Nov. 17, 1953 W. G. DUCHARME 2,659,228

PADLOCK HAVING GRAVITY ACTUATED DETENT

Filed Sept. 20, 1949

Fig. 1.

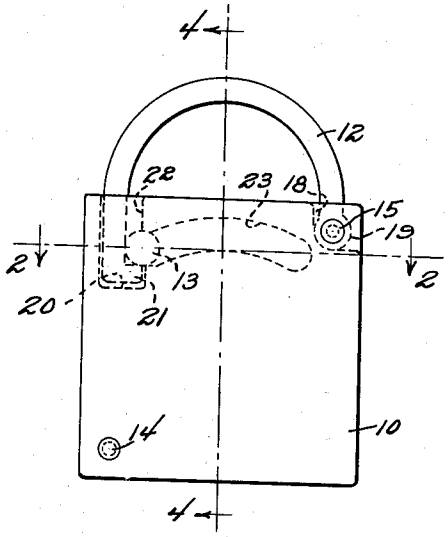


Fig. 2.

Fig. 3.

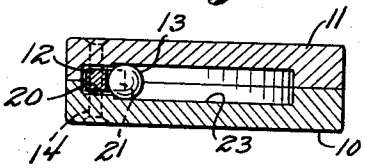
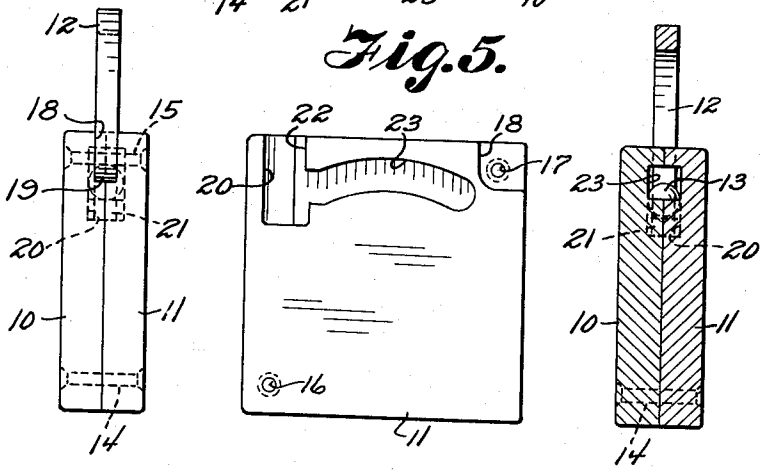


Fig. 4.

Fig. 5.



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PADLOCK HAVING GRAVITY ACTUATED DETENT

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3 Claims. (Cl. 70—20)

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This invention relates to locks of a keyless type in which a bail is locked in and released from a lock body or casing without a key or other externally applied device and without the usual lock combination operating instrumentalities, and in particular the lock includes a body having a bail pivotally mounted therein with one end of the bail extended into a recess in the body and adapted to be locked in the recess by a ball or roller freely mounted in an arcuate passage in the body.

The purpose of this invention is to provide a lock having a pivotally mounted bail in which the free end of the bail is automatically secured in the lock as it is inserted in the body thereof and in which the bail may be released without a key or the like and without the usual combination lock elements.

In the usual type of lock a bail is secured in a casing or lock body by pins or tumblers that are actuated by a key or combination elements but these require substantially accurate machining and for toys and other uses where a positive or efficient lock is not required it is desired to provide a simple form of lock which to the average layman appears to be positively locked but which may readily be released by actuating the lock body. With this thought in mind this invention contemplates a lock in which the locking element is positioned in an arcuate passage so that while it positively locks the end of a bail in the lock body it may readily be released by actuating the locking elements away from the locking position.

The object of this invention is, therefore, to provide a comparatively simple form of lock in which a bail of the lock may be released by a slight twisting of the lock body.

Another object of the invention is to provide a lock in which the lock element is actuated without a key or the like and in which the lock is particularly adapted for use as a toy.

A further object of the invention is to provide a lock of the keyless type which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a lock having a split body with a bail pivotally mounted between sections thereof and with a ball freely mounted in an arcuate passage therein in which the ball is adapted to lock an end of the bail in the body.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

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Figure 1 is a side elevational view of the lock with the interior thereof shown in dotted lines.

Figure 2 is a cross section through the lock being taken on line 2—2 of Figure 1.

Figure 3 is an end elevational view of the lock looking toward the end in which the bail is pivotally mounted.

Figure 4 is a vertical section through the lock being taken on line 4—4 of Figure 1.

Figure 5 is a detail showing the inner surface of one of the sections of the lock body illustrating the positions of the recess, passage and slot therein.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved lock of this invention includes a lock body formed of sections 10 and 11, a bail 12 and a ball 13.

The sections 10 and 11 are secured together by rivets 14 and 15 which are positioned in openings 16 and 17 of the section 11 of the body and corresponding openings in the section 10. The pin 15 extends through a slot 18 formed in adjoining surfaces of the sections 10 and 11 and an eye 19 on the end of the bail 12 is positioned in the slot and pivotally mounted in the lock body by the pin 15.

The other side of the lock body is provided with a recess 20 also formed in the inner surfaces of the sections 10 and 11 and the free end of the bail 12 extends into this recess with a projection 21 on the tip thereof passing through a slot 22 in the inner part of the recess where it engages the ball 13, and as the bail is snapped into the recess the projection 21 moves the ball inwardly and as it passes the ball the ball rolls back to the position shown in Figure 1 by gravity where it positively prevents withdrawal of the end of the bail.

With the lock in a vertical position as illustrated in Figure 1 the bail is positively locked in the lock body by the ball and when it is desired to open the lock the lock body is tilted to the right or in a clockwise direction so that the ball 13 rolls over in the arcuate passage 23, also formed in the inner surfaces of the sections 10 and 11, and releases the bail.

The device ordinarily provides a positive lock as from the exterior there is nothing to indicate that the ball may be rolled away from the projection of the bail.

The lock may be made of any suitable material and may be provided in different sizes.

The sections 10 and 11 of the lock body are complementary and the ball is placed in the pas-

sage 23 as the parts are assembled and as the width of the recess 20 is less than that of the passage 23 the ball is locked in the passage and is free to roll therein. The eye 19 of the bail 12 is also positioned on the pin 15 in the slot 18 as the parts are assembled, and with the parts assembled in this manner and riveted together it will be difficult to determine just how the lock operates from the exterior thereof.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a lock of the keyless type, the combination which comprises a lock body having a slot in one end adjacent one side thereof, a recess extended inwardly from the end in which the slot is positioned and an arcuate passage in the interior thereof and communicating with the recess, said recess being positioned adjacent the side of the body opposite to that near which the slot is positioned and said arcuate passage extended across and spaced from the end in which the slot and recess are positioned, a ball in said arcuate passage, a bail extended from said end of the lock body with one end of the bail pivotally mounted in the slot of the body and with the opposite end positioned to extend into the recess of the body, said bail having a projection positioned to be engaged by the ball in the arcuate passage for temporarily securing the free end of the bail in the body.

2. In a lock of the keyless type, the combination which comprises a lock body having a slot in one end adjacent one side thereof, a recess extended inwardly from the end in which the slot is positioned and an arcuate passage in the interior thereof and communicating with the recess, said recess being positioned adjacent the side of the body opposite to that near which the slot is positioned and said arcuate passage extended across and spaced from the end in which the slot and recess are positioned, a ball in said arcuate passage, a bail extended from said end of the lock body with one end of the bail pivotally mounted in the slot of the body and with the opposite end positioned to extend into the recess of the body, said bail having a projection thereon positioned to be engaged by the ball in the arcuate passage for temporarily securing the free end of the bail in the body, said lock body formed of two complementary sections and said sections riveted together providing a substantially solid lock body.

3. In a lock of the keyless type, the combination which comprises a lock body having a slot in one end adjacent one side thereof, a recess extended inwardly from the end in which the slot is positioned and an arcuate passage in the interior thereof and communicating with the recess, said recess being positioned adjacent the side of the body opposite to that near which the slot is positioned and said arcuate passage extended across and spaced from the end in which the slot and recess are positioned, a ball in said arcuate passage, a bail extended from said end of the lock body with one end of the bail pivotally mounted in the slot of the body and with the opposite end positioned to extend into the recess of the body, said bail having a projection positioned to be engaged by the ball in the arcuate passage for temporarily securing the free end of the bail in the body, said lock body having a slot positioned to communicate with the recess into which the end of the bail extends and said slot positioned to receive the projection on the end of the bail.

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