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KEY LOOP FOR KEY CASES

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Fig. 1. *Fig. 2.* *Fig. 3.* *Fig. 4.*

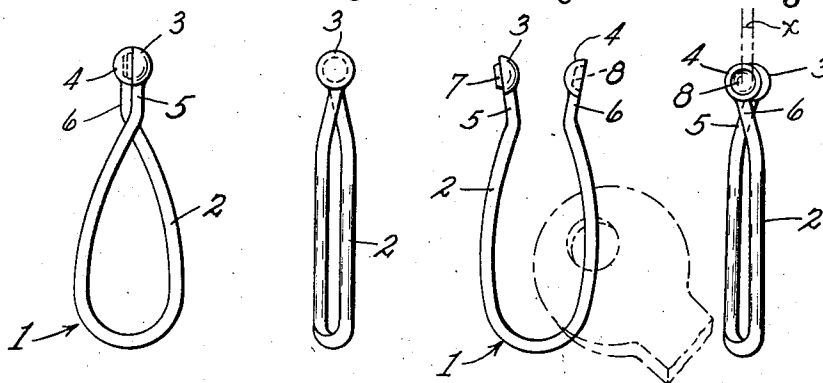


Fig. 5. *Fig. 6.* *Fig. 7.* *Fig. 8.*

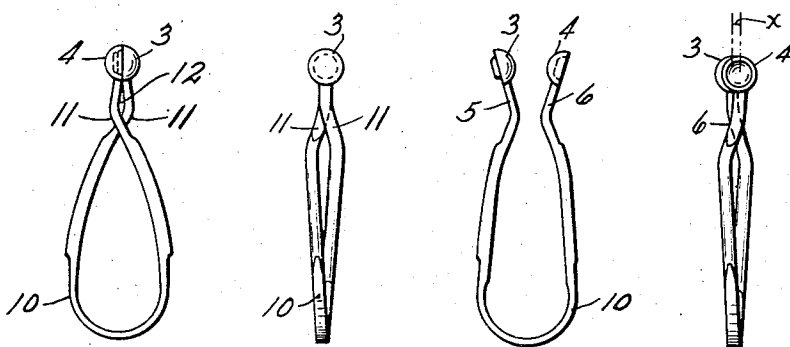
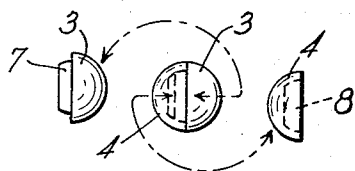


Fig. 9.



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KEY LOOP FOR KEY CASES

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2 Claims. (Cl. 70-458)

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This invention relates to an improvement in loop type key holders for use in key cases.

In the loop type of key holders the entrance to the loop, by means of which the key is threaded on the loop, is so positioned as to be enclosed in the loop retaining mechanism of the key case. Typically the ends of the loop are formed with enlarged head portions which are held together by the "spring" character of the material of which the loop is made, the ends of the loop being forced apart against this spring action to admit the key.

The enlarged head portion functions to normally retain the loop in a restricted slot in the retaining means of the key case, the slot having an enlarged, guarded opening for insertion and removal of the loop.

The force of the spring action serves not only to prevent unintentional removal or escape of the key from the loop but also to maintain the portions of the head carried by the respective ends of the loop in predetermined relation, so that no "cutting edges" are presented at the mating edges of the head which will cause the head to cut the sides of the slot in which the loop rides, thus widening the slot to the point where the loop may escape from the slot. This has required a substantial degree of spring pressure together with the provision of a pin and socket or other inter-fitting arrangement on the mating faces of the head portions to keep them in line. This high spring pressure has made it difficult to insert and remove keys in and from the loops. The proposals heretofore made for overcoming this difficulty have involved either a reduction in the spring pressure or a removal of the pin and socket connection or both. Also in each instance it has been necessary for the user to maintain the loop opening pressure throughout the process of inserting or removing the key.

It is the principal object of my invention to provide a structure which overcomes the above difficulties without sacrificing the security afforded by relatively high spring pressure and the presence of head aligning means.

I have found that the principal source of difficulty is the requirement that the pressure be maintained during the operation of applying or removing of the key, and that a relatively high and wholly adequate spring pressure may be used without difficulty if only an instantaneous application of pressure is required. In general I accomplish the broad objects of the invention by so forming the loop that it has a normal unstrained "rest" position in which the head forming end portions are slightly and sufficiently

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separated to permit insertion or removal of the key without substantial movement of the end portions.

Other and further objects and advantages of the invention will be pointed out and disclosed in the following specification and claims, and in the accompanying drawings.

In the drawings, which are on an enlarged scale for clearness,

Fig. 1 is a front elevational view of a loop, embodying the invention, in closed position;

Fig. 2 is a side elevational view looking from the right of Fig. 1;

Fig. 3 is a front elevational view showing the loop in open position;

Fig. 4 is a side elevational view looking from the right of Fig. 3;

Fig. 5 is a front elevational view of a modified form, the loop being closed;

Fig. 6 is a side elevational view looking from the right of Fig. 5;

Fig. 7 is a front elevational view of the structure of Fig. 5, the loop being in open position;

Fig. 8 is a side elevational view looking from the right of Fig. 7; and

Fig. 9 is a diagrammatic plan view of Fig. 3 showing the manner of manipulating the loop.

Referring to Figs. 1 to 4 inclusive the loop is shown as comprising a strip of spring material, generally indicated at 1. The strip is centrally bent to a generally U-shape to provide a relatively wide saddle portion 2 for supporting a key or keys. The ends of the strip are provided with substantially hemispherical heads 3 and 4. When the strip is in its unstrained position, as shown in Figs. 3 and 4, the heads are positioned back to back, that is, the poles of the hemispheres are adjacent but spaced from each other so that a key, as shown in dotted lines in Fig. 3, can be threaded over one of the heads and into the saddle. As also best shown in Fig. 3 each head has a surface lying substantially in the equatorial plane of the hemisphere which surfaces, in the unstressed position of Fig. 3, lie on the remote sides of the head. As also shown in Fig. 3 the end portions 5 and 6 of the strip are bent outwardly relative to the sides of the saddle portion so that the equatorial planes in which the mating surfaces lie are inclined downwardly to intersect within or below the saddle portion. As is apparent from Figs. 4 and 8, the sides of the saddle portion are out of alignment as viewed from the sides of the loop and as shown in Figs. 4 and 8 the end portions 5 and 6 are bent transversely of the loop in a direction to bring the

heads into alignment. Preferably and as shown, this bending is sufficient so that the portions 5 and 6 slightly cross each other, when viewed as in Figs. 4 and 5, so that the heads are out of alignment a small amount as indicated at X.

When the key is positioned on the saddle the sides of the U may be pressed toward each other, as viewed in Figs. 3 and 9, and at the same time twisted around each other, as shown in Fig. 9 to bring the equatorial faces of the heads into face to face stressed engagement as shown in the latter figure, thus bringing the saddle portion into the form of a closed loop as shown in Figs. 1 and 2.

Preferably, and as shown, one of the heads, as 3, is formed with a projection 7 which seats in a recess 8, formed in the other head, when the heads are in strained face to face position. The slight offsetting of the heads at X imposes a transverse component of pressure on the projection 7 relative to its seat 8, thus tending to better maintain a predetermined alignment of the hemispheres in closed position.

Preferably the material of the strip is a spring steel, but the spring tension required is more easily overcome in manipulating the loop than in conventional forms heretofore used. Furthermore since the extent of opening and closing movement is relatively slight, less spring tension is needed and the more "springy" synthetic resinous plastics may be employed as the material for the strip.

In Figs. 5 to 8 inclusive a slightly modified form is shown in which the base portion of the U or saddle is flattened or reduced in thickness as at 10 to provide a more flexible spring action at that point, the portions 5 and 6 and the adjacent portions of the saddle being similarly reduced as at 11 for the same purpose. This permits a somewhat easier manipulation, and the local bending permitted by the reduction at 11, as evidenced by the slight opening at 12, provides a firmer mating of the hemispherical heads and a better travel of the loops in the retaining slots of the retaining means of the key case.

I claim:

1. A key loop for key cases comprising a strip of spring material centrally bent to form a generally U-shaped key supporting saddle portion, the end portions of the strip being bent outwardly relative to the sides of the saddle portion, said end portions being spaced from each other and each provided with a head, each head having a face adapted to mate with a face of the other head, said faces being positioned on the remote sides of the heads when the strip is in unstressed condition, said end portions being inclined transversely of the saddle portion to permit said portions to be twisted around each other to bring said mating faces of the head into stressed engagement to form the saddle portion into a closed loop, the mating faces of the heads being releasably held in face to face relation by the spring tension of the material.
2. A key loop for key cases as in claim 1, the mating faces of the heads being provided respectively with a recess and a projection adapted for interengagement, the transverse inclination of the said end portions being such as to impose a component of transverse pressure on said projection when engaged in said recess.

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