a single length of round spring wire, and an eye is formed adjacent the juncture of the two spring arms by means of which the spring may be secured 45 in place within the trough, either by means of a rivet, or by means of a depression formed in the material of the portion 13 of the fitting or the base plate 12, or both.

Mounted within the semi-cylindrical portion 50 14 by means of the various slots 16 is a plurality of key hooks, by means of which keys may be mounted in the case. Such hooks may take a variety of different forms. Preferably, however, I employ hooks formed of spring metal having a 55 loop section 34 and having two arms 35 and 36. One of these arms, as 35, is provided with a ball head 37 adapted to pass between the back plate and the edge 15 of the semi-cylindrical portion, and to be seated in this semi-cylindrical portion 60 in a manner to permit a free swinging and swivelling movement of the hook. The inherent resiliency of the arm 36 will cause the free end 38 thereof to engage the portion of the arm 35 adjacent the ball, as shown particularly in Fig. 5, 65 this arm being capable of being sprung away from the arm 36, as shown in Fig. 6, when mounting a key in, or removing it from, the hook.

The ends of the arms 35 and 36 have a short parallel section and the end 38 extends into 70 abutting relation with the ball 37, so that when a hook is mounted in the semi-cylindrical portion 14, the walls of the slots 16 will prevent accidental opening of the hook when pressure is exerted on the hook by a key. 75

The operation of the metal fitting and the parts associated therewith is substantially as follows:

The manner of securing the back plate 12 to the enveloping casing is immaterial to the invention.

During the assembly of the key case, the hooks may be rapidly inserted in the various slots 16 by actuating the latch member 21 in a manner to disengage the bolt head 24 thereof from the socket 27 in the retaining plate 18. When said retaining plate is thus disengaged by the latch member, the spring arm 32 will rotate the retaining plate about the pivot 19 to the position shown in full lines in Fig. 2, and in dotted lines in Fig. 1. The ball 37 of a hook is then rested against the back plate 12, and the arms 35 and 36 inserted in a slot 16, so that the whole hook falls into the position shown in Fig. 1.

When all of the hooks have been assembled, the retaining plate is turned upon the pivot 19 until the flange 20 is engaged with the semi-cylindrical portion 14 in overlapping relation to the portion thereof adjacent the edge 15. The thickness of the plate 18 is sufficient to prevent the escape of a hook between the edge 15 and the back plate.

When closing the retaining plate, the flange 20 will engage and overlay the portion of the semi-cylindrical portion 14 and extend across the ends of the various slots, as shown particularly in Fig. 3, thus effectively confining the various hooks.

As the plate is closed, the rounded portion 29 of the plate 18 engages the rounded portion 25 of the bolt head 24 and moves the latch member 21 against the tension of the spring arm 30, until said rounded portion 29 passes the bolt head 24 and permits the tension of the spring arm 30 to cause said bolt to enter the socket 27.

It will be noted that when the retaining plate is in the closed position, the spring arm 32 is engaged by one edge of this plate and is tensioned during the final closing movement of the plate. Furthermore, the tensioning of the spring arm 32, by reason of its curved end portion 33, will also increase the tension of the arm 30 toward the spring seat 31, which increased tension will minimize likelihood of accidental movement of the latch member.

It will be noted that the retaining plate 18, when the latch member is released, is moved, in its entirety, out of operative relation to the semi-cylindrical portion 14, so that one hand is required only to hold the case while the other hand is entirely free to insert the various hooks in the semi-cylindrical portion 14, and there is no likelihood of an accidental movement of the plate 18 in a manner to interfere with the placing of the hooks in the fitting.

The spring arms 30 and 32, the latch member 21, except as to the fingerhold 22, and the retaining plate 18, when in the closed position, are all confined within and protected by the walls of the trough portion, and the width of this trough is such as to prevent any displacement of said spring in relation to the parts with which it co-operates.

If it be desired to remove a hook 34 from the semi-cylindrical portion 14, to remove a key from the case, or to remove a hook to facilitate the placing thereon or removal therefrom of a key, the retaining plate is actuated in the manner above described, thus permitting the ball portion of any hook to be removed from the semi-cylindrical portion 14, as shown in Fig. 5. The

removal of the plate 18 affords clearance sufficient to permit the ball 37 to escape below the edge 15 of said semi-cylindrical portion, which edge portion is fully exposed by the removal of the flange 20 from its position in relation thereto.

By providing an enlargement 17 adjacent the ends of each slot 16, it is possible to bring the edge 15 close to the back plate 12 and to reduce the over-all thickness of the fitting, but only to a limited extent.

When placing a key upon, or removing it from, a hook, it is merely necessary to spring the arms 35 and 36, as indicated in Fig. 6.

When all of the hooks are in the fitting, they may be brought to any desired position to permit the key to be positioned so as to permit flatness of a closed case.

It is quite common for one carrying the case to want to remove a key from the case so that it may be used independently of the other keys in the case. If it be desired to remove a key in this manner, the retaining plate 18 is actuated and the hook, with the key thereon, may then be quickly removed from the case and, when the key is to be restored to the case, as quickly restored thereto.

A key case embodying the invention comprises four pieces, aside from the hooks and the various rivets, and the construction of these parts is such as to require no precision work in their production and permit a rapid and convenient assembly of the metal fitting.

The positioning of the plate 18 between the semi-cylindrical portion 14 and the back plate 12, and the overlaying of the edge of the semi-cylindrical portion by the flange 20 not only ensures the ball 37 being positioned within the semi-cylindrical portion 14, but results in the portion of the part 14 adjacent the edge 15 thereof being positioned between this ball and the flange 20, so that the use of a key will not result in any stresses upon the flange 20, except those transmitted through the underlaying part of the portion 14.

The employment of a latch mechanism which is automatically actuated when closing the retaining plate, and the complete withdrawal of said retaining plate from its operative position in relation to the portion 14, when it is desired to mount a key in or remove it from the fitting, permit a convenient handling of the hooks with no effort on the part of the user of the case, except that incidental to the handling of the hooks.

It is not my intention to limit the invention to the precise details of construction shown in the accompanying drawing, it being apparent 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 case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots there-through, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate out of said trough, and a spring actuated

latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket adjacent the free end thereof, and said latch member having a bolt head adapted to enter said socket.

2. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate adapted to close the space between said slotted edge portion and said back plate and having a flange adapted to overlay said edge portion, means pivotally supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate out of said trough, and a spring actuated latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket adjacent the free end thereof, and said latch member having a bolt head adapted to enter said socket.

3. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough having a semi-cylindrical form with the free edge thereof spaced from said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate out of said trough, and a spring actuated latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket adjacent the free end thereof, and said latch member having a bolt head adapted to enter said socket.

4. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, said plate, adjacent the free end thereof, having a bolt socket therein, a latch member having a bolt head adapted to enter said socket, a fingerhold adjacent said bolt head, and a spring seat, pivotally mounted adjacent the other end of said trough, and a spring having two arms seated and secured within said trough, one of which arms acts upon said plate and the other of which engages the spring seat upon said latch member.

5. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate

out of said trough, and a spring actuated latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket and a wedge-like surface adjacent the free end thereof, and said latch member having a bolt head adapted to enter said socket and having a wedge-like surface engageable by the wedge-like surface upon said retaining plate, said latch member having a fingerhold adjacent said bolt head.

6. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, said plate, adjacent the free end thereof, having a bolt socket therein and a wedge-like surface, a latch member having a bolt head adapted to enter said socket and having a wedge-like surface engageable by the wedge-like surface upon said retaining plate, a fingerhold adjacent said bolt head, and a spring seat, pivotally mounted adjacent the other end of said trough, and a spring having two arms seated and secured within said trough, one of which arms acts upon said plate and the other of which engages the spring seat upon said latch member.

7. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, said plate, adjacent the free end thereof, having a bolt socket therein, a latch member having a bolt head adapted to enter said socket, a fingerhold adjacent said bolt head, and a spring seat, pivotally mounted adjacent the other end of said trough, and a spring having two arms seated and secured within said trough, one of which arms acts upon said plate and the other of which engages the spring seat upon said latch member, the spring arm engaging said plate having an arched end engaging the other spring arm toward said latch member, whereby tensioning pressure applied to either of said arms will apply tensioning pressure to the other of said arms.

8. A key case embodying therein a metal fitting having a back plate adapted to be secured to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate out of said trough, a spring actuated latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket adjacent the free end thereof, and said latch member having a bolt head adapted to enter said

socket, and a split key-hook having a reduced portion adapted to have movement in one of said slots and a ball at one end thereof adapted to be seated between said outwardly formed edge
5 portion and said retaining plate, whereby said key-hook may have movement along said slot, or a swivelling movement.

9. A key case embodying therein a metal fitting having a back plate adapted to be secured
10 to an envelope of flexible material, a trough formed along one edge of said back plate, one edge portion of the material of this trough being formed outwardly and toward, but spaced from, said back plate and having a plurality of slots
15 therethrough, a retaining plate having a flange adapted to close the space between said slotted edge portion and said back plate, means pivotally

supporting said retaining plate adjacent one end of said trough, a spring biased to move said plate out of said trough, a spring actuated latch member movably mounted adjacent the other end of said trough, said retaining plate having a socket
5 adjacent the free end thereof, and said latch member having a bolt head adapted to enter said socket, and a split key hook having two arms, one of which has a ball at the end thereof adapted to be seated between said outwardly formed edge
10 portion and said retaining plate, and the other arm of which extends to adjacent said ball but is unconnected therewith or with the other arm, both of said arms being of a thickness to permit
15 movement of the hook along said slot, or a swivelling movement thereof.

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