United States Patent [19]

Wellekens

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[54] **LOCKS**

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[52] **U.S. Cl.** **70/33**, 70/361

[51] **Int. Cl.** **E05b 67/34**

[58] **Field of Search** 70/31–37, 39

[56] **References Cited**

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[57] **ABSTRACT**

A lock mechanism including a cylindrical lock casing containing cylinder lock mechanism, the casing having an axially arranged stem extending from one of its ends, said stem, extending into a hole in a transversely extending pin to thereby hold the pin against both rotative and axial movement thus coupling any element to which the pin is secured to the lock and holding such element against movement until the lock is opened and the lock casing is axially shifted.

3 Claims, 7 Drawing Figures

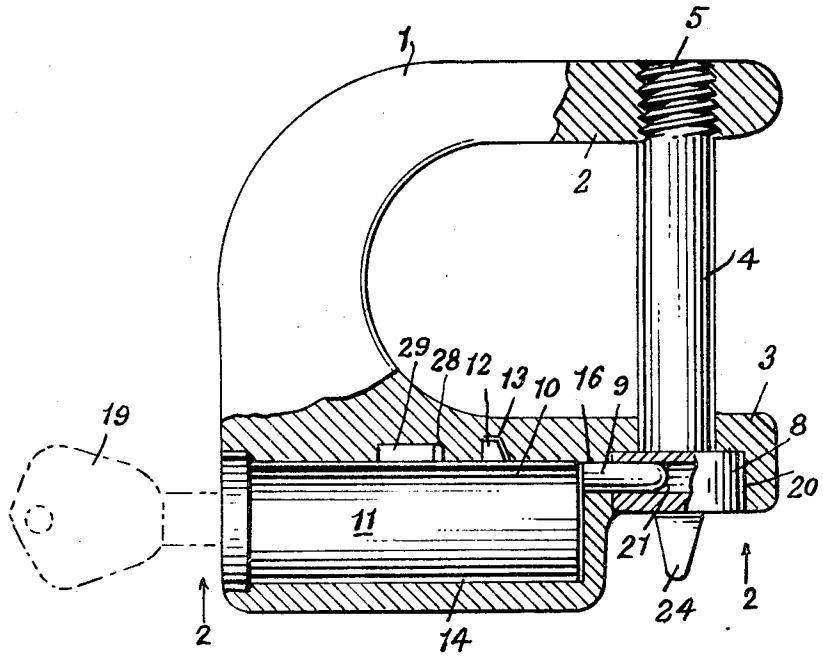


FIG. 1.

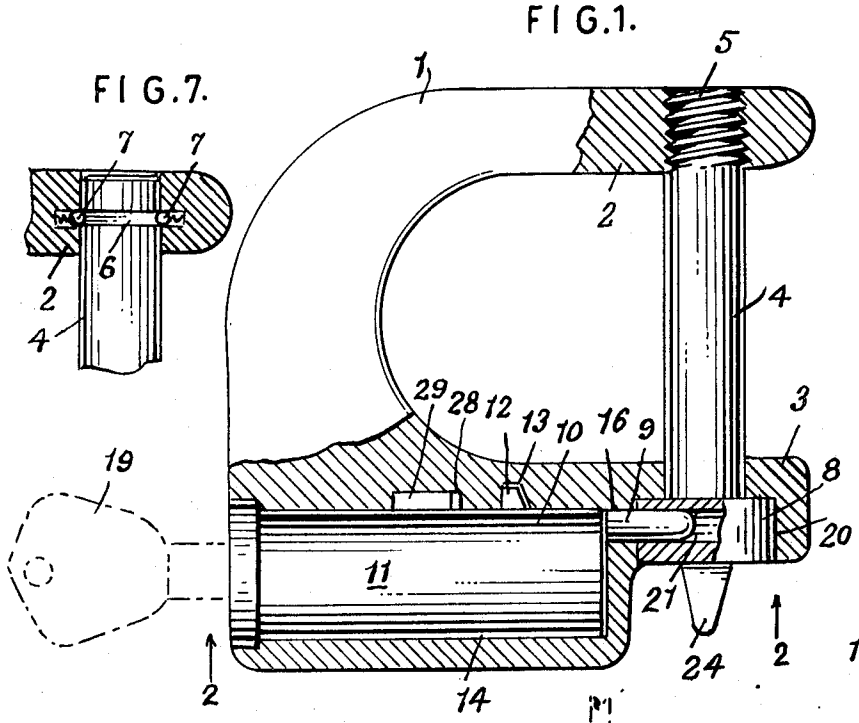


FIG. 2.

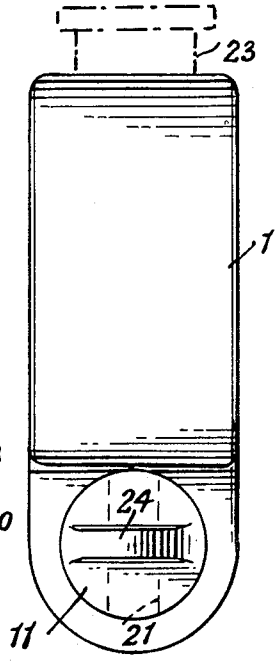


FIG. 7.

FIG. 5.

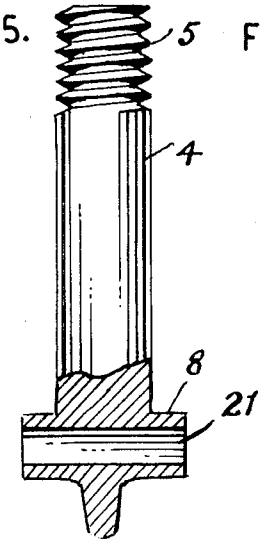


FIG. 4.

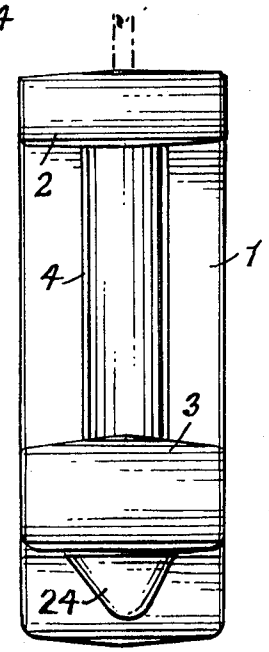


FIG. 3.

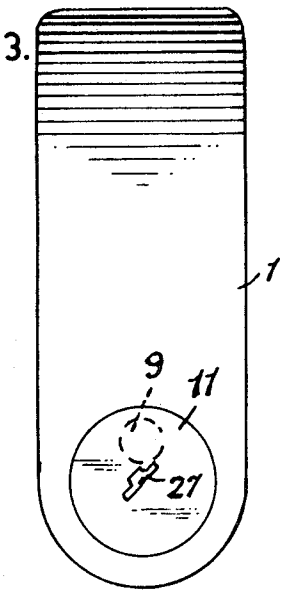
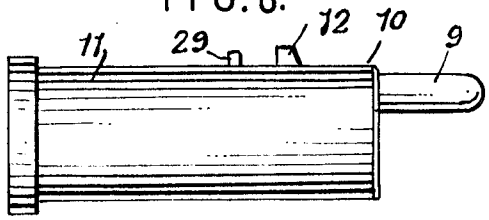


FIG. 6.



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LOCKS

The present invention relates to locks of a kind which can be used on parking meters, vending machines, laundry machinery and in numerous other environments, or which can be used as a substitute for the conventional padlock for various purposes.

One of the objects of the invention is to provide a cylindrical lock casing having an axial stem extension that enters into a hole in a cross pin. It is an object of the invention to provide a loop-shaped lock, a portion of which consists of a removable pin engaged by a stem on the shiftable lock casing.

In the accompanying drawings, wherein the invention is illustratively shown:

FIG. 1 is an elevational view, with parts in section, of a lock usable as a padlock and constructed in accordance with the invention;

FIG. 2 is an end view of the same, looking in the direction of the arrows 2—2 in FIG. 1;

FIG. 3 is an end view of the lock as seen from the left of FIG. 1;

FIG. 4 is a view of the lock as seen from the right of FIG. 1;

FIG. 5 is a view of the locking pin or rod with and end portion of the same shown in section;

FIG. 6 shows the cylinder lock;

FIG. 7 shows a modified means for engaging the locking pin or rod at one end;

In FIGS. 1 to 7 is shown a lock which is particularly adapted to the many uses to which padlocks and the like are employed. The lock shown includes a sturdy body or frame generally indicated at 1, which frame is substantially C-shaped and is thus formed with the two spaced-apart, integrally connected arms indicated respectively at 2 and 3. In the locking position, or that shown in FIGS. 1 and 4, a locking pin, rod or bar 4 extends between, enters and connects the arms 2 and 3 and when the pin or rod is in place the lock is in the form of a closed loop that may be fitted through or around any elements that are to be coupled or locked together. The open position of the lock is that in which the rod is removed.

The pin or rod 4 is provided at one end with screw threads 5 for threadable engagement with a threaded aperture through the arm 2. As an alternative, the end of the pin or rod 4 might be provided with a groove 6 for engagement by spring-pressed balls 7 acting as detents (FIG. 7) for securely but removably anchoring the end of the rod or pin in the arm 2. At its opposite end the pin or rod 4 is formed with a circular head 8 which fits within a recess 20 formed in the arm 3 of the frame 1. Said head 8 is provided with a transversely-extending aperture 21 adapted for the reception of a stem 9 that is provided on and extends axially from the end of a housing 10 of the lock mechanism 11. The locking mechanism contained in the housing 10 consists of a lock of the cylinder type and it may, if desired, preferably but not necessarily, be of a construction similar to that shown in my U.S. Pats. Nos. 3,260,080 and 3,464,241. Such type of locking mechanism is one in which the combination can be speedily and easily changed whenever it is desired to enable the lock to be operated by a selected key. Thus, a feature of the present invention resides in the fact that when the possibility exists that the lock might be opened by persons having unauthorized possession of a suitable key, the combination of the lock can be quickly changed and this can be done without difficulty or extensive effort so that a differently contoured key will then be required in order to open the lock.

The locking mechanism includes a retractible latch 12 for engagement with a recess 13 in the wall of a passage 14 in the frame 1. The lock housing 10 slidably and adjustably fits in the passage 14 and the fixed stem 9 on the lock housing projects through opening 16 to reach and enter the opening 20 in the head 8. It is obvious that as long as the stem 9 extends into the opening 20, the locking pin or rod 4 cannot be rotatively nor axially moved. When it is desired to remove the rod 4, the lock is opened by the retraction of its latch 12, by means of a key 19 and the locking housing 10 is axially moved out substantially as shown in dotted lines at 23 in FIG. 2, and this action will withdraw the stem 9 out of the opening 21 in the head 8 of the locking pin or rod 4 thus permitting the pin or rod to be freed and removed from between the arms 2 and 3. A finger-piece 24 is provided on the head 8 by which the pin or rod 4 may be manually unthreaded and removed.

The axial movement of the lock casing 10 may be limited by any suitable stop means such as a pin 28 entering a slot 29 in the housing or by the latch entering a recess in the arm 3. If the retaining means shown in FIG. 7 is employed as a substitute for threads for engaging one end of the pin or rod 4, unthreading of the pin or rod will not be required, the pin or rod then being forcibly pulled out when freed from its engagement by the stem 9.

What I claim is:

1. A lock comprising, locking mechanism contained within a cylindrical casing, said mechanism including a laterally projecting retractable latch, a substantially U-shaped housing having first and second arms, the cylindrical casing being mounted for axial movement in the first arm of the U-shaped housing, a fixed stem attached to and projecting from one end of the lock casing, a pin extending between the arms of the U-shaped housing, one end of the pin having means for anchoring that end in the second arm of the U-shaped housing, the opposite end of the pin having an enlarged disk of greater diameter than the remainder of the pin, said disk having a transverse passage therethrough, located to receive the stem on the lock casing when the casing is fitted in the housing, the latch cooperating with said first arm to hold the lock casing against axial shift in the absence of key operation of the lock mechanism in the lock casing.

2. A lock according to claim 1, wherein the means for anchoring one end of the pin in the second arm of the housing comprises screw threads on the pin engageable with threaded means on the second arm, and a finger piece projecting from the disk to facilitate the rotative unthreading movement of the pin to enable it to be removed from the housing after the stem has been removed from the passage in the disk by the axial shift of the lock casing.

3. A lock comprising, a substantially U-shaped housing that includes a pair of spaced-apart arms, the first of said arms having a threaded aperture for the reception of one end of a threaded pin that extends between the arms, the second arm having an aperture, a pin having an enlarged disk at its end opposite to said threaded

portion, said disk having an opening therein, the second arm of the housing having a passage at right angles to the opening therethrough and in which opening the disk is positioned, a lock casing having a key-controlled latch for holding the casing against axial shift, said casing carrying an offset stem at one end for engaging with the opening in the disk. the pin having a finger piece adjacent to the disk, the finger piece being located externally of the arm in which the disk is located, the pin being rotatable when it is not engaged by the stem to thereby withdraw it from the first arm.

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