R. H. PITTMAN.

LOCK.

APPLICATION FILED JULY 9, 1907.

905,574.

Patented Dec. 1, 1908.

2 SHEETS—SHEET 1.

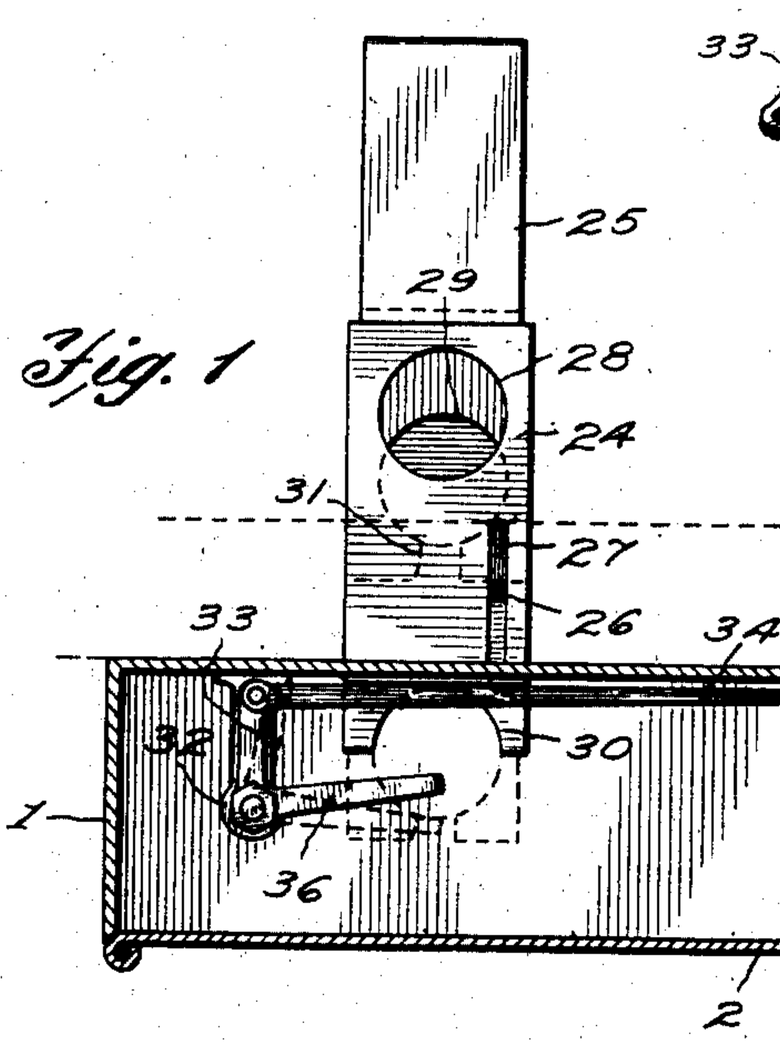

Fig. 1

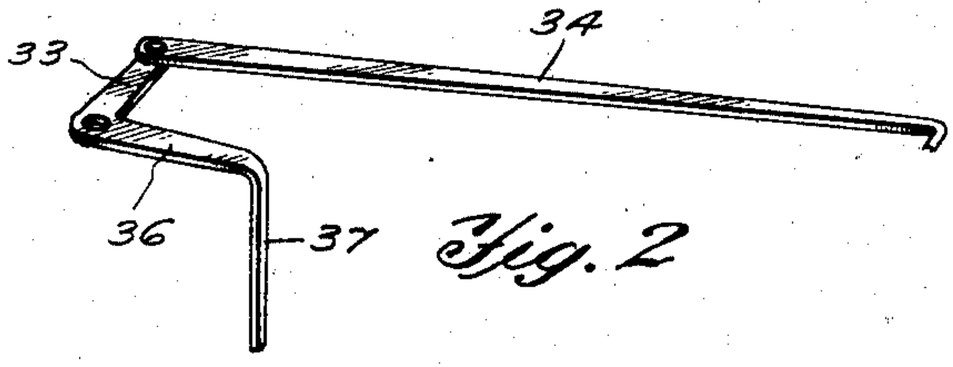

Fig. 2

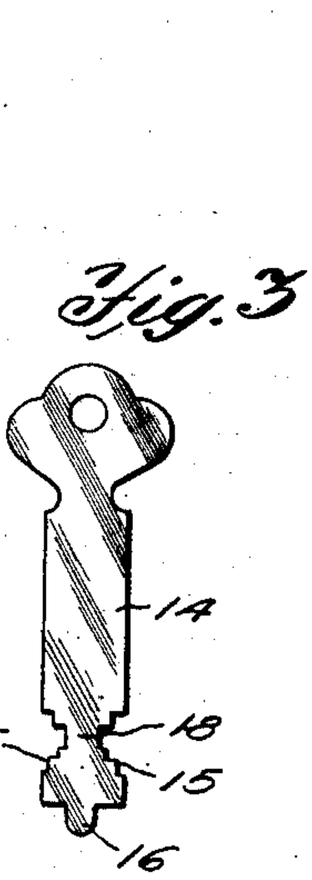

Fig. 3

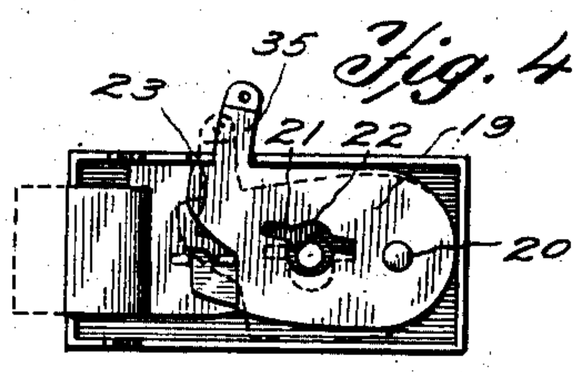

Fig. 4

Fig. 7

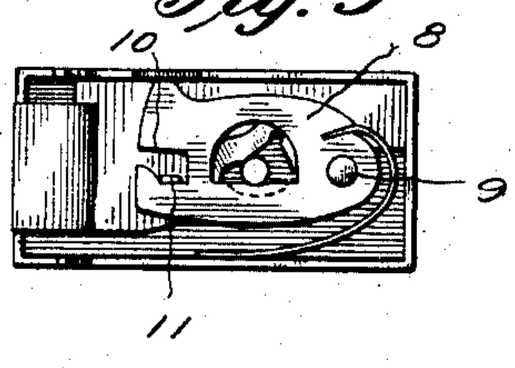

Fig. 5

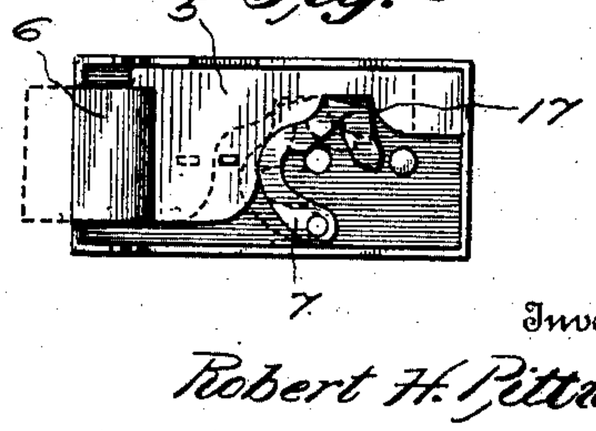

Fig. 6

Witnesses

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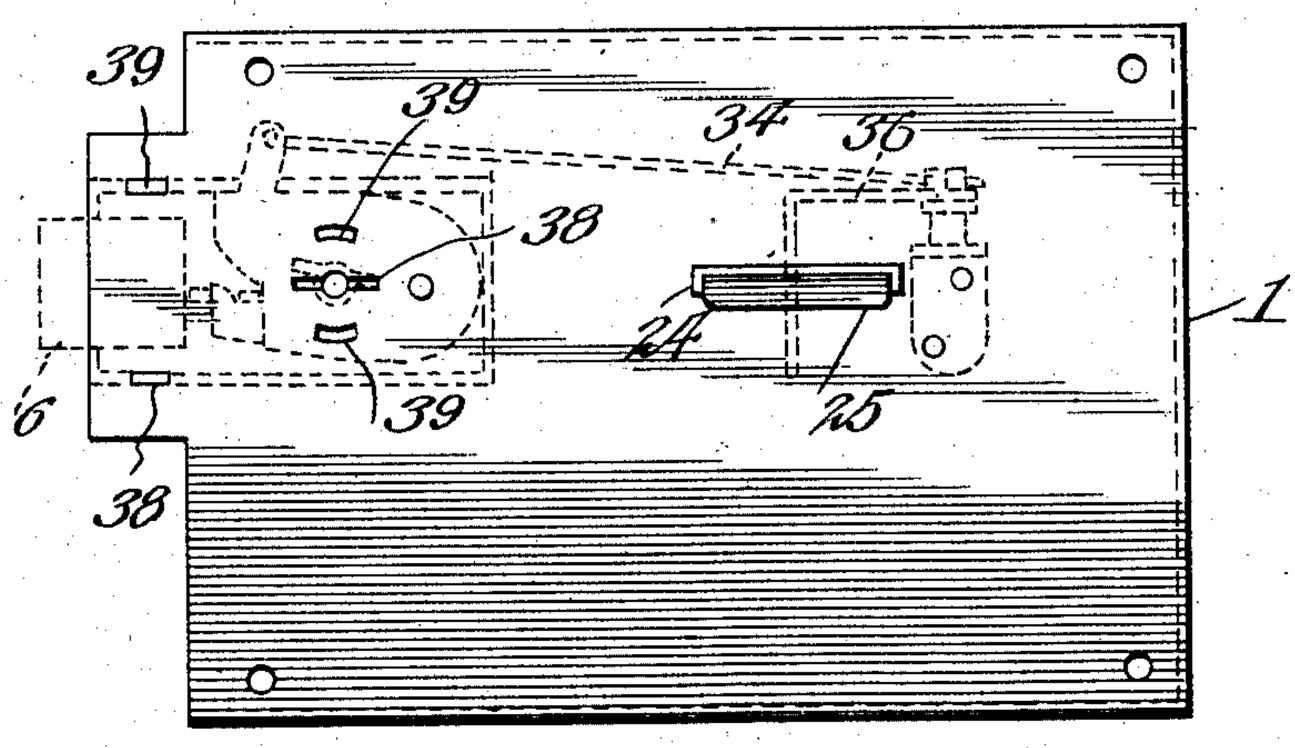
2 SHEETS—SHEET 2.

Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

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LOCK.

No. 905,574. Specification of Letters Patent. Patented Dec. 1, 1908.

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To all whom it may concern:

Be it known that I, ROBERT H. PITTMAN, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Locks, of which the following is a specification.

The invention relates to an improvement in locks, comprehending specifically an attachment designed for use with locks or the like, whereby the key for operating the lock is secured against withdrawal from the lock except after actuation of said attachment.

The main object of the present invention is the production of a lock so constructed as to secure the key against withdrawal except through operation of the mechanism by the introduction of a coin, the construction permitting the free locking and unlocking of the key without reference to the attachment.

The invention is particularly designed for use with lockers in railroad stations or the like, whereby the individual may secure a limited use of a locker for the storage of such articles as he may desire, the attachment compelling the introduction of a predetermined coin before the user can withdraw the key, thereby insuring that the use of the locker is paid for before the user can withdraw the key and safe guard the articles within the locker. The attachment, therefore, provides an automatic system for the storage of packages or the like in railroad depots and other places, thus dispensing with the necessity of an attendant and for the laborious and unsatisfactory checking method now in use.

The invention in the perfect embodiment of details will be described in the following specification, reference being had to the accompanying drawing, in which:—

Figure 1 is a horizontal section, partly in elevation, of my improvement. Fig. 2 is a perspective of the controlling lever. Fig. 3 is a plan of the key. Fig. 4 is a front elevation of the lock proper, illustrating particularly the key locking plate. Fig. 5 is a similar view with the locking plate removed. Fig. 6 is a similar view with the tumblers removed. Fig. 7 is an edge view of the locking mechanism. Fig. 8 is a front elevation of the casing.

Referring particularly to the drawings, my improvement comprises a casing 1 of approved size, having a hinged cover or rear wall 2, normally held in closed position through the medium of any desired form of lock, as 3. To the inner surface of the forward wall of the casing is secured the lock proper 4, comprising a suitable box-like member in which is mounted the bolt slide 5, carrying the usual nose 6 for engagement with a keeper. An operating dog 7 is pivotally supported within the box 4, being shaped to engage a suitable recess in the bolt slide and formed to be operated through the medium of a suitable key. Tumblers 8 of any desired number are pivotally secured within the box on a pin 9, said tumblers being formed at their relatively forward edges with notches 10 to engage the stop pin 11 on the bolt slide. So far as described, the parts are intended to represent an ordinary lock construction, which, by the introduction and operation of the key will depress the tumblers to disengage the pin 11, and permit free longitudinal movement of the bolt slide under influence of the operating dog 7, the latter being swung on its pivot through the medium of the key.

The casing 1 is designed to be secured to the inner surface of the door 12 of a locker or other compartment, the relatively forward wall of the casing being provided with a barrel 13 seated in an opening in the door and serving to guide the key in its introduction into the lock. The key 14 is of the usual flat type, the bit thereof being formed with wards 15 to operate the tumblers and dog, the end of the bit having a projection 16 to seat in an opening 17 in the lock wall and whereby to guide the key in operation. In rear of the operating notches or wards, the key is materially reduced in width to provide a comparatively narrow central portion 18, for a purpose which will presently appear.

In conjunction with the lock I use what I term a locking plate 19, said plate being mounted upon a pivot pin 20 at the rear portion of the lock and designed to overlie the key openings in the tumblers and operating dog. In alinement with the openings of the tumblers the locking plate is formed with an elongated opening 21 of a size to permit entrance of the key bit, this opening centrally coinciding with an approximately circular opening 22 of somewhat greater diameter than the width of the reduced por-

tion 18 of the key bit. The circular opening 22 projects farther below the relatively lower edge of the opening 21 than above the upper edge thereof, so that sufficient space is provided for the rotation of the reduced portion 18 of the key when the locking plate is in elevated or operative position. The relatively forward edge of the locking plate is formed with an inclined portion or shoulder 23, designed when the locking plate is in inoperative or lowered position to be engaged by the stop pin 11 on the bolt slide in the retracting movement of the latter, with the effect to cause the movement of said pin to elevate the locking plate into operative or locking position. In this connection it is to be particularly noted that the elongated opening 21 of the locking plate registers with the similar openings in the tumblers and with the opening 38 in the casing 1, to be described, when said locking plate is in lowered or inoperative position, and that when said plate is elevated or in operative position the relatively forward end of the opening 21 is raised out of registry with the key openings in the tumblers and with opening 38.

Secured to the forward wall of the casing 1 in rear of the lock proper is arranged a coin chute 24, in which is slidably mounted a coin feed bar 25, the movement of which latter relative to the chute is limited through the medium of a pin 26 projecting from the feed bar and through an elongated slot 27 in the upper wall of the chute. The chute projects through an opening in the locker door or other article to which the device is secured and projects beyond the forward surface thereof, the upper wall of the projecting portion of the chute being formed with an opening 28 of a size to receive the predetermined coin. The relatively inner end of the feed bar is also formed with a coin receiving opening 29, so that when the openings 28 and 29 register the coin will drop into the latter opening and may be moved longitudinally of the chute by the operation of the feed bar. The chute terminates within the casing 1 in the semicircular discharge mouth 30, and the forward end of the feed bar is formed with a relatively narrow opening 31 communicating with the coin receiving opening 29. Mounted upon a bracket 32, projecting from the inner surface of the forward wall of the casing 1, is an L-shaped lever 33, to the shorter arm of which is secured an operating rod 34 which extends in parallel relation to the forward wall of the casing toward the lock proper, terminating above the lock and connected to a projection 35 extending upwardly from the locking plate, as clearly shown in Figs. 1 and 4. The longer arm 36 of the L-shaped lever projects normally in advance of the inner end of the coin chute, terminating about centrally of the width of said chute and being provided with a depending section 37, which projects across the mouth of the chute and in the path of movement of the opening 31 of the feed bar. The front face of the casing, that is the face next the door of the locker, is provided with a key-hole opening registering with the opening in the barrel 13, this key-hole opening being, of course, fixed at all times in the same position.

The barrel and lock box are formed with projecting tongues, which pass through openings in the forward face plate of the casing 1 and serve to secure the parts together.

With the parts constructed and arranged as described and assuming the door locked and the key withdrawn, in which event the locking plate will be in lowered or inoperative position, the operation of my improvement is as follows: The person desiring access to the locker inserts the key through the barrel 13 and into the lock, such insertion being possible owing to the lowered or inoperative position of the locking plate. The key is now operated to unlock the door, which movement alines the tumblers and withdraws the bolt through operation of the dog 7. This movement of the bolt slide will, through the coöperation of the stop pin 11 with the shoulder 23 on the locking plate, tend to elevate the latter into operative position. This movement, of course, elevates the forward end of the opening 21 in the locking plate out of registry with the openings in the tumblers, and opening in the casing, and thereby effectually prevents withdrawal of the key from the lock. In this connection it is to be noted that the key, when in operative position, will dispose the reduced portion 18 of the bit within the circular opening 22 of the locking plate, so that said key is freely operable at all times to lock or unlock the door, but the non-registry of the elongated opening 21 in the locking plate with the tumblers, as previously described, prevents withdrawal of the key. After depositing the desired articles within the locker, the same is locked by operating the key in the usual manner, but withdrawal of the key is still impossible owing to the position of the key within the locking plate. A coin of the predetermined value is now inserted in the coin opening 28 in the chute, the feed bar 25 is withdrawn until the coin falls into the opening 29 therein, whereupon the feed bar is moved inward to its limit. As the coin falls in opening 29 in the feed bar it is obvious that said coin presents a closing edge at the inner end of the opening 31, and, therefore, as the feed bar advances this edge of the coin engages the depending section or trip 37 of the L-shaped lever 33, rocking the same on its pivot with the effect to move the operating rod 34 laterally and depress the

forward end of the locking plate. This movement of the locking plate registers the slot 21 therein with the openings in the tumblers and permits withdrawal of the key in the usual manner.

The invention is particularly applicable to those lockers or other compartments which are rented for temporary use, and for the use of which a fixed rate is charged, as until the predetermined coin is deposited and the attachment operated in the manner described, the temporary user of the locker cannot secure possession of the key. As such possession is essential to safeguarding the articles he has deposited it is obvious that each user will be compelled to deposit the coin in properly safeguarding the articles in the locker.

The casing 1 in addition to concealing the attachment and locking means, provides an efficient receptacle for the coins with which the attachment is operated, it being understood that as the coin is utilized to operate the trip lever 33, it will gradually be forced from the mouth of the chute until, when the parts are in final position, the coins fall from the opening 29 of the feed bar and into the bottom of the casing.

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

1. A lock including a locking bolt, a locking plate arranged in the lock, means carried by the bolt to engage and operate the locking plate in the opening movement of the bolt, and coin controlled means for moving the locking plate to inoperative position.

2. A lock including a locking bolt, a locking plate, means carried by the locking plate to engage and move said plate to key locking position in the opening movement of the bolt, and coin controlled means for moving the locking plate into inoperative position.

3. A lock including a locking bolt, a locking plate arranged in the lock, said plate being engaged and operated in one direction by the bolt during the opening movement of the latter, and coin controlled means for moving the locking plate in the opposite direction.

4. A lock including a locking bolt adapted to be operated by a key, a locking plate adapted in inoperative position to permit free insertion and withdrawal of the key, and means carried by the bolt adapted in the movement of the latter in one direction to operate the locking plate and lock the key against withdrawal.

5. A lock including a locking bolt adapted to be operated by a key, a locking plate adapted in inoperative position to permit free insertion and withdrawal of the key, and means carried by the bolt adapted in the movement of the latter in one direction to operate the locking plate and lock the key against withdrawal, said bolt being freely operable by the key without regard to the position of the locking plate.

6. A lock including a bolt adapted for actuation in either direction by a key, and a locking plate adapted in inoperative position to permit free insertion and withdrawal of the key and in operative position to prevent withdrawal of the key, the locking plate being at all times free for operation in both directions by the key without restriction from the locking plate.

7. A lock including a bolt, a locking plate pivotally mounted in the lock and having a key slot to aline with the key slot in the lock, a projection carried by the bolt to engage the locking plate and operate the same in the movement of the bolt to offset the key slot in said plate with relation to the key slot in the lock, and coin controlled means for operating the locking plate to aline the key slot therein with the key slot in the lock.

8. A lock including a locking plate having a key receiving slot, a bolt adapted on movement in one direction to operate the locking plate to offset the slot therein with relation to the key slot in the lock, a lever arranged to operate the locking plate to aline the key slot therein with the key slot in the lock, and coin controlled means for operating the lever.

9. A lock including a bolt, a key for operating the same, a locking plate operated by the movement of the bolt in one direction to engage and prevent withdrawal of the key, and coin controlled means for operating the locking plate in the opposite direction to release the key.

10. A lock including a bolt, a key for operating the same, a locking plate operated by the movement of the bolt in one direction to engage and prevent withdrawal of the key, and coin controlled means for operating the locking plate in the opposite direction to release the key, said plate being formed to permit bolt operating movement of the key in either position of the plate.

In testimony whereof, I affix my signature in presence of two witnesses.

ROBERT H. PITTMAN. [L. S.]

Witnesses:

CHARLES E. DRAKE,

JOHN D. KELLOCK.