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DAMAGE-RESISTANT KEY HOLDER

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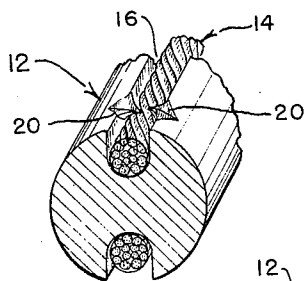


FIG. - 5

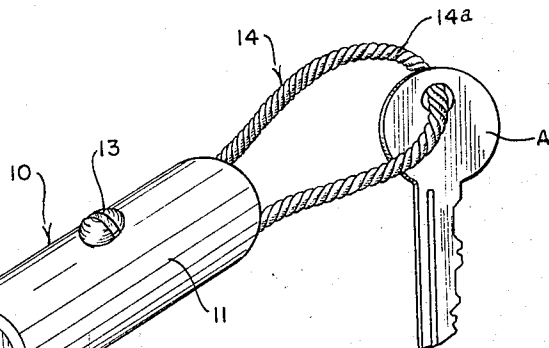


FIG. - 1

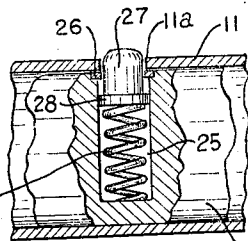
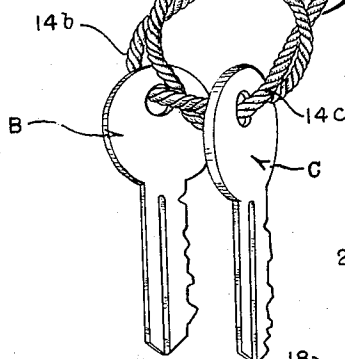


FIG. - 7

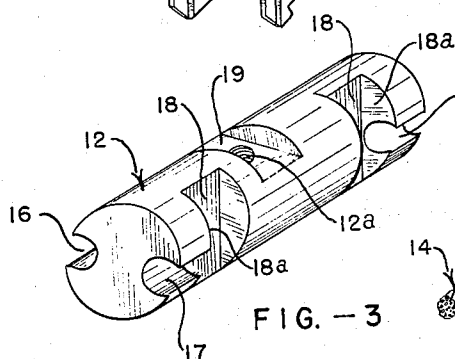


FIG. - 3

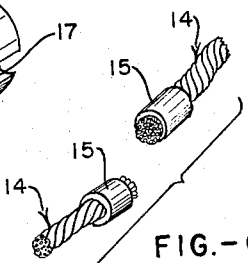


FIG. - 6

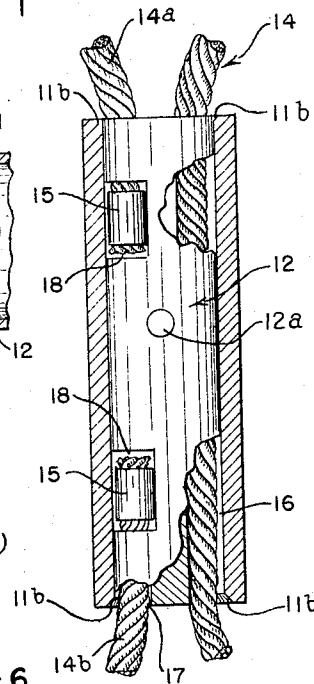


FIG. - 2

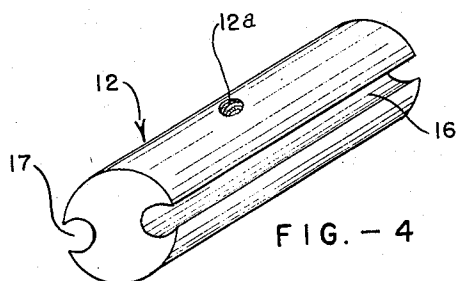


FIG. - 4

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DAMAGE-RESISTANT KEY HOLDER

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4 Claims. (Cl. 70-457)

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The present invention relates to a damage-resistant key holder. It has to do particularly, although not exclusively, with an improved key holder to which several keys may be attached and held permanently attached as long as desired, against accidental separation or displacement.

Various types of key holders are on the market, such as the bead chain type, but after sustained use, the parts of these presently known key holders, particularly those of the key chain type, become worn and broken, often causing the loss of keys which loss can, of course, cause serious difficulties and inconvenience. The bead chain type of key holder has the additional objection and disadvantage of providing no means for separating or maintaining the several keys separated on the holder and the user thus finds it often necessary to finger through the entire group of keys to select the one which he chooses to use at a given time. There are, of course, so-called key cases on the market in which individual keys are supported by individual rings or clips but these are usually bulky items and since the cases thereof are ordinarily formed from leather, or similar material, requiring considerable labor to produce, their cost is high and sometimes prohibitive to the average user.

One of the objects of the present invention is to provide an improved damage-resistant key holder in which individual keys may be maintained separately on the flexible key-supporting means of the holder.

Another object of the present invention is to provide an improved damage-resistant key holder which is relatively small and of relatively light weight and in which the key-supporting means may be employed to provide separate loop-like portions for receiving and supporting individual keys so as to maintain the keys permanently separated from one another to permit the easy and ready selection of the particular key desired at a predetermined time.

A further object of the present invention is to provide an improved damage-resistant key holder preferably formed from wear-resistant material which will not mar or damage pocket linings or the linings of ladies' purses or pocketbooks.

Another object of the present invention is to provide an improved damage-resistant key holder of the foregoing nature in which the key receiving and supporting means can be rearranged so that a single key, for example, may be disposed at one end of the body portion of the holder and two or more keys supported by individual loops may be disposed at the opposite end of the body portion of said holder.

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A further object of the present invention is to provide an improved damage-resistant key holder having preferably a hollow body portion with a removable plug-like member or internal barrel disposed therein, said plug-like member having sockets or pocket portions for receiving and supporting the ends of a relatively fine gauge closely woven steel cable from which the key-supporting loops or portions of the key holder are formed, and also having means for holding the plug-like member in the hollow body portion to retain the parts of the key holder in operative positions against accidental separation, which separation might permit the release of the supported keys.

Another and important object of the present invention is to provide an improved damage-resistant key holder formed from durable materials and one which is capable of manufacture by high-production methods and at relatively low cost.

The foregoing and other objects and advantages of the present invention will appear from the following description and appended claims when considered in connection with the accompanying drawing forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

In said drawing:

Fig. 1 is a perspective view of one embodiment of the damage-resistant key holder of the present invention.

Fig. 2 is a fragmentary elevational view, partly in section and partly broken away of the key holder of Fig. 1.

Fig. 3 is a perspective view of the internal plug-like member or block of the key holder, being shown removed from the hollow body portion thereof.

Fig. 4 is a view similar to Fig. 3 of the plug-like member or block, taken after said member has been turned approximately 180° from its position of Fig. 3.

Fig. 5 is a fragmentary detail sectional perspective view of the plug-like member or block showing the key holding flexible cable member in position therein and indicating one member of preventing the accidental displacement of the cable from the member.

Fig. 6 is a fragmentary perspective view of the opposite free ends of a length of cable for the key holder embodying the present invention, showing means attached thereto for maintaining the ends of the flexible member in engagement with the sockets or pocket-like portions of the block; and

Fig. 7 is a fragmentary detail sectional view,

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partly in elevation, showing a modified form of means for retaining the block or plug-like member in operative position within the hollow body portion of the holder.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. It is to be understood also that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention claimed herein beyond the requirements of the prior art.

Referring now particularly to the drawing, the damage-resistant key holder of the present form of the invention is shown as a whole at 10 and comprises an elongated hollow body portion 11 which, as shown, is substantially cylindrical or tubular. The ends of member 11 are preferably chamfered, as seen at 11b in Fig. 2. The body portion contains a removable block or plug-like member, shown as a whole at 12, which is of substantially the same length as member 11 and which is of a diameter which permits it to be slid into place in the body 11 and fit relatively snugly therein. In the form shown in Fig. 1 of the drawing, the piston-like member 12 is held in position within cylinder 11 against accidental displacement, by a threaded stud or screw 13, such as a fillister screw, which is passed through an opening in sleeve 11 and which threadedly engages a socket 12a formed in plug 12, see Fig. 3.

The telescoped and interfitting members 11 and 12, when assembled and secured together as seen in Fig. 1, hold in operative relationship the flexible key receiving and holding member or means of the device which is shown as a whole at 14, and which comprises, preferably, a length of relatively small or fine gauge steel cable whose ends are engaged with sockets or pocket members formed in plug 12 and which extends outwardly beyond opposite ends of body portion 11 and internal plug 12 to provide either single loops, and/or a plurality of loops adjacent the ends of said body portion; or a single loop 14a at one end and a pair of loops 14b and 14c at the other end, as illustrated, by way of example, in Fig. 1.

With particular reference to Figs. 2 and 6 it will be noted that the wire cable or flexible member 14 is preferably provided at each of its free end portions with preferably tubular stop members, such as metal sleeves or ferrules 15, which are slipped over the cable ends and preferably welded or soldered to the cable. Other stop means may, however, be substituted.

With particular reference to Figs. 2, 3, 4 and 5, it will be seen that the plug member or block 12 is provided with a longitudinally extending continuous peripheral groove or channel 16 at one side and with a pair of similar but interrupted longitudinally extending short grooves 17 in its opposite peripheral side. The short grooves 17 communicate with transversely extending cut-out portions providing sockets or pocket-like depressions 18. As seen in Fig. 3, the threaded socket 12a is preferably located in a reduced portion 19 in the central area of plug 12, this portion being formed preferably by removing a portion of the material of the plug. This reduced portion may, however, be eliminated and the

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threaded socket provided in the usual round contour and full diameter of the plug.

In assembling the parts, the cable 14 is laid lengthwise in the longitudinal groove 16, whereupon a suitable punch or other tool is employed to "stake in" both sides of the barrel or block member 12, as indicated at 20 in Fig. 5. By so securing the cable in the longitudinal groove or channel 16, the cable is prevented from becoming disengaged from the barrel or block member 12. While the cable cannot become entirely separated from member 12, it is free to slide longitudinally in groove 16, as well as to turn or rotate in said groove.

After the cable is placed in groove 16 and "staked in," one end thereof is formed into a single loop, such as loop 14a in Fig. 1. The free end of loop 14a, with its attached sleeve 15, is then engaged with one of the shorter grooves or channels 17, see Figs. 2 and 3, whereupon the sleeve 15 will engage the adjacent wall or abutment 18a (Fig. 3) and prevent said free end of loop 14 from being disengaged with block member or barrel 12. The looped end 14a and the member 12 are now inserted into the body member or cylinder 11 until the outer end of the loop projects outwardly beyond the adjacent end of member 11. If it is desired to provide a pair of loops, such as indicated at 14b and 14c in Fig. 1, the adjacent free end of the cable is so looped, whereupon the loose end of loop 14b is brought into engagement with the other short slot or groove 17 and the other and cooperating reduced portion or socket 18, whereupon the sleeve or ferrule 15 on the cable end will engage the adjacent wall or abutment 18a thereof and prevent said end from being disengaged from block member 12. The block member 12 and its newly engaged loop end 14b are now slid further into telescopic relation with body member or cylinder 11. The parts are relatively rotated so as to bring the hole or opening in sleeve 11 into registry with the threaded socket or bore 12a in plug member 12. A threaded stud or fillister head screw, such as that shown at 13 in Fig. 1, is now threadedly engaged with the socket and tightened down to hold the parts together in their operative relationship and against accidental displacement.

It is to be understood, of course, that before the looped ends are attached, as explained above, to the block member or barrel 12, the necessary number of keys are slipped over the ends of the cable to repose within the loops of said cable. The cable ends are then fastened and the parts assembled, as explained. As seen in Fig. 1, a single loop 14a is provided at one end of the key holder body 11, whereas a pair of loops or a double loop 14b and 14c is disposed at the opposite end of hollow body 11. Single loop 14a carries a single key A, loop 14b carries a single key B and loop 14c likewise carries an individual key C. Thus, it will be seen that each of the loops or looped portions of the flexible member or cable 14, carries an individual key, thus making the several keys individually and easily available when they are to be used. If desired, of course, the cable may be formed into single loops at the opposite ends, or into multiple loops at both ends. In other words, it may be desirable to support several keys by a single loop or a single key only by an individual loop. This matter can be arranged in accordance with the particular wishes and desires of the owner of the key holder.

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It may be desirable to provide a different type of fastening means for securing the body portion 11 and the telescoped block member or barrel 12 together in operative relationship. In fact, it may be desirable to provide some readily releasable means for performing this function. One such means embodying the present invention is illustrated, merely by way of example, in the fragmentary detail view of Fig. 7 of the drawing. In this view, the body member 11, which houses the plug member or block 12, is shown as provided with a hole or opening 11a. The block 12, as shown, is provided with a lateral or transversely extending bore or socket 25 having a lock ring or washer 26 at its upper end. A spring-pressed locking member or assembly is disposed within the socket 25 as shown, comprises a coiled compression spring 26 whose lower end engages the bottom of the socket and whose upper end engages a locking button or member 27 having an enlarged inner or lower end 28. It will be understood that the spring 26 normally urges the button or member 27 into its position of Fig. 7, wherein the outer end thereof is shown projecting through hole 11a and beyond the outer surface of body member 11. The lock ring or washer 26 will engage flange 28 of the button member to prevent it from becoming dislodged from block member or plug 12 when the parts are separated. When it is desirable to release member 12 from its telescoped position within body 11, slight pressure inwardly on button member 27 will free the button from the opening 11a and allow block 12 to be withdrawn from its telescoped position within cylinder 11. The assembly and/or disassembly of the somewhat modified form of the present invention seen in Fig. 7 is otherwise substantially the same as described in connection with the preceding form of the invention. To return member 12 to its position within body 11 of the form of Fig. 7, it is merely necessary to first depress button-like member 27 against the action of spring 26, allowing member 12 to be slid into body member 11. Button 27 is then brought into registry with the opening 11a in the cylinder, whereupon spring 26 functions to project the button outwardly and return it to the approximate position of Fig. 7.

Various other means may be employed to secure the parts together. The screw or threaded stud 13 and the spring pressed button 27 are shown merely by way of illustration of suitable means for this purpose. It is desirable, however, to provide means which will prevent any danger of accidental or unauthorized separation of the parts 11 and 12 which would permit the keys to be released from the holder.

As stated above, the tubular member 11 is preferably chamfered on its ends, as indicated at 11b in Fig. 2. Usually, although any desired kind of material may be employed for making the parts of the present key holder, the cylindrical portion or body 11 is made from a somewhat softer metal than the steel of cable 14. Therefore, by chamfering the ends of member 11 as stated, the movement of the cable relative to the sleeve, and their consequent frictional contact, will not cause any wear on the material of the sleeve. The tubular body 11 is usually and preferably provided with a polished surface or finish, such as may be produced by nickel or chrome plating. Ordinarily, cable 14 is approximately eight (8) inches in length. This length has been found to be the most practical

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for providing supporting means for the average number of keys. If a greater number of keys are to be used and especially if it is desirable to provide a separate supporting loop for each individual key of a relatively large number of keys, the cable length chosen can be longer. The length of approximately eight (8) inches is mentioned merely as a typical length which may be used. Suitable wire, unwoven, for example, may be substituted for cable 14.

I claim:

1. A damage-resistant key holder comprising a body portion having a removable block member therein, a piece of flexible metal cable extending through the body portion and having its ends detachably connected to said block member within and concealed by the body portion when the parts are in operative relationship in such a manner as to provide at least one key-receiving and supporting loop at each end of said body portion, and means for holding the body portion and removable block member together in operative relationship.

2. A key holder comprising a hollow body portion having open ends and a removable block-like member having grooves and notches formed therein located within the hollow body portion, a length of flexible metal cable having an intermediate portion engaging one of said grooves and its end portions engaging other grooves and cooperating notches, stop means on said end portions to maintain said portions in said other grooves and cooperating notches against accidental displacement, said cable having key-receiving and supporting loops disposed at the ends of the block-like member and extending into said hollow body portion when the parts are assembled in operative relationship, and means for holding said parts in said assembled relationship.

3. A key holder having a cylindrical body portion open at opposite ends, a removable piston-like member removably disposed within the body portion, a piece of flexible metal cable having its free end portions removably engaged with said piston-like member and having looped key-receiving and supporting portions disposed at opposite ends of said cylindrical body portion and said piston-like member, and means extending through the body portion and into the removable piston-like member and out of contact with said cable for holding the body portion, piston-like member, and cable in assembled operative relationship against accidental separation.

4. A key holder according to claim 3, wherein the cable is staked in said piston-like member to prevent its separation from said member while permitting its sliding and rotative movement relative thereto.

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