Sept. 20, 1949. H. C. VAISEY ET AL 2,482,386

KEY RING WITH A SLIDING CLOSURE MEMBER

Filed Aug. 23, 1944

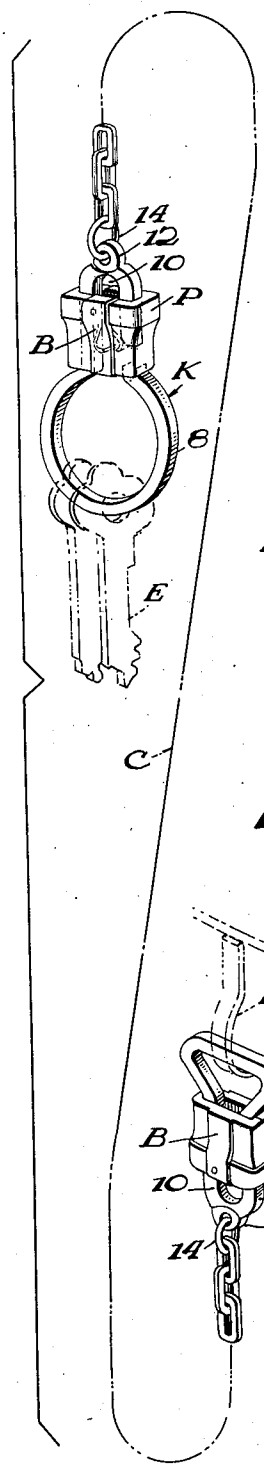


FIG. 1.

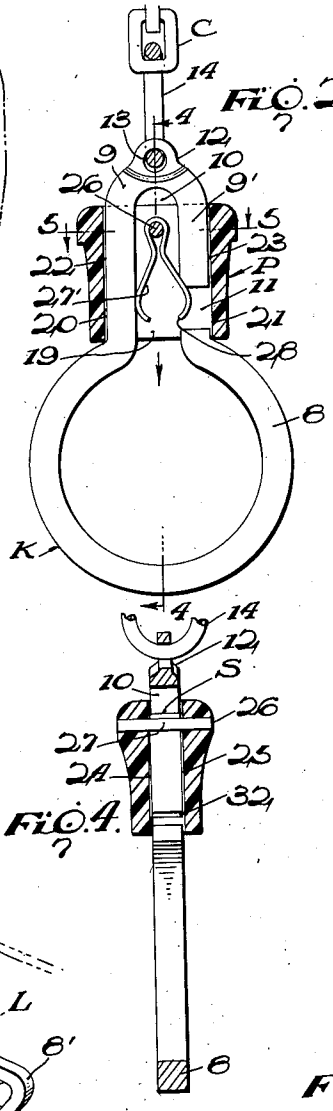


FIG. 2.

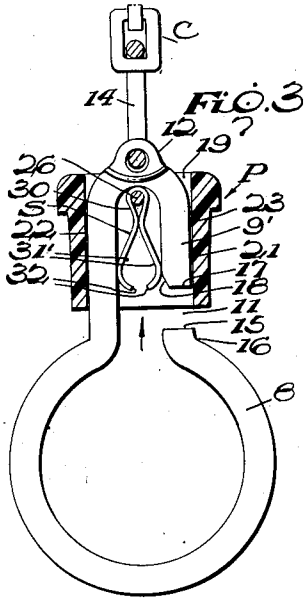


FIG. 3.

FIG. 4.



FIG. 5.

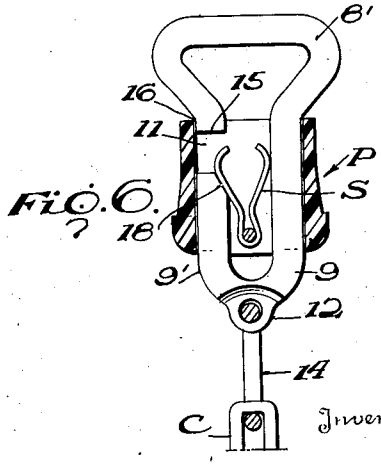


FIG. 6.

FIG. 1.

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Patented Sept. 20, 1949 2,482,386

UNITED STATES PATENT OFFICE

2,482,386

KEY RING WITH A SLIDING CLOSURE MEMBER

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Application August 23, 1944, Serial No. 550,812

7 Claims. (Cl. 24—239)

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This invention relates to a key chain assembly, and more particularly to such an assembly embodying therewith a novel key ring and closure therefor, and a novel trouser loop clasp and closure.

The closures for the key ring and the trouser loop are substantially identical and are preferably made of a suitable composition of the nature of a synthetic resin or similar material, such composition being either opaque or translucent. These closures may, however, be made of metal.

The key chain assembly as a whole consists of an elongated chain or the like, which is of course flexible, and having attached at one end the novel key ring, and having attached at the other end the novel trouser loop clasp. The connecting means may, as aforesaid, be a metallic chain or a flexible connecting means made of a composition of the nature of a synthetic resin or similar material, or any other suitable connecting means.

Prior key chain assemblies include a flexible chain or the like with a key ring at one end and some means for attaching the other end to a trouser loop. In these prior devices, however, the structural characteristics of the key ring and the trouser loop clasp differ considerably and, moreover, the key ring and trouser loop clasp are made wholly of metallic material. In other words, both the key ring and the trouser loop clasp are entirely of metal.

Due to the shortage of metal, which is now classed as a critical material, the provision of a closure made of a composition in the nature of a synthetic resin or other similar material for key rings and trouser loop clasps results in a considerable savings of critical metal. The use of the closure device made of a composition of the nature of a synthetic resin or like material for key rings and the like is also advantageous in that the same are made at a considerably lower cost than the prior metal closures for such devices. Then too, closures made of a synthetic resin or similar material for key rings and the like results in an enhanced eye appeal to the purchaser and user. The fact that the closures for the key rings and the like are made of a composition of the nature of a synthetic resin or like material permits the same to be in many and varied colors, which colors can be the same as the connecting chain or the like, or a contrasting color or a combination of different colors. Moreover, the described closures for key rings and the like permit of readily molding these closures in quantities more quickly than metal or other material, and at a considerably

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lower cost. After the molding process of these closures for key rings and the like, suitable anchoring devices and retaining springs which retain the closure in open or closed position are inserted and fixedly associated with the closure.

Further, the closure device for key rings and the like being of a material of the nature of a synthetic resin or like material and the key rings or the like being of metallic material, there naturally results a different coefficient of friction between the two materials and, therefore, in connection with the retaining spring, the synthetic resinous or similar plastic material of the closure device more readily associates itself with the metallic material and vice-versa, and this results in aiding the closure device to remain either in open or closed position when manually moved to either of such positions.

In view of the foregoing, it is therefore an object of the invention to provide a new key chain assembly having associated therewith a new movable closure for a key ring, clasp or the like.

Another object of the invention is to provide a new closure for a key ring or the like, preferably formed of a material of the nature of a synthetic resin or like material and associated with a metallic key ring or the like.

Another object of the invention is to provide a novel closure combined with a spring holding retaining means to maintain it in open or closed position when associated with a key ring or the like.

Another object of the invention is to provide a slidable closure made of a composition of the nature of a synthetic resin or like material for key rings and the like, which is durable and capable of long association and very effective use in connection with a key ring or the like and which will perform its function ideally when associated with a metallic key ring or the like.

Another object of the invention is to provide a closure made of a composition of the nature of a synthetic resin or like material for key rings and the like which is preferably molded or extruded, and lends itself to such molding or extrusion on a quantity basis and at a much lower cost than present-day metallic materials.

Another object of the invention is to provide a new type of closure for a key ring and a trouser loop clasp, the structural characteristics of the two devices being substantially identical and which devices are admirably suitable for attachment to the respective ends of a connecting chain or the like and when so connected resulting in a new key chain assembly as a whole.

Other objects of the invention will become apparent from the description of the drawings wherein:

Fig. 1 is a perspective view showing the entire key chain assembly including the connecting chain or the like with the new key ring attached at one end, and the new trouser loop clasp at the other end;

Fig. 2 is a view partly in vertical section clearly showing the closure and the spring confined within the same, and with the closure of the key ring in closed position;

Fig. 3 is a view similar to Fig. 2 showing the closure for the key ring in its open position ready to receive a key through the gap in the key ring;

Fig. 4 is a vertical sectional view along the lines 4—4 of Fig. 2;

Fig. 5 is a transverse sectional view on the lines 5—5 of Fig. 2; and

Fig. 6 is a view partly in vertical section of the new trouser loop clasp.

The invention will be more readily understood by referring to the drawings in detail wherein in Fig. 1, the key chain assembly as a whole is shown and includes the flexible chain C or the like. This flexible chain C constitutes the connecting means for the new clasps at each end thereof. The connecting means C may be, as shown, in the form of a metallic link chain, or it may be of other suitable flexible material. The new key ring K is shown attached to one end of the chain and has suitable keys E retained therein. The trouser loop clasp T is shown attached to the other end of the chain and is attached to a conventional trouser loop L.

We shall first consider the key ring structure which is broadly a clasp and which consists of a key-holding, preferably circular metallic ring 8, preferably formed of polygonal stock thereby providing flat faces, and which constitutes the lower portion of the key ring, the integral upper portion 9 of which is of substantially inverted U-shape. This inverted U-shape formation of the upper part of the key ring thereby provides a substantially rectangular opening 10 for a purpose later to be described. One leg portion 9' of the U-shape formation 9 is shorter than the opposite leg and provides a gap 11 therebetween and the shoulder 16 of the loop 8, which gap serves to admit a key for association and retention on the key ring loop or portion 8. The bight portion 12 of the inverted U-shape formation of the key ring 9 is preferably flattened and provided with an opening 13, which opening serves for attachment of the link or ring 14 at one end of the chain or the like C.

The provision of the gap 11 in the inverted U-shape portion 9 of the key ring results in a slightly upturned end 15 of the key ring 8 providing a shoulder or stop portion 16 immediately adjacent the same. The gap 11 further results in the leg 9' of the U-shape formation having its end 17 in spaced alignment with the upturned end 15 of the key ring 8.

The end 17 of the shorter leg 9' of the inverted U-shaped formation of the key ring is flattened or inclined as at 18 at its inner side, that is, inwardly of the upper portion of the gap formation 11.

The closure for the key ring is denoted generally at P. This closure is of substantially rectangular hollow formation, and is provided with an opening 19 which extends from one end thereof to the other. The dimensions of the opening 19 in the closure are calculated so that when it is

assembled with the inverted U-formation 9 of the metallic key ring, there is effected a very close and snug sliding fit. The opposite inner sidewalls 20 and 21 of the closure form a smooth sliding fit with the outer flat sidewalls 22 and 23, respectively, of the inverted U-shaped portion 9 constituting the upper part of the key ring. This same snug sliding fit is also effected by the engagement of the inner front and back walls 24 and 25 (see Fig. 4) of the closure with the respective front and rear flat portions of the inverted U-shaped formation 9 which the closure P embraces.

After the closure P has been associated with the inverted U-shape portion of the key ring or clasp by sliding the same thereon, an anchor pin 26, preferably of metal and having a central portion 27 which acts as an anchor or bearing for a spring later described and having opposite end portions 28 and 29 is associated therewith. The end portions 28 and 29 are embedded and held in the slide P, and the central portion 27 is disposed within the opening 19 substantially medially thereof, and preferably adjacent the top portion thereof.

This anchor pin 26 provides a definite means of mounting an inverted substantially V-shaped metallic spring S thereon, which spring is formed of suitable preferably flat stock. The V-shaped spring is distorted somewhat so as to provide at its bight portions a normally closed eye portion 30 which serves as a means for mounting it on the anchor pin 26. Immediately below this eye formation or portion, the spring S is in the form of curved or bowed arms 31', which serves to fix the closure in its open or normally closed positions. The lower portion of the spring S consisting of the outwardly-bowed arms 31', which are similar in configuration are curved inwardly at their ends toward each other as at 32. This formation of the spring S therefore, provides a flat outer surface at the bowed portions of the arms of the spring to engage the flat walls of the opening 10 in the inverted U-shaped formation 9. The inner sidewalls of the inverted U-shaped portion 9 of the key ring, present a flat surface for engagement of the opposite curved lower portions of the spring S.

By referring to Fig. 2, it will be seen that the hollow member or slide is in its closed position and in this position the spring S is in an expanded condition with one of its curved portions engaging the inclined face 18 of the leg 9', and thereby serving to lock or fix the closure in this closed position. The spring S, it will be noted, can rock back and forth on its pivot 26.

By referring to Fig. 3, it will be seen that the closure P is in its open position, thereby exposing the gap 11. The spring S is thus in a compressed condition within the opening 10 formed by the oppositely-disposed parallel legs of the inverted U-shaped formation 9 of the key ring. When the key ring is in open position as shown in Fig. 3, it is quite obvious that any key or like device having an opening may easily be inserted in the gap 11 and allowed to pass around onto the ring formation 8. After one or more keys have thus been associated with the key ring 8, then the key ring is closed by simply sliding the closure P on the legs of the U-shaped formation 9 so as to cover the gap 11, as shown in Fig. 2.

The foregoing description has been directed to Figs. 1 to 5 inclusive of the drawing, which figures are to the key ring structure. The trouser loop clasp is structurally substantially the same as

the aforesaid key ring structure, the only difference being in the form or contour of the trouser loop clasp. Instead of being circular as in the key ring, it is of substantially triangular formation 8', and thereby presenting a substantially triangular opening therein rather than the circular opening as in the key ring. It is to be noted that the same slidable closure member P is associated with the trouser loop clasp in the same manner as the closure is associated with the hereinbefore described key ring.

The formation of the spring S and its association with either the key ring or the trouser loop clasp, each having the closure, which is preferably slidable, results when moving the closure to its closed position, as shown in Figs. 2 and 6, in a snapping action of the spring into the gap 11. During the latter part of the closing movement, the expansive force of the spring riding or sliding on the inclined formation 18 produces the aforesaid snapping action and has a tendency to move the closure into full closed position, as shown in Figs. 2 and 6. In other words, the opening or expanding of the curved arms 21 of the spring exerts a force sufficient at least to aid in the final movement of the closure device to full closed position, and this is a sort of automatic action that takes place when the closure is manually moved to its closed position.

During the molding of the closure P made of a composition of the nature of a synthetic resin or like material, the same of course can be embossed or embellished exteriorly in any suitable manner, such as by providing the embossed panels B on the front and/or rear faces thereof. It it is to be understood that any suitable ornamentation may be effected simultaneously with the molding process, or such ornamentation may be effected subsequent to the molding process.

From the foregoing it will be clear that there is provided a new key chain assembly as a whole, and the new key ring and trouser loop, each associated with a novel, preferably slidable, closure device made of a material of the nature of a synthetic resin or like material. This plastic closure device is unique in that it lends itself ideally in an association with a key ring clasp or other similar metallic device.

It is to be distinctly understood that while we prefer to make the new closures of a material of the nature of a synthetic resin or other suitable material, these closures, both for the key ring and the trouser loop clasp can, of course, be made of metal.

Having described our invention, what we claim is:

1. A device of the character described comprising an article receiving member including a loop and a substantially U-shaped portion providing spaced legs, one of the legs being shorter than the other leg and spaced from the loop of the article receiving member to provide an article receiving gap therebetween, and a closing means for said gap including a hollow member slidable longitudinally on said legs and a flexible spring confined within said hollow member between said legs and having oppositely disposed outwardly bowed yieldable portions in constant engagement with said legs and yieldable one bowed portion with relation to the opposite bowed portion as the hollow member is moved longitudinally along said legs to open and close said gap.

2. A device of the character described comprising an article receiving member including a loop and a substantially U-shaped portion providing

spaced legs, one of the legs being shorter than the other leg and spaced from the loop of the article receiving member to provide an article receiving gap therebetween, said shorter leg having an inclined portion at its free end on the inner side thereof, and a closure means for said gap including a hollow member slidable longitudinally along said legs and a flexible spring confined within said hollow member between said legs and having oppositely disposed outwardly bowed portions having constant engagement with the inner sides of said legs and yieldable relative to each other as one of the bowed portions rides over the said inclined portion of one of said legs upon outward movement of said hollow member on said legs to expose said gap and upon inward movement of the hollow member on the legs to close the gap snapping into the gap to maintain the latter closed.

3. A clasp comprising an article receiving member including a loop and laterally spaced straight parallel rigid legs, one of the legs being connected with the loop and the other leg being spaced from the loop and with the loop providing a gap beyond the loop adjacent the inner side thereof and opposite the other leg, a closure slidable on said legs to open and close said gap, and a spring on the closure having a portion arranged to snap into said gap beyond the loop when the closure is positioned on the legs to close said gap.

4. A clasp comprising an article receiving member including a loop and spaced legs, one of the legs being connected with the loop and the other leg being spaced at one end from the loop to provide a gap beyond the loop leading into said loop, a closure slidable on said legs for opening and closing said gap and a spring mounted within and carried by the closure having a yieldable portion arranged to snap into said gap beyond the loop when the closure is positioned on the legs to close the gap.

5. A clasp comprising an article receiving member including a loop and spaced legs, one of the legs being connected with the loop and the other leg being spaced at one end from the loop to provide a gap beyond the loop leading into said loop, said last mentioned leg having an inclined portion at its free end, a closure slidable on said legs for opening and closing said gap and a spring carried by said closure having a yieldable portion arranged to ride inwardly over and beyond said inclined portion of said leg which is spaced from the loop and press tightly against said leg when the closure is positioned on the legs to open said gap.

6. A clasp comprising an article-receiving member including a loop and spaced parallel legs, one of the legs being connected with the loop and the other leg being spaced at one end from the loop to provide a gap leading into said loop, a closure slidable on said legs for opening and closing said gap, and a spring of general V-shaped form having oppositely disposed arms confined within the closure between said legs for bodily rocking movement with the arms of the spring engaging the legs so that one of the arms snaps outwardly into said gap when the closure is moved to a position to close the gap.

7. A clasp comprising an article-receiving member including a loop and spaced legs, one of the legs being connected with the loop and the other leg being spaced at one end from the loop to provide a gap beyond the loop leading into the same, a closure slidable on said legs for opening and closing said gap, and a spring within the closure

carried thereby and disposed between said legs, said spring having a portion arranged to snap into said gap when the closure is positioned on the legs to close the gap.

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