July 20, 1954 W. E. STAGEBERG 2,683,979

PADLOCK KEY SUPPORT AND OPERATING CHAIN

Filed Oct. 26, 1950

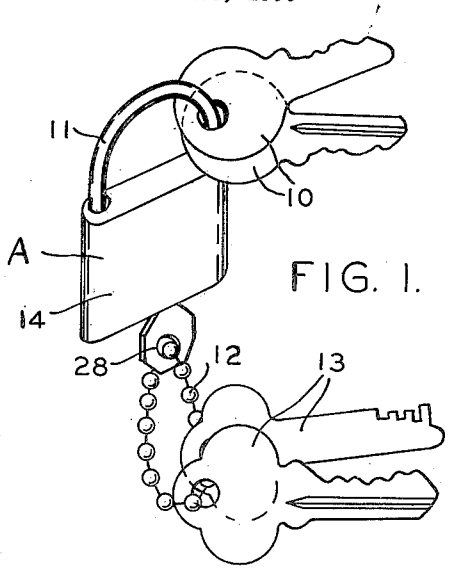


FIG. 1.

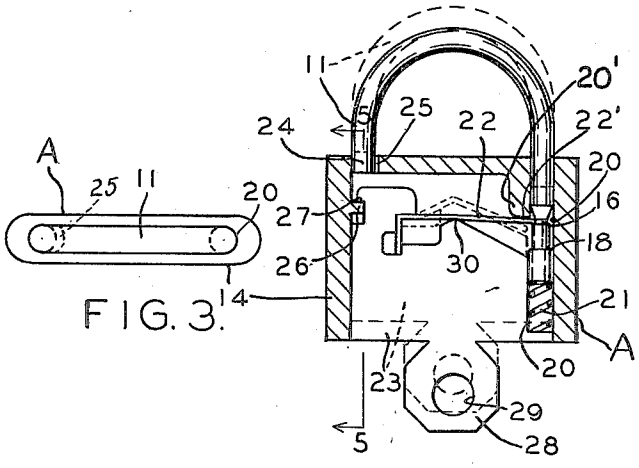


FIG. 3.

FIG. 2.

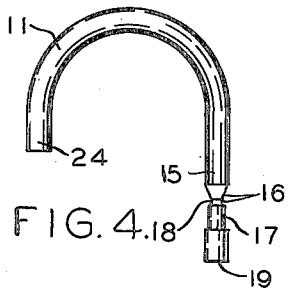


FIG. 4.

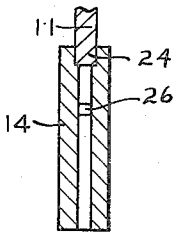


FIG. 5.

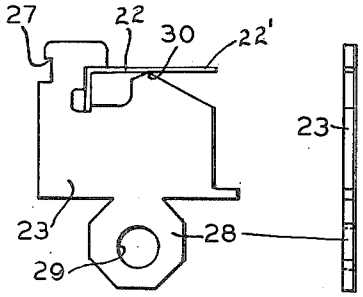


FIG. 6.

FIG. 7.

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Patented July 20, 1954

2,683,979

UNITED STATES PATENT OFFICE

2,683,979

PADLOCK KEY SUPPORT AND OPERATING CHAIN

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Application October 26, 1950, Serial No. 192,173

4 Claims. (Cl. 70—459)

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This invention relates to a key chain and key ring combination made in padlock form to support a series of keys on the shackle of the lock and providing a key chain for other keys, which controls the operation of the shackle of the lock.

A feature resides in a miniature form padlock having a locking shackle, which may be relieved from locking position by engaging a key chain secured to the operating mechanism of the padlock. The shackle of the lock forms a loop for supporting a series of keys, such as the keys used for the ignition and the lock of automobiles, to support the same in a manner so that they can be easily disengaged from the padlock key holder, while a series of other keys may be retained on a flexible chain which is connected to the padlock mechanism in a manner so that when a push is exerted while holding the key chain and keys supported thereon, the padlock shackle will be unlocked.

A further feature resides in providing a plastic body for the mechanism of the padlock key support so as to enclose the working parts and permit the printing of display matter on the plastic body of the padlock key support as well as to supply the plastic body of the key support in different colors.

It is also a feature to provide a simple means for supporting two sets of keys so that one may be separated readily from the other. A key support of this character is desirable for the ignition and lock keys of an automobile, and it permits the owner of the automobile to readily separate the automobile keys from other keys which the owner may normally carry.

It is a further feature to provide a key chain support having a padlock body formation in which a key chain holding plate, forming part of the inner locking mechanism, extends outwardly from the bottom of the body portion. When the extension of the mechanism plate simulating the base end of a key in the padlock is pushed inwardly, it unlocks the catch to release the shackle of the padlock to permit the removal of any keys supported by the padlock shackle.

All the features and details will be clearly hereinafter defined.

In the drawings forming part of this specification:

Figure 1 illustrates the padlock key support and operating chain illustrating the manner in which the same is used to support a series of keys, one set of which may be readily separated from the key support.

Figure 2 is an enlarged sectional view of the padlock casing and showing the mechanism and

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shackle in full lines while the shackle is dotted in released position.

Figure 3 is a top view of the padlock key support.

Figure 4 illustrates the shackle removed from the padlock.

Figure 5 is a section on the line 5—5 of Figure 2.

Figure 6 illustrates the locking plate removed from the casing, showing the spring locking member in position.

Figure 7 is an edge view of Figure 6, showing the locking plate.

The padlock key support and operating chain A is adapted to hold a series of keys 10 by the shackle 11 while a flexible key chain 12 is adapted to support a series of keys 13.

The shackle 11 of the padlock key support A is formed from a piece of wire, with the key supporting loop adapted to project above the body 14 in a manner to permit the keys 10 to be carried on the shackle.

The shackle 11 is formed with a long shank portion 15, which has formed therein a recess 16 and a shouldered cylindrical portion 17 adjacent thereto, which forms a locking shoulder 18 between the recess 16 and the shank portion 17. The end of the shank 19 provides a head which rides in the recess 20 formed in the casing 14.

A coil spring 21 is positioned in the lower end of the recess 20 and is adapted to normally bear against the end of the head 19 of the shackle 11. This spring means tends to urge the shackle 11 up into the dotted position illustrated in Figure 2, when the padlock key holder is unlocked.

The holder A is formed with a spring locking tongue 22, which normally extends horizontally in the casing 14 and is supported by the locking key plate 23. The spring 22 is anchored on one end to the plate 23 and the free end thereof extends into the recess 16 and engages against the shoulder 18 to normally lock the shackle in the position illustrated in Figures 1 and 2, with the free end of the short shank portion 24 of the shackle 11 extending into the recess 25 formed in the casing 14. The free end 22' of the spring 22 also bears against the shoulder 20' formed internally of the body 14 so that when the plate 23 is moved inwardly the spring 22 is caused to flex about its fulcrum thereby withdrawing the free end 22' of the spring 22 from the recess 16 to release the shackle 11. Thus the shackle 11 is held like the shackle of a padlock in closed position by the spring locking member 22.

The coil spring 21 continues to press against the head 19, and the spring 22 holds the shackle in locked closed position. The locking key plate 23 is slideably supported in the body or casing 14 and is held against separation from the body by the inwardly projecting lug 26, which engages against the shoulder 27 formed on the locking key plate 23. When it is desired to release the shackle or unlock the same, the key plate 23 is moved inwardly, as illustrated in dotted lines in Figure 2, by gripping the flexible key chain 12, which is carried by the projecting ear 28 and which is formed as an integral part of the key plate 23. The flexible chain passes freely through the hole 29 in the ear 28. In moving the locking plate 23 inwardly, the spring 22 is bent over the fulcrum shoulder 30 on the key plate 23 in a manner to withdraw the free end 22' from the recess 16, whereupon the spring 21 automatically pushes the shackle into released position, illustrated in dotted lines in Figure 2.

When the shackle 11 is released, the end 24 can be turned away from the recess 25 and the keys 10 applied to or removed therefrom.

When the keys 10 have been applied to the shackle 11, the end 24 is pressed in line with the hole or recess 25, and by pressing downwardly on the shackle, the spring 22 automatically engages in the recess 16, thereby locking the shackle in closed position.

A feature of this padlock key supporting member resides in providing a means for locking the keys on the shackle and the key chain 12 so that ordinary pull on the key chain 12 will tend to act with the spring 21 to keep the shackle held in locked position. However, when the user of the padlock key chain support and chain A desires to separate the keys 10 (which may be the ignition keys for an automobile), he may readily do so by operating the key plate 23 by engaging the key chain 12 and pushing inwardly on the ear 28, which moves the plate 23 in a manner to release the spring 22 and thereby automatically release the shackle 11 from locking position.

The body of the padlock key chain support may be made of plastic or other suitable material and has flat sides which are adapted to readily receive indicia or display matter of any desired nature, such as advertising or the name of the distributor.

The padlock key support A is of a simple construction, easily operated, and in miniature form may be readily carried in one's pocket.

I claim:

1. In a padlock key support, a body portion, said body portion having a recess formed therein, a shackle member pivotally and slideably mounted in said recess, one end of said shackle having a notch formed therein, a slideable plate member positioned within said recess, a spring secured on one end to said plate member and having the free end thereof engageable with said notch, a shoulder formed in said recess against which the free end of said spring is adapted to bear, a shoulder formed on said plate member over which said spring is adapted to bend to disengage said notch upon movement of said plate inwardly of said recess, spring means positioned in said recess adapted to urge said shackle outwardly of said recess, and shoulder means for maintaining said plate in said recess.

2. In a padlock key support, a body portion having a recess formed therein, a shackle member slideably and pivotally mounted in said recess, one end of said shackle having a notch formed thereon, a plate member having a fulcrum shoulder formed thereon and slideably mounted in said recess, said plate member having a locking spring secured thereto and positioned over said shoulder adapted to engage said notch of said shackle when said shackle is in a closed position, a shoulder formed in said recess against which the free end of said spring is adapted to bear, an ear member formed on said plate member of a length sufficient to extend beyond said body portion in a manner that said plate may be manually engaged and moved inwardly of said recess to force said fulcrum shoulder against said spring to disengage said spring from said notch to allow said shackle to move outwardly of said body portion, spring means tending to force said shackle outwardly of said body portion, and means for maintaining said plate within said recess.

3. A padlock key support including a body portion having a recess formed therein, a shackle pivotally and slideably mounted in said body portion said shackle formed with one arm having a notch formed therein, a plate slideably extending into said recess formed in said body, a locking spring carried by said plate for engagement with said notch formed in said shackle arm, a fulcrum shoulder formed on the inner end of said plate over which said spring is flexed, a shoulder formed within said recess of said body against which the free end of said spring is adapted to bear, spring means for urging said shackle into unlocking position, and an ear member formed on said plate and extending from said body portion for actuating said plate to release said locking spring from said notch to permit said spring means to release said shackle from closed position.

4. The combination of a key chain for a set of keys and a padlock body formation having a shackle slideably and pivotally mounted in a recess formed therein adapted to form a support for a second series of keys, said shackle having notch means formed on one end thereof, and means including a slideable plate extending into said recess formed in the body of said padlock and carrying a locking spring for engaging with said notch means of said shackle and adapted to support said key chain for said first named keys, which key chain forms a means of engagement to pull said plate into a locking position and to push the same inwardly in said padlock to release said shackle.

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