Dec. 18, 1923. 1,478,343

O. J. LOONEY

LOCK

Filed Oct. 8, 1921 2 Sheets-Sheet 1

Fig. 1.

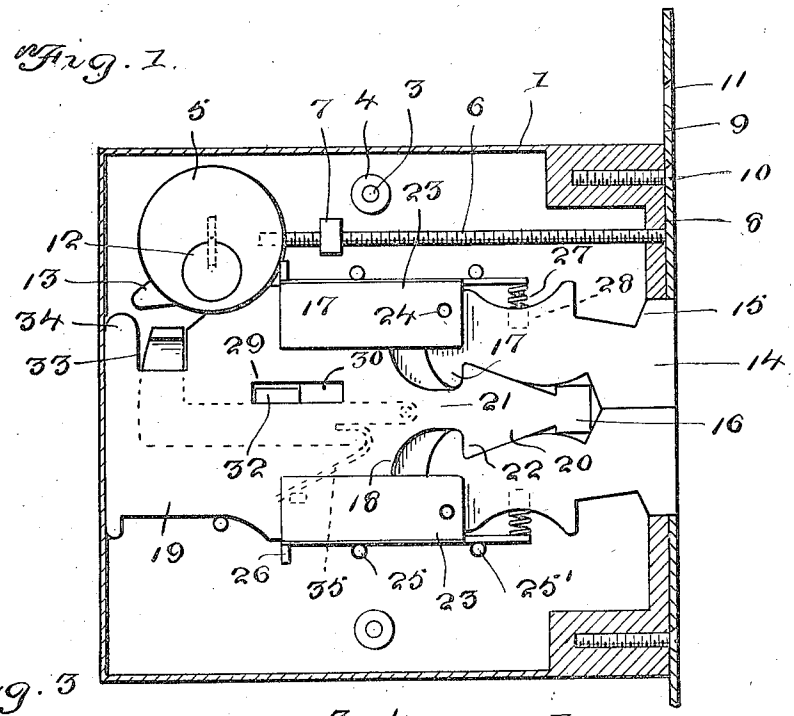
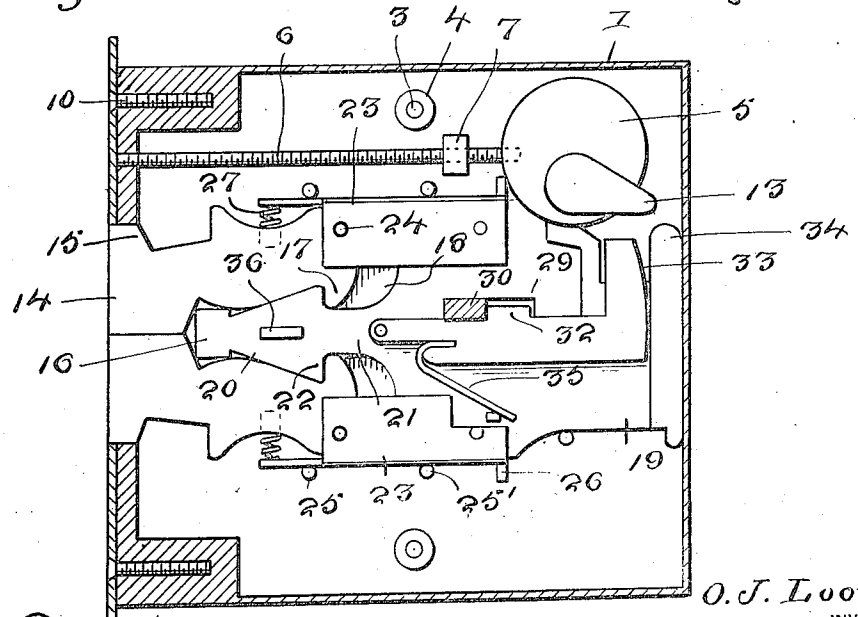


Fig. 3



O. J. Looney
INVENTOR

BY Victor J. Evans
ATTORNEY

E. R. Ruppert

WITNESS:

Dec. 18, 1923. 1,478,343

O. J. LOONEY

LOCK

Filed Oct. 8, 1921 2 Sheets-Sheet 2

Fig. 2.

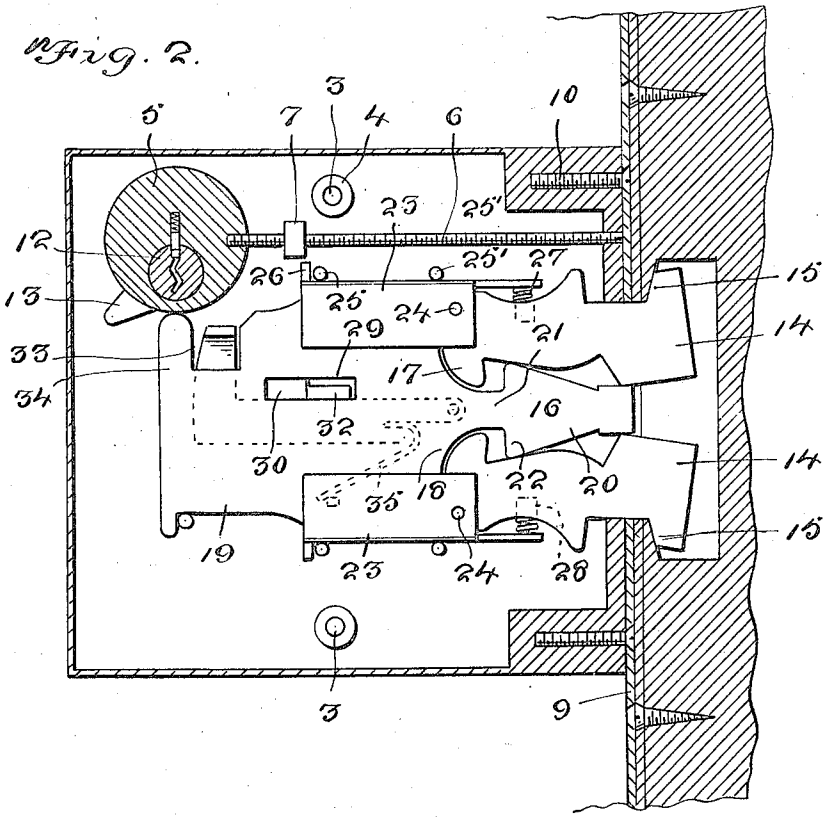
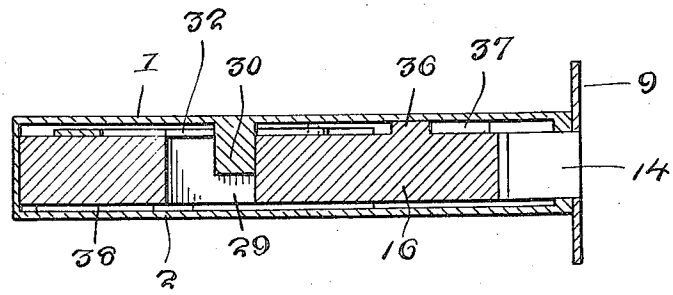


Fig. 4.



E. R. Rupfert.

WITNESS:

O. J. Looney
INVENTOR

BY Victor J. Evans
ATTORNEY

Patented Dec. 18, 1923. 1,478,343

UNITED STATES PATENT OFFICE.

ORIN J. LOONEY, OF BRYN MAWR, PENNSYLVANIA.

LOCK.

Application filed October 8, 1921. Serial No. 506,406.

To all whom it may concern:

Be it known that I, ORIN J. LOONEY, a citizen of the United States, residing at Bryn Mawr, in the county of Montgomery and State of Pennsylvania, have invented new and useful Improvements in Locks, of which the following is a specification.

This invention relates to a lock, the general object of the invention being to so form the lock that it will be practically burglar proof by making the locking bolts of hook shape with a third bolt for holding the hooked parts in engagement with their striker.

Another object of the invention is to provide key-operated means for shifting the bolts by means of the third bolt.

A further object of the invention is to provide a tumbler which is connected with the third bolt and is adapted to engage a stationary part for holding the third bolt in its locking and unlocking positions.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a view of a lock with the cover plate removed and the parts in unlocked position.

Figure 2 is a similar view with the parts in locked position.

Figures 3 and 4 are detail views.

In these views 1 indicates the lock casing and 2 the cover therefor which is held in the casing by the screws 3 engaging the tapped holes in posts 4. The cylinder 5 passes through one corner of the casing and this cylinder is held in position by means of the long bolt 6 which passes through the post 7 carried by the casing. The end of this bolt is seated in hole 8 in the front of the case so that the end of the bolt is covered by the face plate 9 which is screwed to the front of the case by the screws 10 and to the door by the screws 11. The cylinder 5 carries the key barrel 12 and the actuating cam 13 is connected with the end of this barrel so that when the barrel is rotated by a key the cam will be caused to move with it.

A pair of locking bolts 14 are slidably mounted in the casing with their hooked ends 15 lying flush with the face plate 9 when in unlocked position, as shown in Figure 1, and having their hooked ends engaging the striker plate 16 when in locked position, as shown in Figure 2. The inner ends of the bolts are of curved shape and are provided with the hooks 17 at the inner sides thereof, these curved ends fitting in the curved recesses 18 formed in the front end of the blocking bolt 19 which is formed with the substantially wedge-shaped head 20 which has its neck portion 21 located between the recesses 18, the rear portion of the head 20 forming the over-hanging parts 22 for engaging the hooks 17 of the locking bolts. A channel shaped member 23 is connected with each locking bolt by means of the pin 24 and each member is slidably mounted in the casing and is guided therein by the posts 25 and 25′. The post 25 limiting the forward movement of the member by engaging the flange 26 thereon. These members embrace side portions of the blocking bolt 19. Springs 27 are carried by the forward ends of the members 23 and engage holes 28 in the sides of the locking bolts 15. These springs act to press the bolts together. The blocking bolt 19 is provided with an elongated slot 29 into which extends a post 30 carried by the casing, this post by engaging the ends of the slot limits the movement of the bolt 19. A lever tumbler is pivoted to bolt 19 and has a lug 32 thereon for engaging the post 30. The rear end of the tumbler extends at right angles over a notch 33 formed in one side of the bolt 19 and in rear of a raised part 34 on said bolt. The extremity of this right angular extending part is adapted to be struck by the cam 13 so as to be swung on its pivot to move the lug 32 out of engagement with the post to permit the bolt to be moved. The cam 13 then engages the rear part of the bolt 19 and moves the same to its new position. A spring 35 holds the lever tumbler in a position with the lug 32 extending over the slot 29.

The head 20 of the blocking bolt is provided with a lug 36 which engages the guides 37 on the case, for guiding the blocking bolt in its movement. Projections 38, carried by the casing and its cover, act to

hold the parts against locking movement as the bolts are projected and retracted.

It will thus be seen that when it is desired to lock the door or other barrier the key is inserted in the barrel and turned and the resulting movement of the cam will first swing the tumbler 31 on its pivot to move the lug 32 out of the path of the post and then the cam striking the bolt 19 will move the same forwardly and the head part of this bolt engaging the locking bolts 15 will also move them forwardly. The hooked ends of these locking bolts 15 will enter the slot in the striker plate and then further movement of the locking bolts will be prevented by the flange 26 on the members 23 engaging the post 25 so that the further movement of the blocking bolt will press the locking bolts apart, causing their hooks to engage the rear face of the striker plate at each end of the slot and the front end of the head will engage the inner edges of the locking bolts at a point flush with the face plate 9, thus preventing the locking bolts from being pressed together to free them from the striker plate. The tumbler lever will have returned to normal position thus holding the bolts in projected position.

When it is desired to unlock the door the key is turned in a reverse direction to cause the cam to first swing the tumbler to free its lug from the post 30 and then to move the blocking bolt 19 rearwardly. The initial movement of this bolt will permit the springs 27 to press the locking bolts together and further movement will cause the locking bolts to slide inwardly to their unlocked position.

From the above it will be seen that the lock is practically burglar proof as the bolts cannot be released from the striker plate without destroying the lock or the parts of the door. The hooked bolts are positively locked to the striker plate and are held in this position by the head of the blocking bolt so that it is impossible to force the bolts together again until the blocking bolt is withdrawn. The lock is actuated from either side of the door by a key so that it is impossible to unlock the door from the inner side by cutting a hole in the door and inserting the hand to actuate the lock. As there are no projecting parts about the lock there is no danger of a person injuring himself or tearing his clothes.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

A lock of the character described comprising a casing, a pair of locking bolts having inner and outer hooked ends slidably mounted in said casing, guide strips attached to the inner ends of said bolts, springs mounted on said guide strips adapted to hold said locking bolts together, means for limiting the forward movement of the locking bolts provided on said guide strips, a third bolt having a neck and head engaging the inner hooked ends of the locking bolts and provided with a slot, a projection on the casing entering said slot, a tumbler provided with a lug for engaging said projection pivoted to said third bolt, a cylinder mounted within the casing, a key barrel rotatably mounted in said cylinder, and a cam carried by said key barrel adjacent one end of the tumbler and operating bolt adapted upon turning to engage said tumbler and swing the lug carried thereon free of the projection in the slot and then engage the operating bolt to move same forward.

In testimony whereof I affix my signature.

ORIN J. LOONEY.