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SELF-LOCKING KEY RING HOOK

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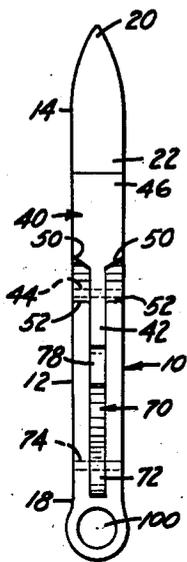


Fig. 2.

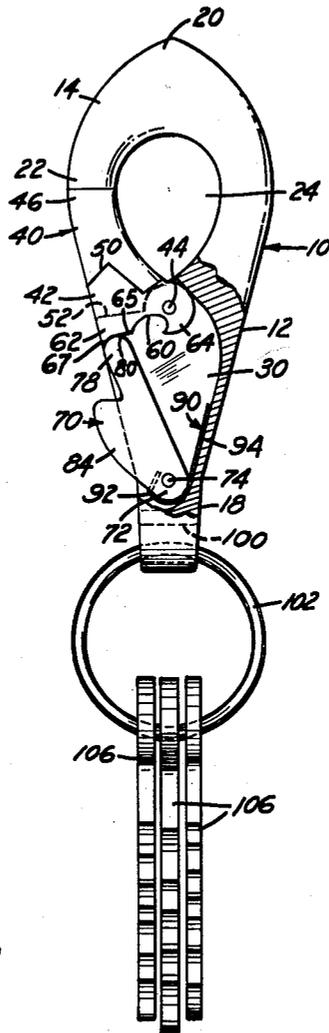


Fig. 1.

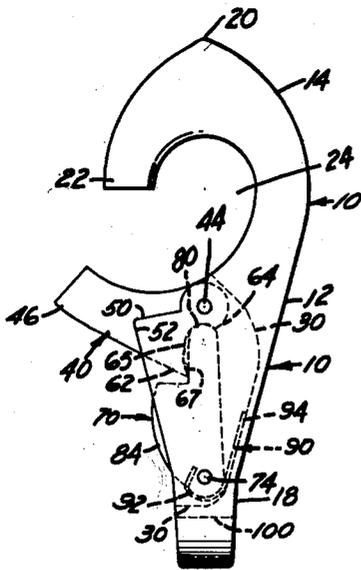


Fig. 3.

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**SELF-LOCKING KEY RING HOOK**

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Continuation of application Ser. No. 489,341, Feb. 21, 1955. This application Oct. 2, 1958, Ser. No. 765,271  
2 Claims. (Cl. 24-241)

My invention relates to hooks and more particularly to a device of a character having a body portion formed with a mouth which is closeable by a latch pivoted to said body portion and opening only outwardly having means on that end of the body portion opposite from the mouth of the hook for receiving a key ring in removable engagement therewith.

An object of my invention is to provide a self-locking hook of the character referred to for attaching a set of keys preferably to a belt loop which latter is made a part of wearing apparel.

Another object of my invention is to provide a self-locking hook wherein at times when the mouth of the hook is open the latch extends outwardly and is advantageous in guiding the mouth of the hook onto a belt loop or the like for engagement thereabout.

Still a further object of my invention is to provide a self-locking hook provided with a blunt point to facilitate the insertion thereof under a belt loop or the like.

Persons who out of necessity carry a large number of keys know well the disadvantage of carrying the keys loosely in their pocket. Keys carried loosely in the pocket are subject to loss, are not easily accessible and difficulty is encountered in selecting a desired one of the keys readily.

Keys that are attached to key rings are more easily carried in the pocket. However, an overly number of keys attached to a key ring carried in the pocket is uncomfortable due to the weight and the closeness of the pocket, especially when the user is walking or moving around.

Even though keys are secured together on a key ring or in a key case, the user may forget in which pocket he had previously placed the keys and must fumble around through his pockets to find them.

Further disadvantages are that the keys are in contact with other articles in the pocket and on removing the keys therefrom other articles may be pulled from the pocket hooked onto the keys and be lost without notice.

Some persons use a key chain which latter has one end attached to the key ring and its other end attached to a belt loop, belt or the like. Even though the keys may be pulled from the pocket by the key chain, articles hooked onto or binding against the keys prohibit their easy removal from the pocket, pull other articles out of the pocket or cause damage to the pocket lining.

It is my concept that a key ring be carried on the person but outside of the pockets, being depended from the self-locking key ring hook of my invention, the hook being hooked about a belt loop or the like for easy accessibility and readily engageable and disengageable therefrom for use of the keys.

Another object of my invention is to provide a self-locking hook having a spring loaded latch opening member having a simple and positive automatic latch closing action.

Still a further object of my invention is to provide an eye appealing jewelry novelty particularly designed to present an appearance complementary to other jewelry items worn by the user being adapted to be of small size and to be silver or gold-plated or the like.

My self-locking key ring hook provides readily accessibility without undue waste of time for separating keys from the pocket or key case. Key cases and loose keys as well as keys attached only to a key ring are easily lost.

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This way keys are carried attached to the person indirectly by means of a belt loop or the like of the wearing apparel.

My invention also contemplates a device of the nature described which is simple in construction, easy to operate and extremely efficient for the purposes described in practical use.

Another object is to provide a key ring hook having its ring parallel to its hook to lie flat against the body.

Other and further objects and advantages of the present invention will be apparent from the following detailed description, drawings and claims, the scope of the invention not being limited to the drawings themselves as the drawings are only for the purpose of illustrating a way in which the principles of this invention can be applied.

Other embodiments of the invention utilizing the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

This application is a continuation of the applicant's co-pending patent application Serial No. 489,341, now abandoned, filed February 21, 1955.

In the drawings wherein a preferred embodiment of my invention is illustrated:

FIG. 1 is a side elevation of the self-locking key ring of my invention showing a key ring and keys being attached to the shank end thereof and depending therefrom, with parts broken away for clarity;

FIG. 2 is a side elevation of the self-locking key ring hook shown in FIG. 1 with the key ring removed for clarity and particularly showing the blunt point provided on the hook portion; and

FIG. 3 is a side elevation of the key ring hook of my invention showing the latch opening fingertip control depressed whereby the latch is in its outwardly extending open position, dotted lines being used to show the internal mechanism of the device.

Referring to the drawing wherein like numerals designate like parts in the several views, the numeral 10 generally designates the self-locking key ring hook of my invention which comprises a shank or body 12 having a hook portion or hook-shaped portion 14 formed on one end thereof and preferably integral therewith. The hook 14 is provided with a blunt point 20 and a free end 22 at one of its sides. The hook configuration 14 forms a belt loop receiving eye or a mouth opening 24.

Referring to the side elevation of FIG. 2, it will be seen that the body portion is substantially the same thickness throughout its length and in the front elevation of FIG. 1, the side edges taper inwardly to a shank portion 18 of much less lateral dimension than the hook 14.

The body 12 has a groove 30 extending thereinto which opens outwardly from that edge of the body 12 corresponding to the free end 22 of the hook 14.

The key ring hook of my invention 10 is further provided with a latch member 40 pivotally secured to the body portion 12 for closing off the mouth 24 of the hook 14.

The latch 40 is of a substantially rounded shape in keeping with the shape of the free end 22 of the hook 14. However, with particular reference to the side elevation of FIG. 2, it will be seen that the lower end or tongue 42 of the latch 40 is reduced in thickness and of a dimension complementary to the inner dimension of the groove 30. The lower end 42 of the latch 40 is readily received within the groove or cavity 30 closely adjacent the walls thereof and is pivotally secured therein by means of a pin 44.

The lower end 42 of the latch member 40 is pivotally secured within the groove 30 at that end of the groove 30 adjacent the mouth 24 of the hook 14.

The latch member 40 extends upwardly and has a free end 46 adapted to engage the free end 22 of the hook 14.

Referring to FIG. 1, it will be seen that when the free end 46 of the latch 40 and the free end 22 of the hook 14 are in engagement, the latch 40 closes the mouth 24 so as to form a continuous configuration. It will also be seen that the engaging surfaces of the free end 22 of the hook 14 and the free end 46 of the latch 40 are so disposed with respect to the pin 44 as to prevent movement of the latch 40 inwardly of the mouth opening 24.

As best seen in FIG. 3, the latch 40 has an inner surface which in a normal closed position faces the shank or more particularly the hook portion of the shank. This inner surface is inclined with respect to the elongated shank of the hook at an acute angle for scooping in a belt loop or other object to which the hook is to be attached.

The latch 40 is adapted to rotate outwardly and downwardly about the pin 44 and the lower end 42 of the latch 40 is received within the groove 30. At the point upwardly from the lowermost end of the latch 40 where the latch 40 expands to its normal thickness, an outstanding shoulder 50 exists on either side thereof. Referring to FIG. 3, wherein is shown a view of the key ring hook 10 of my invention with the latch 40 of my invention in its openmost position, it will be seen that the shoulder 50 is formed to an angle complementary to and engages with an angled shoulder 52 of the edge of a corresponding portion of the body 12.

The lower end portion 42 of the latch 40 has a cut-out portion or recess 60 extending inwardly of its lower edge. The recess 60 leaves a toe portion 62 disposed at the forward side of the lower end 42 of the latch 40 and a heel portion 64 disposed at the rearward side of the lower end 42 of the latch 40 which latter is adjacent the pin 44. The toe portion 62 and the heel portion 64 extend downwardly into the groove 30 from the lower end 42 of the latch 40.

An elongated trigger member 70 is provided and has its lower end 72 pivotally secured within the groove by means of a pin 74. The trigger member 70 extends upwardly and its free end 78 is provided with a rounded end 80 thereon. The trigger member 70 is provided for receiving manual pressing for moving the trigger member 70 inwardly of the groove 30. For this reason the forward side of the trigger member 70 is provided with a protruding portion 84 which latter extends outwardly of the groove past the edge of the body 12 and provides a fingertip control for moving the trigger 70 inwardly of the groove 30.

The toe portion 62 of the latch member 40 has a concave surface 63 with an inner shoulder 64 and an outer shoulder 67 at opposite ends thereof. The shoulder 64 provides a stop limiting inward movement of the trigger and the shoulder 67 also provides a stop limiting outward movement of the trigger due to accidental bumping thereof, permitting inward movement upon pressing inwardly of the trigger 70.

As best seen in FIG. 1, the rounded end 80 of the trigger 70 and the toe portion 62 of the latch 40 present cooperating engaging surfaces for holding or locking the latch 40 in a closed position against the free end 22 of the hook 14.

The free end 78 of the trigger 70 is forced outwardly into a locking position by means of a spring 90. The spring 90 has an arcuate lower portion complementary to and engaging about the lower end of the trigger 70 beneath the bottom edge of such trigger. The lowermost end 92 of the spring 90 is bent at substantially a right angle thereto. The bent end 92 of the spring 90 is received in a recess provided in the lower bottom edge of the trigger member 70 a substantial distance forwardly of the longitudinal axis line of the trigger 70. As thus described, the upper end 94 of the spring 90 extends up-

wardly to the rear of the trigger 70 and bears against the bottom wall of the groove 30 and is in slidable engagement therewith.

The spring 90 normally urges the trigger 70 outwardly of the groove 30 so as to maintain engagement of the rounded end 80 of the upper end 78 of the trigger 70 with the engaging surfaces of the toe portion 62 of the lower end 42 of the latch 40. It will be noted that the cooperating engaging surfaces of the rounded end 80 and the toe portion 62 are substantially transversely disposed to the longitudinal axis of the trigger member 70.

Under normal conditions and at times when the latch 40 is in a closed position, the various parts comprising a self-locking key ring hook of my invention assume positions as best illustrated in FIG. 1.

Referring to FIG. 1, it will be seen that the rounded end 80 of the trigger 70 bears directly against the toe portion 62 of the latch 40 whereby the latch 40 is held in a closed position and it is not possible for the latch 40 to be moved outwardly by force against its inner surface or that surface adjacent the mouth 24. In order to release or open the latch 40, it is necessary to engage the protruding portion 84 of the trigger 70 and press inwardly thereagainst. Continued fingertip pressing against the protruding portion 84 causes the trigger 70 to be forced inwardly against the yielding resistance of the spring 90. Such inward movement of the trigger 70 disengages the rounded end 80 of the trigger 70 and the engaging surfaces of the toe portion 62 of the latch 40 whereby the free end 78 of the trigger 70 moves across the recess 60 whereby the rounded end 80 then contacts and engages the edge surfaces of the heel portion 64 of the lower end 42 of the latch 40.

As thus described, further inward movement of the trigger 70 causes the latch 40 to be swung outwardly about its pivot pin 44 into an open position as shown in FIG. 3.

When the inward pressure is relieved from the protruding portion 84 of the trigger 70, the spring 90 will automatically act to return the several parts to a normal closed position whereby the shoulder 80 of the trigger 70 is disengaged from the heel portion 64, travels forwardly across the recess 60 and comes into engagement with the engaging surfaces of the toe portion 62 of the lower end 42 of the latch 40. The constant pressure of the spring 90 holds the trigger 70 in its outermost position whereby the latch 40 is held closed and locked.

The lower end or shank 18 of the hook 10 is provided with an aperture or a key receiving eye 100 therein. The aperture 100 is disposed transversely through the shank 18 and in alignment with the lateral disposition of the hook 14 and is provided for receiving a key ring 102 therethrough.

The key ring 102 is preferably of the split ring type for being readily engaged in the aperture 100 and a plurality of keys 106 are shown selectively attached thereon.

It will be seen that that portion of the shank 12 which is disposed adjacent the key ring eye or aperture 100 is of a thickness, when seen looking at it in a direction generally normal to the walls of the key ring eye 100, not substantially greater than the thickness of the same lower portion of the shank 12 as seen from a direction looking through the key ring eye 100 so that the lower end of shank 12 is compact for lying close to the wearer's body.

As thus described, it will be seen that the key ring 102 and the keys 106 will depend or hang from the key ring hook 10 in a uniform balanced position in appearance.

The lower end of the shank or body 12 has a key ring receiving eye 100 disposed with the walls extending generally normal to the walls of the belt loop receiving eye 24 to hold the key ring 102 in a plane generally parallel to the adjacent portion of the body of the user for compact appearance when the hook is on a belt loop.

When it is desired to secure the key ring hook 10 of my invention on a belt loop or the like, the hook is grasped in the fingers and pressure is applied to the protruding

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portions 84 of the trigger 70 whereby the latch is caused to swing outwardly into an open position. The blunt point 20 of the hook 14 is then inserted beneath a belt loop or the like and the latch 40 being in an outwardly extending position will catch or hook the belt loop so as to prevent the hook from being inserted completely through the belt loop. When forward movement of the hook is stopped by the latch, the trigger is released whereby the latch automatically closes and the hook is in locked engagement about the belt loop.

From the foregoing description, it is thought to be obvious that a self-locking key ring hook constructed in accordance with my invention is particularly well adapted for use, by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof, and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice, except as claimed.

I claim:

1. In a key ring hook, the combination which comprises an elongated main body portion having a forward end with a belt loop receiving eye extended transversely therethrough and having a point formation on the upper surface, the main body portion having a depending shank, said shank having a cavity extending inwardly from one side, the lower part of the main body portion on one side of the eye thereof being separated from the main body portion and forming an outwardly-opening latch and having a tongue extended into the cavity of the shank, a pin extended through said shank and tongue and pivotally mounting said latch, said latch pivot pin being a substantial distance behind the end of the latch when the latch is in a closed position to cause the outer end of the latch to be farther away from the longitudinal center line of the said elongated main body portion than the terminal end of the main body portion to cause the outer end of the latch to project outwardly when in open position far enough to assist in catching a belt loop when the said forward end is passed under a belt loop, the lower end of the latch being concave and having inner and outer shoulders at each end and a projection substantially midway between the shoulders at the ends, a trigger positioned in the lower part of the cavity of the shank, and

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a pin extended through the shank and trigger pivotally mounting the trigger in the shank, the pin pivotally mounting the trigger in the shank being positioned whereby a projection on the upper end of the trigger alternately engages the shoulder at the inner end of the latch for holding the latch in an open position for catching a belt loop as the pointed end is passed under the belt loop, and engages the shoulder on the outer end of the latch for retaining the latch in a closed position to prevent accidental separation of the hook from a belt or belt loop or the like, said shoulders being shaped for retaining said projection on the upper end of said trigger from outward movement past said outer shoulder and inward movement past said inner shoulder, and a spring positioned in said cavity and urging said trigger outwardly, the trigger having a protruding portion projecting beyond the adjacent surfaces of said shank so as to be engageable by the operator's thumb whereby it is readily accessible, and those portions of said shank which form walls of said cavity closely fitting adjacent portions of said trigger so as to make possible a hook of compact width in the shank portion for closely fitting against the body of the user, the lower end of the shank having an eye extending there-through for holding a key ring, said key ring eye having walls extending generally normal to the walls of the belt loop receiving eye to hold a key ring in a plane generally parallel to the adjacent portion of the body of the user for compact appearance at times when the hook is disposed on a belt loop, that portion of said shank which is disposed adjacent said key ring eye being of a thickness, when seen looking at it in a direction generally through said key ring eye, not substantially greater than the thickness of the same lower portion of said shank as seen looking at it in a direction generally normal to the wall of said key ring eye so that the lower end of said shank is compact for lying close to the wearer's body.

2. The combination of claim 1 in which a key-ring is disposed through the eye of the lower end of said shank to receive keys.

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