Dec. 23, 1924. 1,520,035

B. MITCHELL

PADLOCK

Filed Nov. 23, 1922

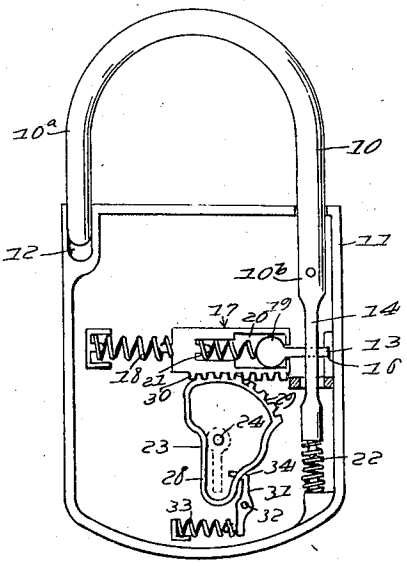



Fig. 1.

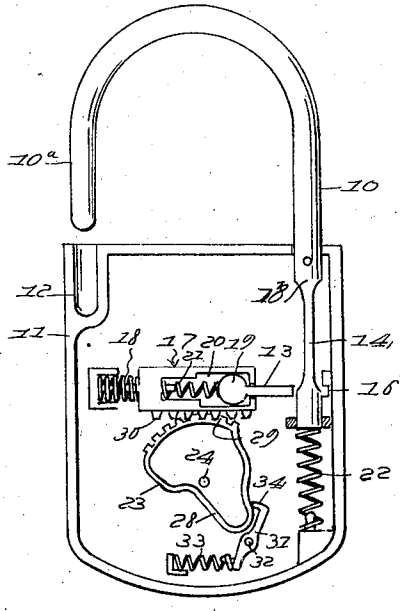



Fig. 2.

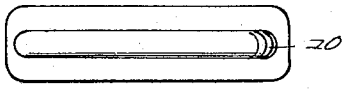



Fig. 3.

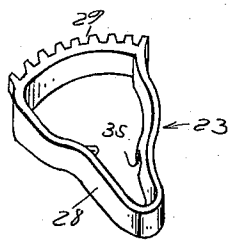



Fig. 4.

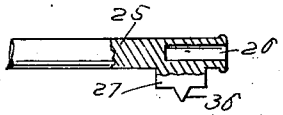



Fig. 5.

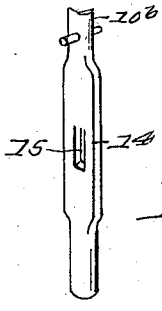



Fig. 6.

Inventor

Basil Mitchell,

By E. Hume Talbert

Attorney

Patented Dec. 23, 1924. 1,520,035

# UNITED STATES PATENT OFFICE.

BASIL MITCHELL, OF ST. JOSEPH, MISSOURI.

## PADLOCK.

Application filed November 23, 1922. Serial No. 602,789.

*To all whom it may concern:*

Be it known that BASIL MITCHELL, a citizen of the United States of America, residing at St. Joseph, in the county of Buchanan and State of Missouri, has invented new and useful Improvements in Padlocks, of which the following is a specification.

The object of the invention is to provide a simple and efficient construction of pad lock and particularly to provide a lock of this type wherein the release of the shackle may not be effected through the jarring or vibration of the lock mechanism and wherein provision is made for variation in the locking means to contemplate a wide range of difference in the keys required to release the same, so as to minimize the possibility of surreptitious manipulation of the mechanism; and with this object in view the invention consists in a construction and combination of parts of which a preferred embodiment is shown in the accompanying drawings, wherein:—

Figures 1 and 2 are side views of the lock respectively in the locked and unlocked conditions, the face plate of the casing being omitted to show the interior construction.

Figure 3 is a view of the shackle end of the lock.

Figure 4 is a detail view of the rocker by which the bolt is actuated.

Figure 5 is a detail view partly in section of the key.

Figure 6 is a detail view of the long arm of the shackle.

The lock mechanism while applicable to a variety of forms of locks is peculiarly designed and adapted for use in connection with pad locks of the type wherein a bowed shackle 10 is mounted to slide in a casing 11 which is provided with a socket 12 for the reception of the extremity of the short arm $10^a$ of the shackle, and an important feature of the lock mechanism resides in the fact that the locking pin 13 which serves to engage the long arm $10^b$ of the shackle extends entirely through said arm which for the purpose is reduced in thickness and increased in width as shown at 14 and is provided with a pin opening 15. This feature of the lock serves as a means of preventing the disengagement of the locking means from the shackle by a sudden jar or blow as when the engagement is effected only with a notch in the shackle, and in addition a seat 16 is provided in the casing to receive the free end of the locking pin when in its shackle engaging position as a means of resisting any strain which may be applied to the exposed loop of the shackle tending to deflect or bend the pin.

The shackle engaging pin is carried by a bolt 17 fitted to slide toward and from the long arm of the shackle and yieldingly held in an advanced position by an actuating spring 18. The pin is loosely mounted in the bolt and as shown is preferably provided with a spherical head 19 arranged in an elongated seat 20 in the bolt and yieldingly held advanced with relation to the bolt by means of a spring 21 to the end that whereas the pin is capable of retraction or inward movement independently of the bolt, or the bolt is capable of outward movement or movement toward the shackle arm independently of the pin, the springs 18 and 21 serve to impel said parts respectively in the direction of engagement with the shackle arm. Should the bolt be advanced toward the shackle arm while the parts are otherwise than in the position indicated in Figure 2 with the end of the locking pin in contact with the imperforate portion of the long arm of the shackle, said pin will yield in opposition to the spring 21 and the positions thus assumed will be maintained until the shackle has been forced inward to its locked position as indicated in Figure 1, whereupon the locking pin will be advanced by its spring 21 into locking engagement with the opening 15 of the shackle arm. The shackle arm is preferably spring actuated toward an extended or unlocked position and to this end a spring 22 is arranged in contact with the extremity of the long arm thereof.

The means for actuating the bolt consist of a rocker 23 fulcrumed at 24 upon a post which serves as the spindle of the key 25 when inserted into the lock for the purpose of actuating the bolt. Said key is provided with a terminal socket 26 to extend over said post and is also provided with a ward 27 which is adapted to extend into a ward seat 28 constituting a reduced portion of the rocker which is hollow to receive the key ward and is provided with a segmental series of teeth 29 in engagement with a rack 30 on the bolt to the end that the movement of the bolt and rocker are synchronous.

In operative relation with the rocker is a latch 31 pivoted at 32 and provided with an actuating spring 33 whereby its tongue 34

is held normally in engagement with a seat 35 in a wall of the rocker. As long as the latch remains as in Figure 1 in engagement with the seat 35 of the rocker the latter is held against movement either through the jarring of the lock casing or by other means than the proper key. To permit of a movement of the rocker to actuate the bolt it is necessary to disengage the latch therefrom, and to effect this disengagement the key ward 27 is provided with an ear 36 adapted to be brought into contact with the extremity of the tongue 34 of the latch as the key is turned after it is inserted in the keyhole of the lock casing and after it has reached a position within the rocker with its ward in the seat 28. Obviously the width of the ward with relation to the width of the seat 28 must be properly proportioned to permit of the engagement of the ear 36 with the tongue 34 so as to repress the latch sufficiently to disengage it from the rocker and permit of the movement of the rocker by the further movement of the key, and by varying the width of the seat 28 or the position of the seat 28 with reference thereto or the width of the ward or the length of either the tongue or the ear, it is possible to provide against the manipulation of the lock otherwise than by the key which is designed for the same and in order to provide against the unauthorized operation of the lock.

Having described the invention, what is claimed as new and useful is:—

A lock having a sliding bolt and a key actuating release for the same, the latter consisting of a hollow rocker provided with a segmental series of teeth in engagement with a rack on the bolt, the rocker having a reduced portion constituting a key ward seat and being provided in the wall adjacent said ward seat with a second seat, a spring actuated pivotally mounted latch provided with a tongue for engagement with said second seat and normally disposed in the path of movement of an ear on the key ward, a post being provided as a fulcrum of the rocker and the pivot of the key.

In testimony whereof he affixes his signature.

BASIL MITCHELL.