June 28, 1966 L. W. MILLER ET AL 3,257,696

KEY HOLDERS

Filed July 6, 1964

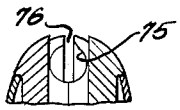


FIG 9

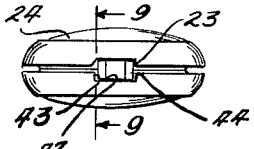


FIG 3

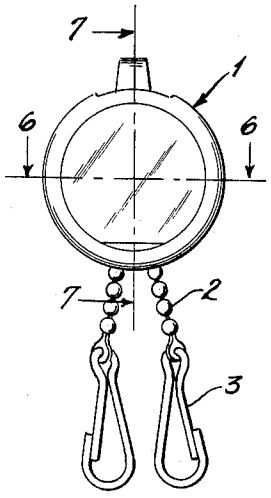


FIG.1

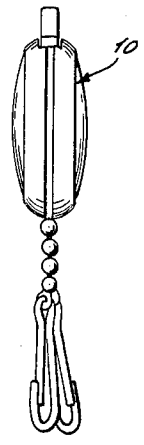


FIG.2

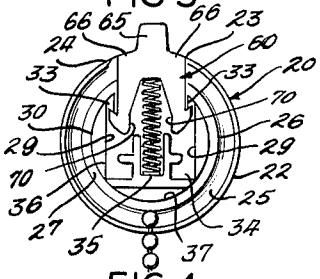


FIG 4

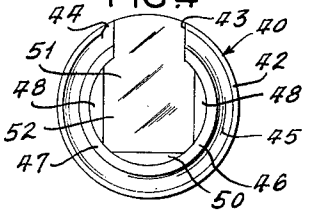


FIG.5

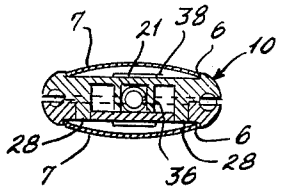


FIG.6

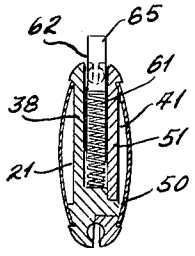


FIG.7

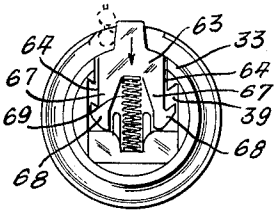


FIG.8

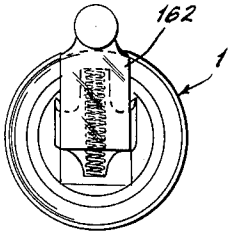


FIG.10

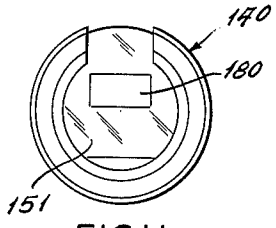


FIG.11

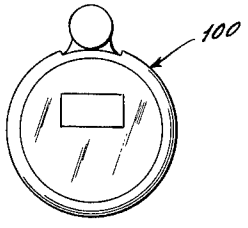


FIG.12

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3,257,696

KEY HOLDERS

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4 Claims. (Cl. 24—116)

This invention relates to key holders of the general type illustrated in patents to Jablon, 2,557,970, Jancsics, 2,737,046, and Martinuzzi, 2,805,566. These key holders are characterized by having a peripheral channel, with a restricted mouth, so that an anchoring member, usually in the form of a bead of a key holding bead-chain can be slidably retained within the channel.

If the bead-chain is to be selectively mountable on and removable from the key holder, some entrance to, and exit from, the channel must be provided. Jancsics, for example, has provided a keyhole slot in the side wall of his key holder, with an enlarged opening spaced radially inwardly from the edge of the channel, and a narrow passage connecting the mouth of the channel and the enlarged opening. This arrangement is well suited to the hollow, metal-walled key holder of Jancsics, but the teachings of Jancsics are not applicable to key holders made of plastic.

One of the objects of this invention is to provide a key holder which may be, and preferably is, made of plastic, in which an anchoring member can be introduced to and removed from a peripheral channel easily and quickly when desired, but in which accidental release of the anchoring member is difficult.

Another object is to provide such a key holder which is adapted selectively to disclose and conceal indicia.

Still another object is to provide a key holder in which a bead-chain or the like can be removably mounted, with a latch means for retaining the chain, in which the holder presents two sides uninterrupted by the latching mechanism.

Other objects will become apparent to those skilled in the art in the light of the following description and the accompanying drawing.

In accordance with this invention, generally stated, a key holder is provided which may be, and preferably is, made of plastic. The key holder is provided with a circumferential channel with a restricted mouth which, however, is cut away through a portion of its circumferential reach, to accommodate a latch mechanism. The latch mechanism includes a spring-biased plunger which can be moved manually, against the bias of the spring, inwardly of the channel to permit the insertion into the channel of an anchoring means on a flexible key holding strand, which usually takes the form of a bead-chain.

The movable plunger part of the latch is journaled in guideways within the body of the key holder, and is provided with stops which inhibit the rocking or accidental displacement of the plunger.

In the preferred embodiment, the plunger is provided along at least one side with a plain surface on which indicia can be placed, and the body of the key holder is provided with a viewing opening through which the indicia become visible when the plunger is depressed.

In the drawing, FIGURE 1 is a view in front elevation of one illustrative embodiment of key holder of this invention;

FIGURE 2 is a view in side edge elevation of the key holder of FIGURE 1;

FIGURE 3 is a top plan view of the key holder of FIGURES 1 and 2;

FIGURE 4 is a view in rear elevation, with a part of the key holder body removed, showing the latch mechanism and guideway construction of the key holder shown in FIGURES 1–3;

FIGURE 5 is a view in rear elevation of the part of the key holder body described as removed in FIGURE 4;

FIGURE 6 is a sectional view taken along the line 6—6 of FIGURE 1;

FIGURE 7 is a sectional view taken along the line 7—7 of FIGURE 1;

FIGURE 8 is a view in rear elevation corresponding to the view shown in FIGURE 4, but with the plunger of the latch mechanism depressed; showing the entrance into the channel of a bead-chain, shown in dotted lines;

FIGURE 9 is a fragmentary sectional view taken along the line 9—9 of FIGURE 3;

FIGURE 10 is a view in rear elevation with a part of the key holder body removed, of another, preferred, embodiment of this invention;

FIGURE 11 is a view in rear elevation of the part of the key holder body described as removed in FIGURE 10; and

FIGURE 12 is a view in front elevation of the assembled key holder of the preferred embodiment.

Referring now to the drawings, and particularly to FIGURES 1–8 for one illustrative embodiment of this invention, reference numeral 1 indicates a completed key holder, in which key-carrying bead-chains 2, equipped with spring clips 3, are mounted. The key holder 1 of this embodiment, consists of a body 10 and a latch mechanism 60.

The body 10 has two principal parts, a guideway part 20 and a cover part 40. In this embodiment, both of the parts are substantially circular in front elevation, as shown in FIGURES 1, 4, 5 and 8, and each is provided with an annular bezel 6, integral with the part, and adapted to retain a transparent crystal 7.

Within the compass of the bezel 6, the part 20 presents a plain surface 21, and the part 40 presents a plain surface 41 except, in both instances, for the presence of a thin, shallow register ledge 420. The surfaces 21 and 41 are adapted to receive advertising indicia and the like, either printed directly on the surface, or on some medium, such as a circle of paper, mounted on the surface. The register ledge 420 is barely perceptible, but serves to locate a circle of indicia-bearing paper which is provided with a flat spot on its perimeter to fit against the edge of the ledge. This ensures that the indicia are properly oriented.

On the inner side of the guideway part 20, the part 20 has a rim 22. The rim 22 is discontinuous through a part of its reach, terminating at a chordal edge 23 at one side, and in a doubly chamfered edge 24 at the other. As can be seen from FIGURES 3 and 4, the edge 24 is undercut radially and tapered circumferentially.

Radially inwardly of the rim 22 is a molded channel 25, the radially inward boundary of which is defined by an annular boss 26, with a flat radial face 27. Inboard of the boss 26 are two guideway tenons 28, oppositely disposed, with parallel, chordal facing surfaces 29, and arcuate outer faces 30. The tenons 28 project axially beyond the face 27 of the boss 26, as shown best in FIGURE 6. The face 27 of the boss 26 in turn is spaced axially from the plane of the radial surface of the rim 22, as shown in FIGURES 3, 6, 7 and 9.

The boss 26 is provided with an opening, the facing edges of which are chords aligned with the facing edges 23 and 24 of the rim 22 and parallel with the flat surfaces 29 of the guideway tenons 28. In a niche between facing edges of the boss 26 and the adjacent end of the surface 29 of each of the guide tenons 28, is a tooth-like

outer stop 33, which forms an acute angle with the surface 29.

A cross-member 34 extends between the guideway tenons 28 at the end of the tenons opposite the stops 33. Two guide walls 36, parallel with the inside faces of the guide tenons and spaced from the guide tenons and from one another, extend toward the outer stops 33. The guide walls 36 and cross-member 34 define between them a central spring-receiving well 35. Lower stops 73 extend at right angles outwardly from the guide walls 36.

A wall of the cross-member 34 on the side away from the well 35 extends chordally between edges of the boss 26, and defines, with the boss, a cross-mortise 37. Between the edges 23 and 24 of the rim and the well side of the cross-member 34, a wall 38, of which the surface 21 is the outside, provides a smooth bearing surface 39 on the inside.

The cover part 40 has a rim 42 corresponding with the rim 22 of the guideway part 20. The rim 42 is interrupted, the interruption being defined by a chordal edge 43 and a chamfered edge 44, corresponding exactly with the edges 23 and 24 of the rim 22, so that, when assembled, they are in transposed position, with the edge 23 axially opposite the edge 44, and the edge 24 opposite the edge 43, as shown particularly in FIGURE 3.

The part 40 has a channel 45, radially inwardly of the rim 42, and a boss 46, each of which corresponds exactly with the channel and boss 25 and 26 of the guideway part 20. The boss 46 has a flat radial face 47. Radially inwardly of the boss 46, shaped and positioned complementarily to the guideway tenons 28 of the guideway part 20, are guideway tenon mortises 48. A cross tenon 50 extends chordally of the boss 46, and projects axially beyond the boss 46, complementarily in position and size to the mortise 37 of the guideway part. A wall 51, the outside of which provides the flat surface 41, extends from the edges 43 and 44 to the tenon 50, defines at its side edges an edge of the mortises 48, and provides on its inside surface a smooth bearing surface 52.

The latch mechanism 60 of this embodiment consists of a helical spring 61 and a plunger 62. The plunger 62 has a body 63 with parallel side edges 64, a head 65, shoulders 66 between the head 65 and side edges 64, and legs 67. The legs 67 terminate in outwardly directed feet 68, which form acute angles with the respective side edges 64 complementary to the acute angles made by the stops 33 with the surfaces 29. The legs 67 define between them a spring-receiving recess or seat 69, and bearing surfaces 70 parallel with and spaced slightly outwardly from the guidewalls 36.

When the spring 61 and plunger 62 are placed in position, as shown in FIGURE 4, with the plunger feet 68 engaging the stops 33, all in the guideway part 20, the cover part 40 is merely oriented so that the guideway tenons 28 will fit into the guideway tenon mortises 48, and the cross tenon 50 of the cover part 40 will fit into the cross mortise 37, a suitable adhesive is applied, and the parts are pressed and bonded together. In this assembled condition the channels 25 and 45 are combined to form a substantially circular channel 75, with a narrow mouth 76 defined by and between the rims 22 and 42, as shown particularly in FIGURE 9. The channel 75 and the mouth 76 are dimensioned to permit a ball to slide peripherally in the channel, but not to be withdrawn through the mouth.

The interrupted portions of the rims 22 and 42 form a plunger receiving opening 77, wide enough slidably to admit the body 63. When the plunger 62 is in its radially outward, normal position, as shown in FIGURES 1, 2 and 3, the body of the plunger effectively blocks the opening 77, preventing egress of a ball from the opening. When the plunger is manually depressed, against the bias of the spring, however, as shown in FIGURE 8, there is sufficient clearance between the head 65 and the edges of the rims 22 and 42, and enough clearance between the shoulders 66 and the rims, to permit a ball to be mounted in or demounted from the channel 75.

The provision of the doubly chamfered edge on one side of the channel on either side of the plunger 62, is important. It has been found that with such an arrangement, the mounting and demounting of the ball is facilitated, and, in addition, the tendency to break off a corner, which is a considerable problem in mounting and demount balls in a channel not equipped with a double chamfered edge, is greatly reduced.

Referring now to FIGURES 10, 11 and 12 for the preferred embodiment of this invention, reference numeral 100 indicates a completed key holder. The key holder 100 is identical with the key holder shown in FIGURES 1–9, with two major exceptions, and a minor design change. The exceptions are that a plunger 162 of the preferred embodiment is provided along its body and legs on one side of the plunger, with an apron 165, in the form of a thin, uninterrupted web, and a cover part 140 is provided with a window 180 in a wall 151, through which the apron 165 is visible. In this way, indicia printed on the apron 165 in one position will be visible when the plunger is depressed and invisible when it is in its normally biased position, and other indicia can be placed to be visible when the plunger is in its normal condition and invisible when the plunger is depressed.

Numerous variations in the construction of the key holder of this invention, within the scope of the appended claims, will become apparent to those skilled in the art in the light of the foregoing disclosure. For example, while the mortises have been shown as extending entirely through the respective parts, they may take the form of cavities, hence be invisible from the outside. Changes can be made in the shape of the plunger and the legs and stops, and parts of the guideway system, as is illustrated in the differences between the embodiments shown in FIGURES 1–9 and that shown in FIGURES 10–12. These are merely illustrative.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. In a keyholder of the type in which oppositely disposed parts define a peripheral channel and radially surfaced rims define a narrow, outwardly opening mouth from said channel, whereby a thin-necked knob of a key-retainer such as the end ball of a ball type chain can be slidably mounted in said channel and retained therein by said rims, the improvement comprising edges in said rims defining a latch-receiving opening; a plunger slidably-mounted within said opening, said plunger having a head projecting radially outwardly beyond the circumferential edge of the open mouth of said channel and a flat body with parallel side edges radially within the compass of said rims; biasing means biasing said plunger outwardly with respect to said channel; a shoulder on said plunger, defined between said head and said body, normally positioned within said opening to block said opening but movable with said plunger against the bias of said biasing means to unblock said opening and permit free access between said opening and said channel; guideway means within said keyholder for guiding said plunger and including chordal guideway walls parallel with and outboard of said plunger body edges and stop means for limiting the outward movement of said plunger, said stop means including a tooth projecting inboardly with respect to at least one of said guide way walls between the said walls and the latch-receiving opening, said tooth making an acute angle with the adjacent guideway wall, and said plunger having an outwardly extending foot shaped complementarily to said stop tooth and projecting outboardly toward said tooth for selective engagement therewith from an inner end of the edge of said plunger body.

2. The improvement of claim 1 wherein the plunger has two shoulders and two feet, and leg mmebers between the shoulder and the feet, said leg members being part of the plunger body and being spaced to define between them

a seat for one end of a helical spring constituting the plunger biasing means.

3. In a keyholder of the type in which oppositely disposed parts define a peripheral channel and radially surfaced rims define a narrow, outwardly opening mouth from said channel, whereby a thin-necked knob of a key-retainer such as the end ball of a ball type chain can be slidably mounted in said channel and retained therein by said rims, the improvement comprising a guideway body part and a cover part, both of said parts having a rim provided with edges defining a latch receiving opening, and a channel peripherally inboard of said rim, said guideway part having, inboard of said channel, facing, parallel, chordal surfaces, a cross-member spaced from said latch receiving opening, and stop members in the form of inwardly projecting teeth at an end of said chordal surfaces away from the cross-member and toward said latch-receiving opening; a spring with one end abutting the said cross-member, and a plunger, said plunger having a head, projecting radially beyond the circumference of the rim, a shoulder, contiguous and radially inward of said head, and a flat body of a width to fill the latch-receiving opening and lying within the compass of the rim, said plunger body having a spring receiving seat against which the other end of said spring bears, feet complementary to the stop

members projecting from side edges of said plunger body, the chordal surfaces of the guideway being of a height to retain the plunger between them, whereby the plunger and spring can be mounted within the guideway part before the cover part is secured to the guideway part.

4. The improvement of claim 3 wherein the plunger is provided on the cover part side with an apron with indicia on it, and the cover part has a window through which a portion of the apron is exposed at one position of the plunger and another portion at another position of the plunger.

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