

A. A. WYCKOFF.

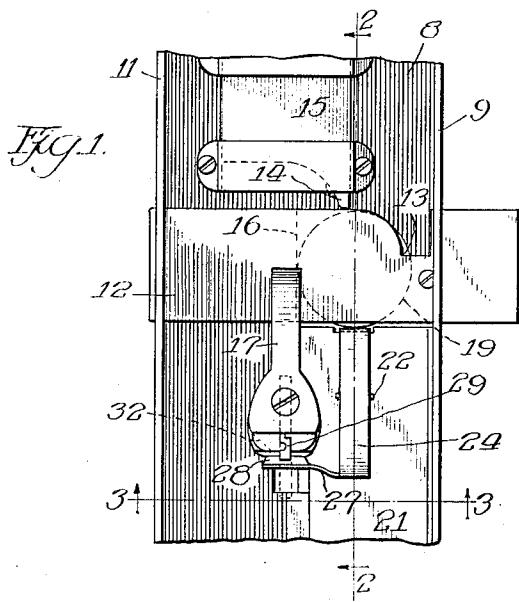
LOCK.

APPLICATION FILED AUG. 23, 1915.

1,237,138.

Patented Aug. 14, 1917.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 5.

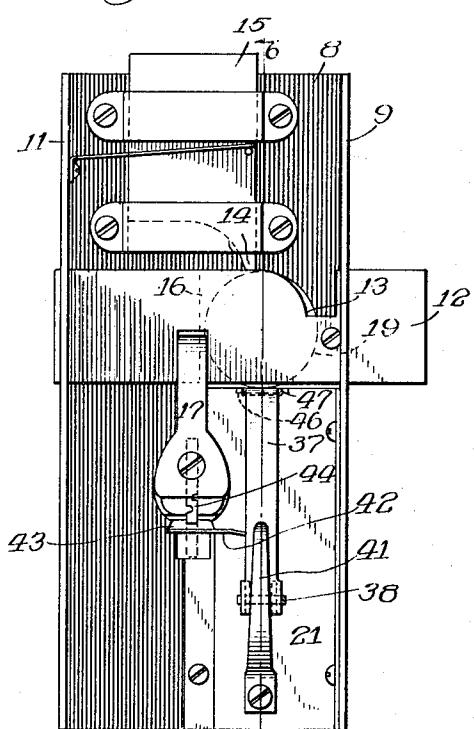


Fig. 6.

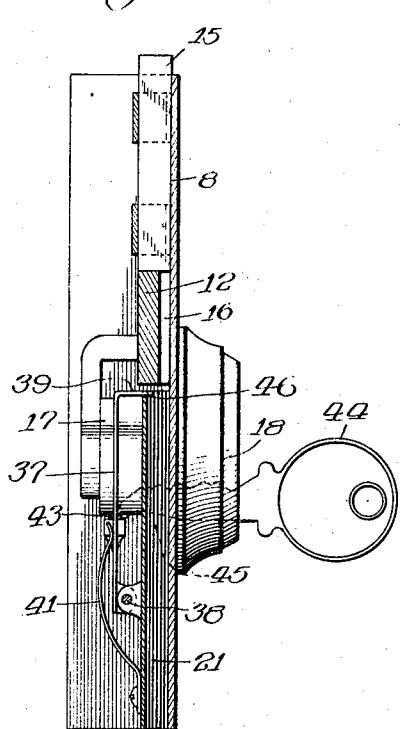
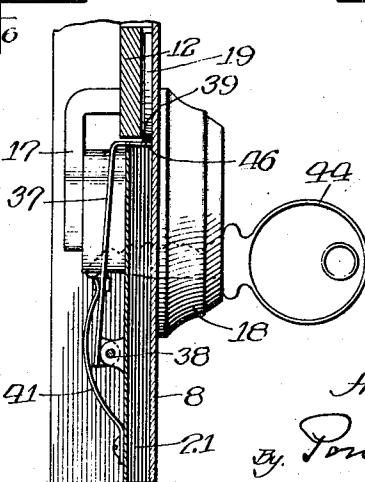


Fig. 7.



Witnesses:

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UNITED STATES PATENT OFFICE.

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LOCK.

1,237,138.

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To all whom it may concern:

Be it known that I, Amos A. Wyckoff, a citizen of the United States, residing at Santa Cruz, in the county of Santa Cruz 5 and State of California, have invented certain new and useful Improvements in Locks, of which the following is a specification.

This invention relates in general to locks, and has more particular reference to coin-controlled locks of the type employed on 10 parcel lockers, safety deposit vaults and the like, the operation of which requires the deposit of a coin in the lock before the bolt can be thrown to locked position. When 15 parcel lockers are equipped with these locks the locking bolt is normally in unlocked position. The user opens the door, places his parcels or baggage inside the locker, then deposits a coin in the lock which serves 20 as an intermediary to enable the locking bolt to be thrown to locked position. Then after turning the key to throw the bolt the key is withdrawn and serves as a check by which the user can identify his locker. Upon 25 his return the patron reinserts the key in the lock, throws the bolt to unlocked position and removes his parcels, the bolt being then locked in an unlocked position so as to be releasable only by the deposit of 30 another coin.

Locks of this general character have heretofore been equipped with what is known as a fool proof device, that is, a device which 35 acted on the key so that after the bolt had been thrown to locked position it could not be unlocked until the key had been withdrawn and reinserted in the lock. This safety guard or so-called fool proof device 40 has proven disadvantageous in some instances for the reason that the patron after locking the locker and before removing his key would discover that he desired to obtain access to his baggage again before leaving. This he was unable to do by reason of 45 the fact that the coin which was utilized to throw the bolt to locked position had dropped from the lock into the coin till, consequently the lock could only be unlocked by the insertion of another coin. The 50 patron therefore, in order to obtain access

to his baggage was required to deposit another coin, the use of his first coin having been lost.

One of the primary objects of my present invention is to eliminate this fault of these locks which had been equipped with fool proof devices by providing a lock which will be so constructed that the key can be turned readily to throw the bolt from locked to unlocked position and vice versa, after a coin 55 has been deposited in the lock so long as the key is left in the lock, but after the key has been removed and reinserted the locking bolt can be unlocked but cannot be relocked until another coin has been deposited in the 60 lock. In other words, the coin instead of being released and permitted to drop from controlling position into the till, as soon as the locking bolt is moved to locked position 65 is retained in my present invention in controlling position so long as the key remains in the lock, the coin being released by longitudinal movement of the key in the lock either when the key is withdrawn or when it is reinserted, depending upon the embodiment 70 of my invention with which the lock is equipped, both the forms being contemplated within the scope of the present invention.

Another object of my invention is to provide 75 a lock of this character which will be less intricate in structure, therefore cheaper to manufacture and assemble than the locks equipped with fool proof devices heretofore employed.

Other objects and attendant advantages 80 of the invention will be readily appreciated as the same becomes better understood by reference to the following description when considered in connection with the accompanying drawings. Referring to the drawings—

Figure 1 is a fragmentary rear elevation of a lock embodying my invention:

Fig. 2 is a sectional view on the line 2—2 95 of Fig. 1;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a view similar to Fig. 1, showing 100 a slightly different form of the invention;

Fig. 5 is a view similar to Fig. 1, illustrating another embodiment of my invention;

Fig. 6 is a sectional view on the line 6—6 of Fig. 5, showing the position of the parts during the insertion of a key into the lock; and

Fig. 7 is a similar view showing the position of the parts after the key has been 10 fully inserted.

Referring to the drawings, and particularly Figs. 1 to 3 thereof, reference character 8 designates the frame or body of the lock which is provided along each longitudinal edge with rearwardly extending flanges 9 and 11 slotted to provide a guide-way for a locking bolt 12. The bolt is provided on its upper edge with a notch providing a shoulder 13 which abuts against 20 a finger 14 which is disposed in the notch when the locking bolt is in unlocked position. The finger 14 is formed on the lower end of a slide 15 which is shaped to provide a coin chute and operates substantially like 25 a similar construction shown in Patent No. 1,105,052, granted to E. L. Williams July 28, 1914.

The bolt is cut away on its front face to provide a coin slot 16, as is best shown in 30 Fig. 3, and is operated by an arm 17 mounted on the inner end of a lock cylinder 18 which may be of any well known construction such as a Yale or Corbin lock, or may be of any other preferred structure, the arm 35 17 being rigidly mounted on the inner end of the cylinder and positively connected at its outer end to the bolt 12. The lock is shown in Fig. 1 in locked position but when 40 it is in unlocked position the coin slot 16 in the bolt is disposed in alinement with the slot in the slide 15, the finger 14 of which is then disposed in the notch in front of the shoulder 13 so that the bolt cannot be moved to locked position. Upon the deposit of a 45 coin in the slot the coin passes downwardly in the chute formed by the slide 15 into the coin slot 16 of the bolt where it rests upon the upper edge of that portion of the lock cylinder which contains the plunger pins. 50 The key, of course, is locked in the lock so that it cannot be withdrawn when the lock is in unlocked position by reason of the fact that the plunger pins are not in alinement, this function being common to locks of this 55 character. After the coin has been deposited in the slot of the bolt, turning movement of the key to move the bolt toward the right or into the position shown in Fig. 1 will cause the coin shown in dotted lines and indicated 60 by reference character 19 to abut against the curved portion of the slide 15, thereby raising the slide out of the notch and out of the path of the shoulder 13 so that the bolt can be moved to locked position. The construction thus far described is well known in the

art and the details of the various mechanisms described may assume any preferred form, as this part of the structure is not embraced in my present invention.

Heretofore in locks of this character when 70 the locking bolt was moved to locked position, as shown in Fig. 1, the coin would drop from the locking bolt through a coin chute 21 into the till. When the bolt was next thrown to unlocked position it would be immediately 75 locked in that position by the finger 14 so that the bolt could not be again thrown into locked position until another coin had been deposited to raise the slide 15. My present invention contemplates the provision of 80 means for maintaining the coin in its controlling position in the coin slot of the locking bolt so long as the key remains in the lock so that the patron may lock and unlock the lock as many times as he desires without losing his coin, but when he withdraws the key the coin becomes ineffective for a subsequent operation of the bolt.

In order to accomplish this result I have pivoted upon the rear of the coin chute 21 90 upon a suitable pivot pin 22 disposed through stationary ears 23 on the coin chute a device or member 24 having ears 25 carried on the pin 22. The upper end of this device 24 is turned inwardly to provide a 95 finger 26, as shown in Fig. 2, which extends across the coin chute 21 and immediately beneath the locking bolt 12 to prevent the release of the coin from the bolt and maintain the coin in controlling position in the bolt 100 so long as the key remains in the lock. The lower end of the member 24 is provided with a laterally projecting arm 27 provided with an upwardly extending rib 28 adapted to be engaged by the key 29. The key is provided 105 at its lower edge near its inner end with a groove or recess 31 adapted to receive the rib 28.

When the key is inserted in the lock the end of the key pushes against the rib 28, thereby 110 swinging the member 24 on its pivot into the position shown in Fig. 2, wherein the finger 26 closes the upper end of the coin chute 21. When the key is fully inserted its extremity will pass inwardly over the rib 28 so that the 115 rib will be engaged in the groove or recess 31 in the lower edge of the key to thereby hold the member 24 in the position shown in Fig. 2 so long as the key remains in the lock. The key may now be turned in the 120 cylinder to move the locking bolt to locked position, as shown in Fig. 1, which will bring the coin 19 directly over the finger 26 but the coin will be supported by the finger in controlling position in the locking bolt and 125 be prevented from dropping down the coin chute 21 into the till. Should it now be desirable to unlock the lock again before withdrawing the key the same may be done as the coin is still in the bolt and will be effec- 130

tive to raise the slide 15 when next the bolt is locked. Upon unlocking movement of the bolt the key 29 moves in a counter-clockwise direction, viewing Fig. 1, traveling along the 5 rib 28. The cylinder 18 is provided with a groove 32 in alignment with the groove 31 in the key so that as the key travels off from the rib 28 the other end of the rib will engage in said groove in the cylinder, thereby 10 retaining the member 24 in position to support the coin 19.

As previously stated the key cannot be withdrawn when the latter is in unlocked position but when the bolt is in locked position 15 the patron may withdraw the key which he carries as a check. Upon withdrawal of the key the member 24 will be swung in a counter-clockwise direction, viewing Fig. 2, upon its pivot 22 by reason of the engagement 20 of the rib 28 in the slot 31 of the key. As the key is withdrawn the finger 26 will be simultaneously moved to the left, viewing Fig. 2, thereby permitting the coin to drop from the coin slot in the bolt down the coin 25 chute 21. When the member 24 has reached the limit of its swinging movement in this direction the arm 27 will yield sufficiently to permit depression of the rib 28 from the groove 31 so as to allow the complete withdrawal 30 of the key. It will thus be manifest that each time the key is inserted the finger 26 will be moved beneath the bolt in position to support a coin in the bolt and will be retained in this position so long as the key remains in the lock. Upon withdrawal of the 35 key, however, the finger 26 is withdrawn from operative position and the coin is permitted to drop into the till.

In Fig. 4 I have shown a slightly different 40 form in which instead of employing a resilient arm 27 upon which the rib 28 is mounted I provide the member 24 with a rigid laterally projecting arm 33 provided with a slot 34 through which a rib 35 carried upon a spring 36 projects. The thrust 45 exerted upon the rib by the insertion and withdrawal of the key is therefore received by the rigid arm 33 which is not liable to become bent, and the rib 35 may be more readily depressed by the end of the key as 50 the leaf spring 36 may be much lighter than the spring arm 27, shown in Figs. 1 to 3 inclusive.

In Figs. 5 to 7 inclusive I have disclosed 55 another embodiment of the invention which, instead of releasing the coin upon withdrawal of the key is designed to release the coin only upon subsequent insertion of the key. In this instance the member 37 is pivoted at 38 beneath the key, this member being equipped at its upper end with a finger 39 performing the same function as the finger 26, previously described. A leaf-spring 41 overlying the member 37 normally holds 60 the finger 39 in operative position as shown

in Fig. 7. Above its pivot the member 37 is provided with a laterally projecting arm 42 carrying a rib 43 similar to the rib 28, previously described. This rib is disposed in the path of the inner end of the key 44 70 so that when the key is inserted its inner end engages the rib 43, thereby swinging the member 37 inwardly to withdraw the finger 39 into the position shown in Fig. 6. The coin is thereupon permitted to drop into 75 the till. The key in this instance, however, is shaped slightly differently, in that the key has a cut-away portion 45 instead of the groove 31, previously described. When the key, upon insertion, has swung the member 80 37 to its extreme outer position, which is determined by engagement of small lateral lugs 46 on the free end of finger 39 with abutment shoulders 47 on the rear wall of the coin slot 21, the end of the key rides 85 over the rib 43 whereupon the member is swung into the position shown in Fig. 7 by the spring 41 to close the coin chute. This movement of the member is permitted by reason of the cut-away portion 45 of the 90 key which permits the rib 43 to move beneath the key without interference by the key.

It is believed that my invention and its mode of operation will be readily apparent 95 from the foregoing and it should be understood that by the employment of my invention which maintains a coin in controlling position with respect to the bolt, at least until the key is withdrawn, and in one embodiment of my invention until the key has been reinserted the use of a so-called fool-proof device, which necessitated the withdrawal and reinsertion of a key before the bolt could be unlocked, is entirely eliminated. By the use of my invention the lock 100 may be locked and unlocked repeatedly with one coin so long as the key remains in the lock, but after the key has been withdrawn the lock cannot be locked again until another coin has been deposited. While I 105 have shown and described those embodiments of my invention which appear at present to be preferable, it should be understood that various modifications in the size, 110 shape, proportion and arrangement of various parts may be resorted to within the scope of my invention, as defined in the following claims:

I claim:

1. In a lock, the combination of a bolt, key-actuated mechanism for operating said bolt, coin-releasable means for locking said bolt in unlocked position, and movable means structurally independent of the key 115 for controlling a coin so as to permit repeated actuations of the bolt before withdrawal of the key from the lock, said means being adapted to be actuated by longitudinal movement of the key so as to permit 120

discharge of the coin before the key is fully reinserted in the lock.

2. In a lock, the combination of a bolt, key-actuated mechanism for operating said bolt, coin-releasable means for locking said bolt in unlocked position, and movable means structurally independent of the key but controlled thereby so as to maintain a coin in operative relation to said coin releasable means until actuated to release said coin by longitudinal movement of the key.
3. In a lock, the combination of a bolt, key-actuated mechanism for operating said bolt, coin-releasable means for maintaining said bolt in unlocked position, and pivotally mounted means structurally independent of the key but controlled thereby so as to main-

tain a coin in operative relation to said coin-releasable means when the key is in operative position in the lock but adapted to 20 release said coin upon longitudinal movement of said key.

4. In a lock, the combination of a bolt, key-actuated mechanism for operating the same, coin-releasable means for locking said bolt in unlocked position, and a pivotally mounted coin-controlling device constructed to normally maintain a coin in operative relation to said coin-releasable means, said device being provided with a projection 25 adapted to be engaged by the key upon longitudinal movement thereof, whereby said device is actuated to release the coin.

AMOS A. WYCKOFF.