

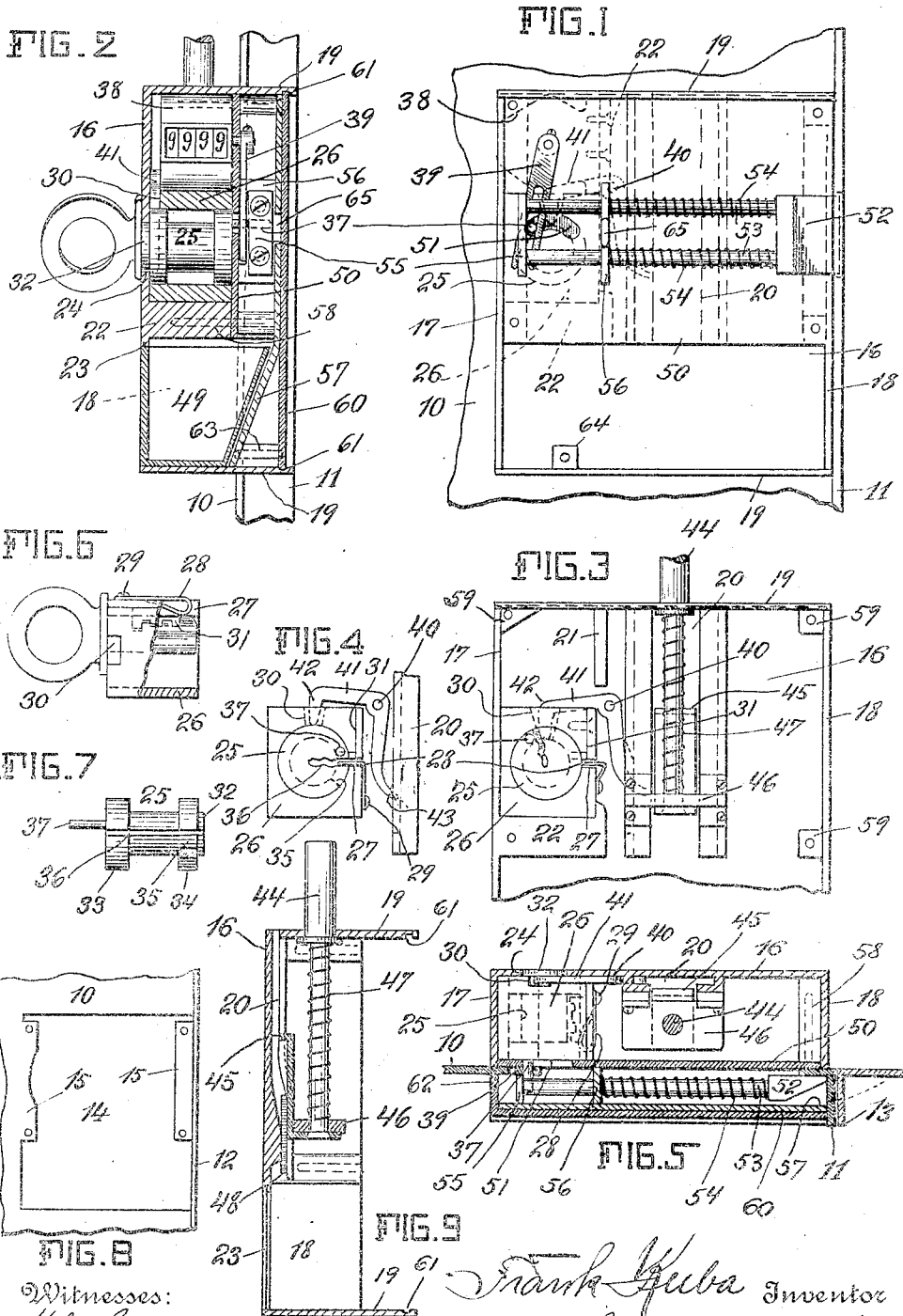
F. KUBA.

LOCK.

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Witnesses:

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To all whom it may concern:

Be it known that I, FRANK KUBA, a citizen of the United States of America, and a resident of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Locks, of which the following is a specification.

This invention relates to locks adapted to be operated by means of a coin or check and comprises such parts and elements of construction as is hereinafter set forth in detail while reference is had to the accompanying drawings in which the preferred form of my invention is illustrated.

The particular novel features of the invention and the advantages obtained by the use thereof will be pointed out later.

In the said drawings Figure 1 is an inside view of a lock mechanism embodying my invention, showing the same applied on a door and with parts removed. Fig. 2 is a vertical sectional view through the lock. Fig. 3 is an inside detail view showing the bolt operating means, the releasing mechanism and related parts. Fig. 4 is a view of the cylinder and the releasing mechanism in the position when the lock is locked. Fig. 5 is a horizontal sectional view through the lock. Fig. 6 is a detail view showing the operation of the key. Fig. 7 is a detail view of the key cylinder. Fig. 8 is a detail view on a small scale of that part of the door to which the lock is fastened, and Fig. 9 is a detail view showing the means for operating the coin.

In the drawings the door, in this instance of metal, is represented at 10 and the same is provided with a flange 11 which may extend the height of the door or which may be just the same height as the lock. The wall of the locker is indicated at 13 in Fig. 5 as having a corresponding flange through which the bolt projects when the lock is locked. The door is further provided with a cut out portion 14 forming lugs 15.

The lock mechanism is supported by an outside casing comprising the side 16, ends 17 and 18, and the top and bottom 19, 19. The sides abut the outside of the door but the top and bottom projects through the door as best seen in Fig. 2. Cast integral with the casing are bosses for the reception of screws as will be explained later, and also the coin chute 20 and projections 21 and 22. The side 16 is further cut away at 23 to accommodate a coin drawer and at 24 to receive

the outer end of the key cylinder 25. This latter is supported in a cylinder block 26 which rests on the projection 22 aforesaid, and the said block is provided with a longitudinal cut or slot 27 in which lies a stopper 28 in the form of a spring wire fastened at 29 and which has a tendency to press inwardly in the block as shown in Fig. 4. The block is further provided with a trip socket 30.

Screwed fast to the cylinder block is an angular combination plate 31 which projects into and forms the upper side of the aforesaid slot 27. The block is also provided with a hollow cylindrical interior in which rests the aforesaid cylinder 25 which is provided with a shoulder 32 projecting through the casing 16 and two collars 33 and 34. In the latter there is a trip socket 35, and a key slot 36 passes through the cylinder for its entire length. At the inner end of the cylinder it carries a bolt pin 37.

Above the cylinder is secured a Veeder counter 38 which may be secured to the projection 21. The figures of the counter may be observed through the end 17 of the casing as seen in Fig. 1.

Pivoted at 40 to the casing 16 is the trip lever 41 having a nose 42 which by gravity normally enters the trip socket 30 in the cylinder block and a tail 43 which projects into the coin chute 20.

The lock as here disclosed is designed to be operated by means of a ten cent piece, and as this coin or small foreign coins generally is not heavy enough to operate the trip lever there is provided a plunger 44 to which is secured a hook 45. As seen in Fig. 3 the plunger passes through a plate 46 fast to the chute members 20 and also through the top 19 of the casing. A spring 47 keeps the plunger up. The coin chute is curved as shown in Fig. 9 to prevent tampering and if the coin 48 is not of sufficient weight to of itself trip the lever 41 the hook 45 by pressure on the plunger will carry the coin down through the chute and into the coin receptacle 49, thus operating the trip lever.

After the above described elements have all been fastened to the casing 16 the latter is placed over the opening 14, and inserted so that the top and bottom project through to the inside of the door, then a plate 50 is put on to keep the parts in place. The bolt pin projects through a slot 51 in said plate and the Veeder counter may be operated

from the said pin by means of the forked arm 39. Next the bolt mechanism is attached. This mechanism comprises the bolt 52 carried by the rods 53. Around these latter are the coiled springs 54 and the opposite ends of the rods are joined by the pull plate 55 against which the bolt pin 37 pulls to open the lock. The rods pass through a tension plate 56 between which and the bolt the springs act to force the bolt outward. Next a holding plate 57 is attached to secure the bolt mechanism, and all of the above described parts are secured by the screws 58 passing through the plates 57 and 56 and into the aforesaid bosses 59 on the casing. As the screws 58 are inserted from the inside the screw heads are exposed and to cover these and the one open end of the bolt mechanism there is provided a cover 60 which is slid into place in grooves 61 in the top and the bottom of the casing, the flange 62 on the cover closing the left end of the lock opposite the door. The cover fits very tight in the grooves and to further secure it a screw 63 is screwed through the boss 64 on the bottom 19 and into the cover without penetrating the latter as seen in Fig. 2. Lastly the receptacle 49 is inserted from the outside and is preferably secured by a suitable lock, not shown. In this manner no screws or other fastening means are visible from either side of the door and no opportunity is afforded for disassembling the lock except by the person having the key to the coin receptacle for the purpose of collecting the money. The tension plate is secured between the plates 56 and 57 by means of tenons 65.

The operation is as follows:—Normally, that is when the door is open, the parts assume the positions shown in Figs. 1 and 3 in which it will be observed that the key 70 is in the slot 36 in the cylinder, and that this cylinder slot does not register with the slot 27 in the block and the bolt is withdrawn. Further the trip lever is in engagement with the cylinder trip socket and thus the cylinder cannot be turned by means of the key or otherwise until the trip lever is tripped as shown in Fig. 4 in which it appears from the position of the bolt pin 37 that the lever has been lifted out of engagement with the cylinder trip socket and that the bolt has been forced outward by the springs 54.

In practical use a person will deposit his garments in the locker, then close the door, deposit a coin in the chute press down the plunger and thus automatically lock the lock as is clear from the above explanation. He may then withdraw the key and can now at any time open the door. As soon, however, as the door is again opened, the trip lever falls into the cylinder trip socket and

the door cannot be again locked until another coin has been deposited.

As appears from Fig. 6 the key is provided with teeth to fit the particular combination plate in the cylinder so that only one particular key will open the lock. Further, the key must be inserted all the way in the cylinder in order to push the stop 27 out of the cylinder slot, before the cylinder can be turned. Hence if tampering with lock is attempted as by inserting a thin wedge or a pocket knife in the slot the turning of the cylinder is prevented first by the stop and secondly by the combination plate.

The above is thought to clearly explain the construction and operation of the invention. It is to be noted, that immediately upon the operation of the plunger, or upon the fall of a coin heavy enough, the bolt is automatically forced outward, so that the key is only used to open the lock with. Various changes may of course be made without departing from the scope of the invention and I claim all such changes as may be said to come within the scope of the claims.

I claim:—

1. In a lock the combination of a bolt, a key cylinder for operating said bolt, a trip lever adapted to engage said cylinder when the bolt is withdrawn and means for automatically rotating said cylinder to protract the said bolt when the said trip lever is acted upon.

2. In a lock the combination of a bolt, a revoluble key cylinder for retracting said bolt and maintaining the same in its unlocking position, a stationary support for the said cylinder and a trip lever adapted to engage and lock said cylinder in a fixed position with relation to the said stationary support and means for automatically rotating said cylinder and protracting the bolt when the said trip lever is disengaged from the said cylinder.

3. The combination of a door provided with a cut out portion, a lock casing adapted to fit over said cut out portion and having a top and bottom member projecting through the same to the inside of the door, a bolt operating mechanism within said casing and outside of the door, a holding plate for securing said mechanism in position, a bolt mounted adjacent said plate, means projecting through the latter from the said mechanism and engaging the said bolt, a second plate, fastening means passing through the said two plates and into the said casing and a cover secured to the casing for concealing the said fastening means from the inside of the door.

4. The combination of a casing having its top and bottom of greater width than its sides, a key cylinder and a registering de-

vice mounted within said sides, a plate for securing said cylinder and the said device, an operating connection between the cylinder and the device for operating the latter, 5 said connection being on the outside of the said plate, a bolt mounted adjacent said plate, means for operating the bolt from the said cylinder through the plate, a holding plate mounted between and abutting the 10 top and bottom of the said casing and fastening means for securing the said two plates to the said casing.

5. The combination of a bolt, a cylinder block provided with a trip socket and a slot, 15 a cylinder in said block and also provided with a trip socket and a slot adapted to register with the slot in the block when a key is inserted, a spring stop adapted to enter the said two slots when the same register, a trip 20 lever normally engaging the socket in the said block and adapted to enter the trip socket in the cylinder when the latter is turned to withdraw the bolt.

6. The combination of a bolt, a cylinder 25 for withdrawing the same, a movable mem-

ber for engaging the said cylinder and lock the same when the bolt has been withdrawn and mechanism for automatically rotating the said cylinder when the said movable member has been disengaged from the same, 30 and for automatically protracting the said bolt.

7. In a lock the combination of a bolt, a cylinder for operating the same, a key for turning said cylinder, a cylinder block, a 35 trip lever adapted to lock the cylinder within the block when the bolt has been withdrawn, a guide way, one end of the said lever projecting into the said guide way and means for automatically rotating the said 40 cylinder and key and for protracting the said bolt when the one end of the said lever projecting into the said guide way has been moved out therefrom.

Signed at New York, N. Y. this 5th day of 45 February 1910.

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Witnesses:

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