

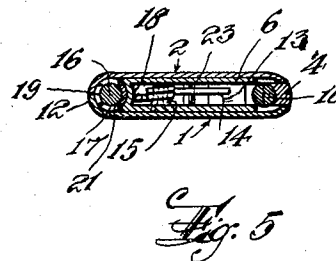
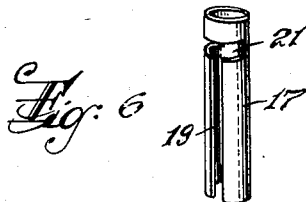
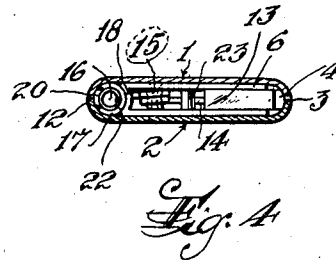
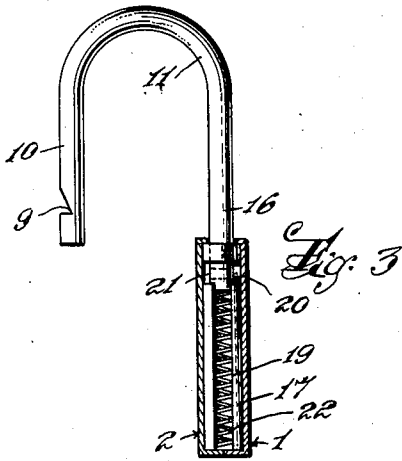
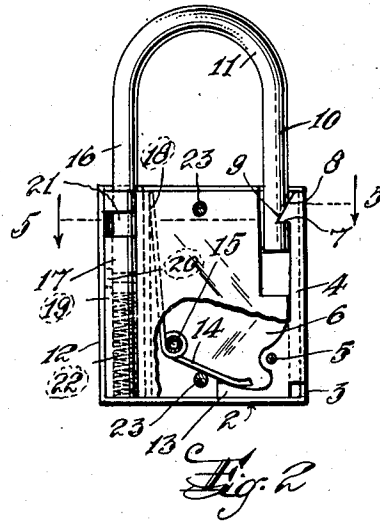
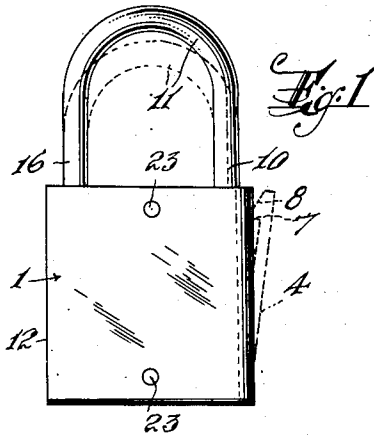
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KEYLESS PADLOCK

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1,995,544

KEYLESS PADLOCK

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8 Claims. (Cl. 70—108)

This invention relates to a padlock, and more particularly to one of the keyless type.

One of the objects of my invention is to produce a padlock having a smooth continuous surface with no parts projecting or extending from the casing other than the shackle whereby the padlock may be very advantageously used as an identification lock for use in special cases, for example, where a person has a large number of similar keys on a key ring, one particular key that is used very frequently may be supplied with one of these small locks whereby the key can be readily picked out in the darkness by merely locating the lock and thereby the key.

While I have stated above that the lock to be described herein is especially adapted for identification purposes, there may be other fields of use where a keyless padlock may be used, for example, it may be used to lock a bracelet on the wrist of a wearer and at the same time act as an identification device in which latter case the name or initials of the owner could be marked or engraved thereon. It may also be used on dog collars.

My invention will be readily understood by reference to the annexed drawing wherein

Figure 1 is a plan view, approximately three times full size, of a lock especially designed as an identification lock, the position of the shackle and locking latch when moved to releasing position being indicated by dotted lines.

Figure 2 is a view similar to Figure 1, but with one of the casing members removed showing the interior parts of the lock.

Figure 3 is a side view of Figure 2, but with the shackle turned 90° and with the edge portion of the casing broken away.

Figure 4 is a bottom view of Figure 2 but with the end portion of the casing removed.

Figure 5 is a section on the line 5—5 of Figure 2, and

Figure 6 is a perspective view of a socket member in which one of the arms of the shackle is positioned.

Referring to the details wherein lie numbers refer to corresponding parts in the various views, the casing is composed of two similar members 1 and 2 having intumed flanges which meet along the line 3; the two parts of the casing are held together in any satisfactory manner as by rivets 23, two of which are indicated. The flanges on one edge of the casing members 1 and 2 are notched out to form an opening within which is positioned one arm 4 of a latch member which is pivoted at 5 to a frame member 6 carried within the casing members 1 and 2. The end of the

arm 4 of the latch terminates in a hook and cam formation 7 and 8 adapted to cooperate with a notch and cam formation 9 on the arm 10 of the shackle 11. As will be seen from Figures 2 and 5 the outer surface of the latch 4 is finished to a contour to correspond with the opposite edge 12 of the casing and the interlocking formations 7, 8 and 9 on the latch and shackle are such that the arm 4 of the latch substantially fills the notched out opening in the flanges of the casing members 1 and 2 so that when the latch and the casing members have been plated and finally finished the latch arm can hardly be discerned.

The latch member has an arm 13 against which a spring 14 presses to hold the latch in the normal locking position as indicated in Figure 2. The spring 14 is held within the frame member 6 in any satisfactory manner as by denting in a lug 15 on the frame so that the lug enters the convolutions of the spring 14. The frame member 6 carries a socket element 17. As shown in the section Figure 5, the frame member 6 is formed of one piece connected by a bridge 18 which may preferably be formed somewhat concave to provide a seat for the tubular socket member 17 which is anchored in its seat in any satisfactory manner as by solder. The member 17 has a longitudinal slot 19 within which the end of a pin 20 travels. The pin 20 is mounted transversely in the end of the arm 16 of the shackle 11. Near the shackle end, the member 17 has a transverse slot 21 intercepting the slot 19 so that when the shackle arm 16 is moved outwardly the end of the pin 20 projecting from the arm 16 may enter the arcuate transverse slot 21 thereby allowing the shackle 11 to be turned as indicated in Figure 3. To move the shackle 11 to open position after it has been released from the interlock formations 7, 8 and 9, a spring 22 is provided and positioned within the circular socket 17.

Assuming the padlock to be in locked position as shown by the full lines in Figure 1 and with the latch and shackle interlocked as shown in Figure 2, to release the shackle or unlock the padlock, pressure is applied to the shackle 11 toward the casing. This forces the cam surfaces 8 and 9 on the latch and shackle to ride one on the other, thereby forcing the latch outwardly about as indicated in Figure 1 whereby it may be engaged and held in this position and when the pressure is released from the shackle 11 the spring 22 will cause it to move so that the arm 10 is moved out of the casing and the shackle can be turned as indicated in Figure 3. After the restraining force is removed from the latch the

spring 14 causes it to return to normal interlocking position so that when the shackle is swung back and pushed into interlocking position the parts are automatically relocked as shown in Figure 2.

It will thus be seen that I have provided a construction in which the surface of the lock is smooth and unbroken and in which the locking feature is not easily discernible and one that is highly useful for various purposes.

Having thus described my invention, what I claim is:

1. A padlock including a frame member and a casing having an opening in one edge thereof and holes in one end for the arms of a shackle, a socket member carried by the frame member, a shackle having its arms extending through said casing holes and one arm longitudinally movable in said socket, means cooperating between said socket and arm to permit the shackle arm therein to turn in the socket when the shackle is in unlocked position, a spring positioned in said socket tending to push said shackle arm to the position where it may be rotated, a latch carried by said frame and having an arm normally lying in said casing opening and substantially filling the same, the end of said arm terminating in a cam and hook, said shackle having another arm terminating in a cam and notch for the purpose described, and resilient means carried by the frame member for acting on said latch to hold it in normal locking position.

2. A padlock as set forth in claim 1 further characterized in that said casing is made of two similar parts fastened together and having interturned flanges which meet along their edges, the flanges on one edge being notched out to form said opening for the latch arm and also being cut out on one end to form the holes for the shackle arms.

3. A keyless padlock including a casing having an opening in one edge and shackle holes in one end thereof, a shackle having arms extending through said holes into the casing one arm terminating in a notch having a cam surface, a frame member within the casing, a latch carried by the frame member and having an arm with an outer surface conforming to the opposite edge of the casing and lying in and filling the opening flush with the edge of the casing, said latch arm terminating in a hook and cam to cooperate with the notch and cam on the shackle arm whereby pressure toward the casing on the shackle forces the latch outwardly so it can be released from engagement with the shackle, resilient means carried by the frame member for holding the latch in normal locking position, a socket member carried by the frame for receiving the other arm of the shackle, means cooperating between the socket and said arm to permit the shackle to be rotated after being released from said latch and a spring positioned in said socket acting to move the shackle arm therein to a position where it may be rotated.

4. A keyless padlock having a casing and a shackle having arms extending into the casing, a latch positioned in one edge wall of the casing and having its outer surface finished to simulate the opposite edge of the casing, said latch and

one of the arms of the shackle having cooperating interlocking formations for normally holding the latch in proper position so its surface and that of the casing conform, with means within the casing for normally holding them in interlocking position said latch and one arm also having cam surfaces whereby pressure on the shackle toward the casing will force said latch outwardly so it may be engaged to release the interlock.

5. A keyless padlock having a casing and a shackle having arms extending into the casing, a latch positioned in a part of the casing and having its outer surfaces finished to match up with the adjacent parts of the casing, said latch and one of the arms of the shackle having cooperating interlocking formations for normally holding the latch in proper position so its surface and that of the casing conform, with means within the casing for normally holding them in interlocking position said latch and one arm also having cam surfaces whereby pressure on the shackle toward the casing will force said latch outwardly so it may be engaged to release the interlock.

6. A keyless padlock including a casing and a shackle carried thereby one arm of the shackle having a cam and locking formation thereon, a latch having a part for completing the outer surface of the casing and having a formation thereon cooperating with said shackle arm formation for interlocking the latch and shackle, said cam cooperating with said latch to release said latch and shackle from interlocking relation by pressure on the interlocked shackle toward the casing whereby said latch part is moved so it can be engaged to prevent its return to interlocking position when the pressure is removed from the shackle.

7. A padlock including a casing having a slot in one edge thereof, a shackle movable inwardly and outwardly of said casing, a member in said casing normally closing said slot and yieldingly movable therethrough to an outwardly projecting position, coengaging latching devices on said shackle and member interlocked by inward movement of said shackle and rendered ineffective by movement of said member to projecting position, and means for moving said member to projecting position by inward movement of said shackle from its interlocked position and including a cam on said member engaged by said shackle.

8. A padlock including a rectangular casing having a slot in one edge thereof, a shackle movable inwardly and outwardly of one end of said casing, a right angularly shaped member pivoted between its arms in said casing and having one arm movable in one direction to project outwardly of said slot, said member being tensioned for movement of said arm in the opposite direction to a slot closing position, the other arm of said member bearing against the other end of said casing to limit movement of the member in said opposite direction, and coengaging latching devices on said shackle and member operatively related by inward movement of said shackle and rendered ineffective by movement of the first mentioned arm to projecting position.

WARREN R. LARTER.