Aug. 14, 1951 R. H. WENDT 2,564,242

KEY RING AND KEY ENCLOSURE

Filed Nov. 4, 1949

Fig-1

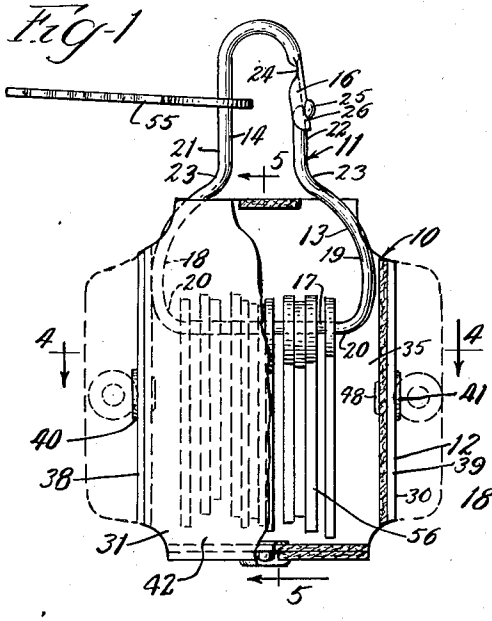


Fig-2

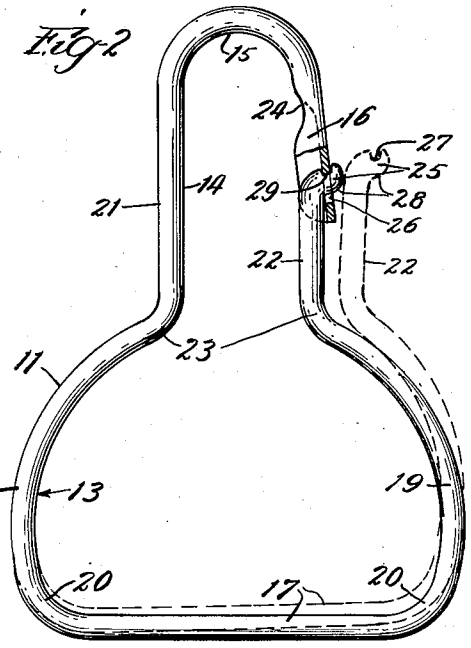


Fig-4

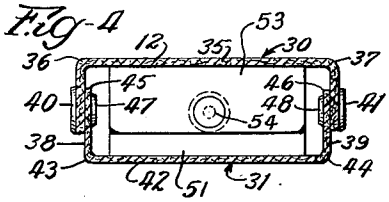


Fig-5

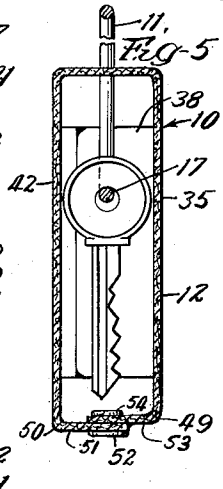


Fig-3

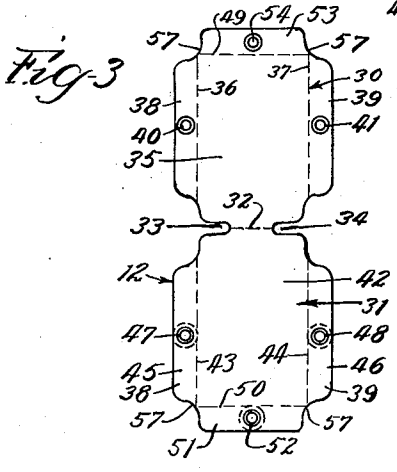
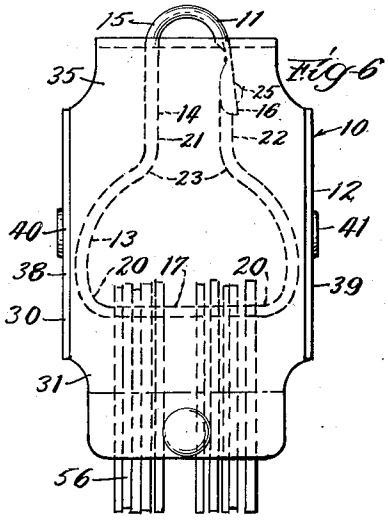


Fig-6



Inventor

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KEY RING AND KEY ENCLOSURE

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Application November 4, 1949, Serial No. 125,451

6 Claims. (Cl. 150—40)

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The present invention relates to key rings and key enclosures, and is particularly concerned with the provision of an improved device for holding a multiplicity of keys and enclosing them so that they present a minimum bulk, and so that they cannot wear out the pockets of the person who carries them.

One of the objects of the invention is the provision of an improved key supporting device which will support a considerable number of keys of the small, short and flat type which are employed with locks having tumbler barrels. While the present key ring may be used for any type of keys, they are peculiarly adapted to completely enclose tumbler lock keys.

Another object is the provision of an improved key supporting device in which any key may be brought out of the housing and made accessible more easily, and in which the rest of the keys may all still remain completely enclosed.

Another object is the provision of an improved key supporting device having a housing in which the keys may all be projected downward from the bottom of the housing, while still connected to the housing, so that a selection may be made and by manipulating snap fasteners this selection can be brought to the top outside the housing while enclosing all the rest of the keys in the housing.

Another object is the provision of an improved key ring which has a spring lock adapted to keep it closed at all times so that there is no danger of losing the keys, but which is easily opened and to which keys may be added or subtracted without the labor that is incident to the usual circular key rings.

Other objects and advantages of the invention will be apparent from the following description and the accompanying drawings, in which similar characters of reference indicate similar parts throughout the several views.

Referring to the single sheet of drawings accompanying the specification,

Fig. 1 is a front elevational view with the housing partially broken away, showing the key ring as it is arranged when one favorite key is disposed for immediate access and with the other keys completely housed;

Fig. 2 is an enlarged view of the ring showing the structure of the spring lock;

Fig. 3 is an expanded view of the housing showing the pattern from which it may be made and the shape of its parts;

Fig. 4 is a sectional view taken on the plane of the line 4—4 of Figure 1;

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Fig. 5 is a sectional view taken on the plane of the line 5—5 of Figure 1; and

Fig. 6 is a view similar to Figure 1, with the keys projecting from the lower end of the housing to permit selection or use.

Referring to Figures 1 and 2, the present key supporting device is indicated in its entirety by the numeral 10, and it preferably comprises a key supporting ring 11 of special shape and an enclosing housing 12.

The key ring 11 preferably comprises a partially circular portion 13 and a parallel sided portion 14, terminating in a partially circular end portion 15, and is preferably made of the smallest wire possible while still having sufficient stock to form a trough 16 in one leg of the parallel sided portion 14. Having a fine wire of stiff resilient material makes the ring applicable to all types of keys, even the smallest ones having a small hole, and gives the keys the greatest freedom.

The partially circular portion 13 preferably has its lower side 17 flattened out so that a greater number of keys may be accommodated, such as from a dozen to a dozen and a half. The flattened bottom 17 is joined to the curved side walls 18 and 19 at an easy bend 20 in each case, and these curved side walls are joined to the parallel legs 21 and 22 at another easy bend 23.

The upper end portion 15 is half circular, and one of the parallel legs includes the portion 22 carried by the bottom of the ring and the trough 16 carried by the top of the ring. The trough 16 is formed by means of a die which produces a split at 24 inside the trough portion 16 and also flattens the wire out at this point, and shapes it into a U-shaped trough 16 which is adapted to receive the lower parallel leg portion 22.

The lower parallel leg portion 22 has a laterally turned end 25, which is turned toward the base of the trough and is adapted to pass through a round aperture 26 in the base of the U-shaped trough. The laterally turned end 25 extends through the hole 26 only far enough to provide stock on the outside so that there may be a head defining the locking groove 27, and the outer surface of this protruding bent end 25 is indicated at 28 as being curved upward and downward so as to introduce a minimum amount of resistance to the passage of keys over this hump.

The parallel leg portion 22 is initially sprung outward and upward so that the resiliencey of the ring 13 tends to hold the parallel leg 22 in the trough 16, with the end 25 in the hole 26, and in addition the ring pushes the groove 27 up-

ward until it receives the edge 29 of the base of the trough. This provides a lock which insures the ring against coming open and losing keys.

If the material of which the ring is made is not sufficiently resilient the result may, nevertheless, be accomplished by springing the bottom portion from time to time so that when it is open the bent end 25 and groove 27 assume the position shown in dotted lines in Figure 2.

The purpose of the ring portion 13 is to support the keys and to provide the spring action necessary for the lock, while the purpose of the parallel sided portion 14 is to provide a protruding portion of the ring that can be attached to a chain or the like, or for supporting a favorite key and to permit the keys to be pulled up into the housing or pushed downward out of the housing without separating the housing and ring.

The housing may be constructed of a single piece of flexible material, such as leather or imitation leather, according to the pattern shown in Figure 3. This comprises a pair of substantially rectangular portions 30 and 31 with angular corner cut-outs 57 at each corner joined together by a narrow neck portion 32, which is of sufficient width to pass in between the parallel legs 21 and 22.

The rectangular portions 30 and 31 are separated from each other on either side of the neck 32 by the inwardly extending grooves 33 and 34, and the neck 32 provides the fold at the top of the housing for constant engagement between the housing and the ring.

As the keys on the ring present a substantial thickness, the rectangular housing portions 30 and 31 preferably include bodies 35 and 42, respectively; body 35 of sufficient width to extend across the pack of keys and to be bent at 36 and 37 at right angles, and to provide an attaching flange 38, 39 at each side.

The attaching flanges are provided with female snap fasteners 40 and 41. The other rectangular housing portion 31 has its body 42 of sufficient width to span the pack of keys and is also bent at right angles at 43 and 44 to form a box-like member, and has its inwardly extending attaching flanges 45, 46 provided with a male snap fastener 47, 48.

At the bottom each body 35 and 42 is bent inwardly at a right angle at 49, 50, and the lower attaching flange 51 is provided with a female snap fastener 52. The upper attaching flange 53 is provided with a male snap fastener 54. As a matter of fact, the bends which have been described take place only when the snap fasteners are fastened, and the housing is made of one flat piece of material used and is bent and held to shape only when the snap fasteners are secured.

Thus if desired the user may leave one or more snap fasteners open, but the keys are still held within the boundaries of the leather cover and do not come in contact with the pocket.

The operation of the key ring is as follows:

When a key is to be added the snap fasteners 41, 48 may be released on the side toward which the free leg 22 is presented. This opens the right side in Figure 1 of the housing 10, and any number of keys may be added by merely springing the leg 22 downward and inward and releasing it to the dotted line position of Figure 2.

When the keys have been added then the leg 22 is sprung back and released into the trough 16, and its end 25 will engage the trough above the hole 26. A slight downward pull on the ring while holding the U-shaped end 15 will cause the end 25 to snap into the hole 26.

The spring action of the ring 13 will then cause the groove 27 to move upward to receive the upper edge of the trough about the hole 26. The ring is now locked. When it is desired to move a favorite key to the upper parallel portion 14 of the ring, this can be done by opening both snap fasteners 40 and 41 and moving the keys upward and around the U-shaped upper part 15 until the key in question is reached. That particular key may then be retained, as shown at 55 in Figure 1, while the stack of keys 56 may be kept down in the housing by merely moving them down on both sides of the ring.

When all of the keys are to be exposed, this is done by merely pulling the housing upward on the parallel legs 21, 22 until the narrow portion 32 of the housing hits the end 15, when the keys will be exposed below the housing. Any key may be selected and used in that position, or it may be moved to the top of the ring, as desired, by manipulating the snap fasteners.

The ring may be moved to the top of the housing, pulling all of the keys inside, and the lower snap fasteners 52, 54, may close the bottom or, if desired, the bottom may be left open and the snap fastener flanges 51 and 53 may be used to extend the length of the housing.

It will thus be observed that I have invented an improved key ring and key housing which will support from a dozen to a dozen and a half keys of the tumbler type in a very compact condition, surrounded by leather, imitation leather or some other suitable fabric, preferably relatively stiff yet flexible, so that they cannot wear out the pocket.

While a key is being used, as, for example, an ignition key, it can be brought to the top of the ring outside the housing and the rest of the keys will depend from it, while still enclosed in such manner that they will not rattle.

The present key ring permits easy manipulation of the keys because it is made of relatively thin wire of resilient material, such as spring steel or spring brass. The key ring is durable, safe, economical and may be used for a long period of time without losing keys or without necessity for repair or replacement of any of its parts.

While I have illustrated a preferred embodiment of my invention, many modifications may be made without departing from the spirit of the invention, and I do not wish to be limited to the precise details of construction set forth, but desire to avail myself of all changes within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a key supporting device, the combination of a ring member for supporting the keys, and a housing comprising a pair of flat rectangular portions joined by a narrow neck, the neck passing through the ring so that the rectangular portions may depend from the ring on both sides of the keys to enclose the keys with a portion of the ring projecting from the housing, the said housing being closed at its sides and bottom by snap fasteners joining the sides and bottom, and the said fasteners being so arranged that the edges of the rectangular portions must be bent at right angles to fasten them together, forming a box-like container of sufficient size to the keys.

2. In a key supporting device, the combination of a ring member for supporting the keys, and a housing comprising a pair of flat rectangular portions joined by a narrow neck, the neck passing through the ring so that the rectangular portions may depend from the ring on both sides of the keys to enclose the keys with a portion of the ring projecting from the housing, the said housing being closed at its sides and bottom by snap fasteners joining the sides and bottom, and the said fasteners being so arranged that the edges of the rectangular portions must be bent at right angles to fasten them together, forming a box-like container of sufficient size to embrace the keys, the said ring having a parallel legged narrow portion which projects outwardly above said neck, and may be used for pulling the keys into the housing or projecting them from the bottom of the housing.

3. In a key supporting device, the combination of a ring member for supporting the keys, and a housing comprising a pair of flat rectangular portions joined by a narrow neck, the neck passing through the ring so that the rectangular portions may depend from the ring on both sides of the keys to enclose the keys with a portion of the ring projecting from the housing, the said housing being closed at its sides and bottom by snap fasteners joining the sides and bottom, and the said fasteners being so arranged that the edges of the rectangular portions must be bent at right angles to fasten them together, forming a box-like container of sufficient size to embrace the keys, the said ring member being provided inside the housing with a substantially straight key supporting portion of round wire adapted to support a stack of keys in said housing, and having an outwardly projecting U-shaped portion for supporting any one of said keys of the stack when moved outwardly by opening one of said snap fasteners.

4. In a key supporting device, the combination of a ring member for supporting the keys, and a housing comprising a pair of flat rectangular portions joined by a narrow neck, the neck passing through the ring so that the rectangular portions may depend from the ring on both sides of the keys to enclose the keys with a portion of the ring projecting from the housing, the said housing being closed at its sides and bottom by snap fasteners joining the sides and bottom, and the said fasteners being so arranged that the edges of the rectangular portions must be bent at right angles to fasten them together, forming a box-like contanier of sufficient size to embrace the keys, the said ring being made of round resilient wire and having an opening between adjacent ends, one end being provided with a trough within which the other end is received, the size of the trough and wire being sufficient to pass keys freely.

5. In a key supporting device, the combination of a ring member for supporting the keys, and a housing comprising a pair of flat rectangular portions joined by a narrow neck, the neck passing through the ring so that the rectangular portions may depend from the ring on both sides of the keys to enclose the keys with a portion of the ring projecting from the housing, the said housing being closed at its sides and bottom by snap fasteners joining the sides and bottom, and the said fasteners being so arranged that the edges of the rectangular portions must be bent at right angles to fasten them together, forming a box-like container of sufficient size to embrace the keys, the said ring being made of round resilient wire and having an opening between adjacent ends, one end being provided with a trough within which the other end is received, the size of the trough and wire being sufficient to pass keys freely, the said trough having an aperture in its base spaced from its end and the other end of the wire having a laterally turned end portion receivable in said aperture.

6. In a key supporting device, the combination of a ring member for supporting the keys, and a housing comprising a pair of flat rectangular portions joined by a narrow neck, the neck passing through the ring so that the rectangular portions may depend from the ring on both sides of the keys to enclose the keys with a portion of the ring projecting from the housing, the said housing being closed at its sides and bottom by snap fasteners joining the sides and bottom, and the said fasteners being so arranged that the edges of the rectangular portions must be bent at right angles to fasten them together, forming a box-like container of sufficient size to embrace the keys, the said ring being made of round resilient wire and having an opening between adjacent ends, one end being provided with a trough within which the other end is received, the size of the trough and wire being sufficient to pass keys freely, the said trough having an aperture in its base spaced from its end and the other end of the wire having a laterally turned end portion receivable in said aperture, and said laterally turned end portion having a slot for receiving the edge of the trough which bounds said aperture.

ROBERT H. WENDT.

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The following references are of record in the file of this patent:

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Certificate of Correction

Patent No. 2,564,242 August 14, 1951

ROBERT H. WENDT

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows:

Column 4, line 75, before the words "the keys" insert *embrace*;

and that the said Letters Patent should be read as corrected above, so that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of October, A. D. 1951.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.