May 13, 1930. J. J. WALSH 1,758,096

BURGLARPROOF LOCK

Filed Oct. 19, 1928 3 Sheets-Sheet 1

Fig. 1.

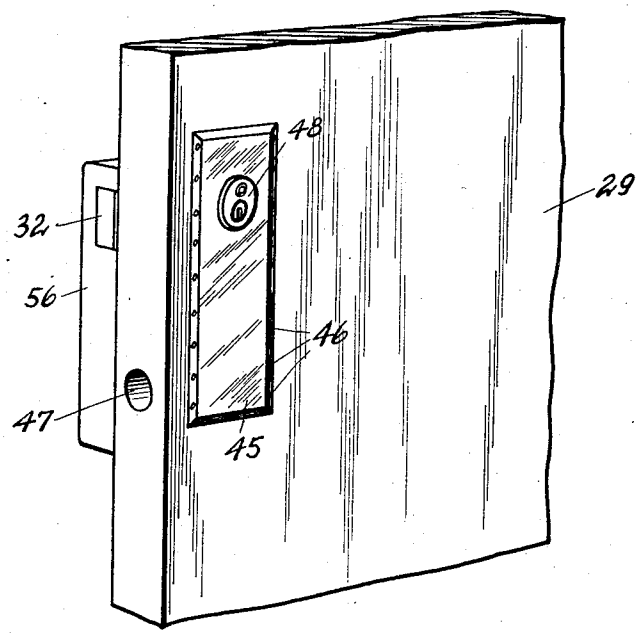
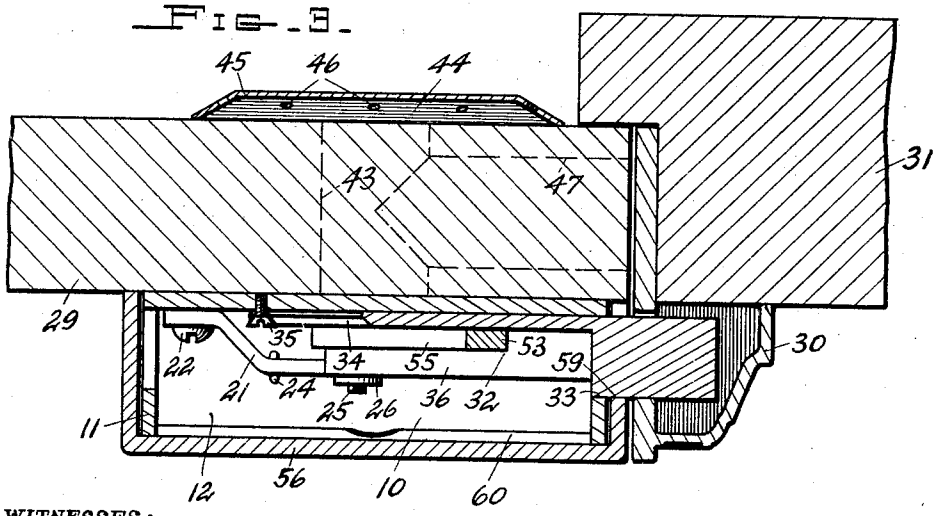


Fig. 3.



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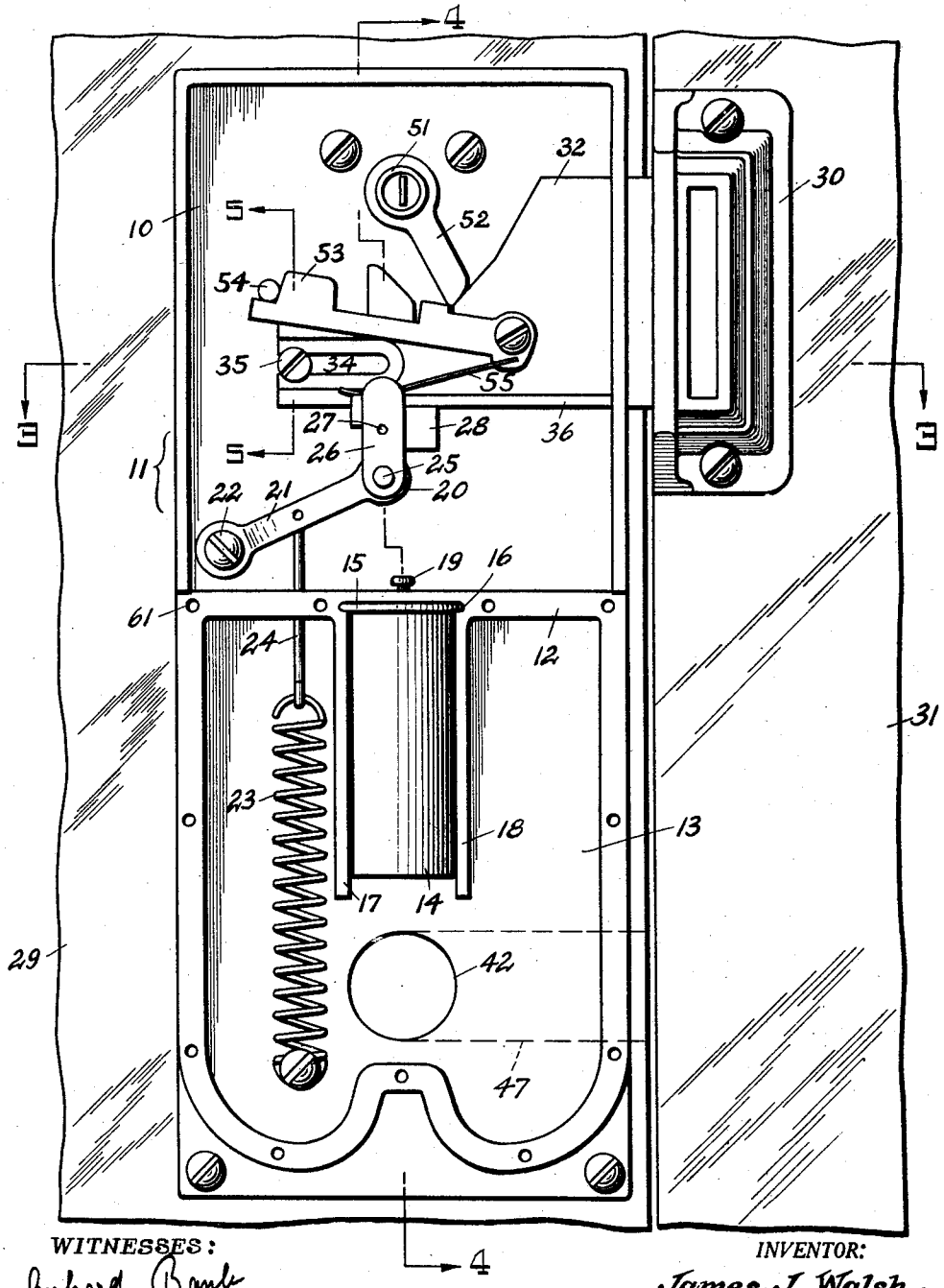
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BURGLARPROOF LOCK

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FIG. 2.



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BURGLARPROOF LOCK

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Fig. 4.

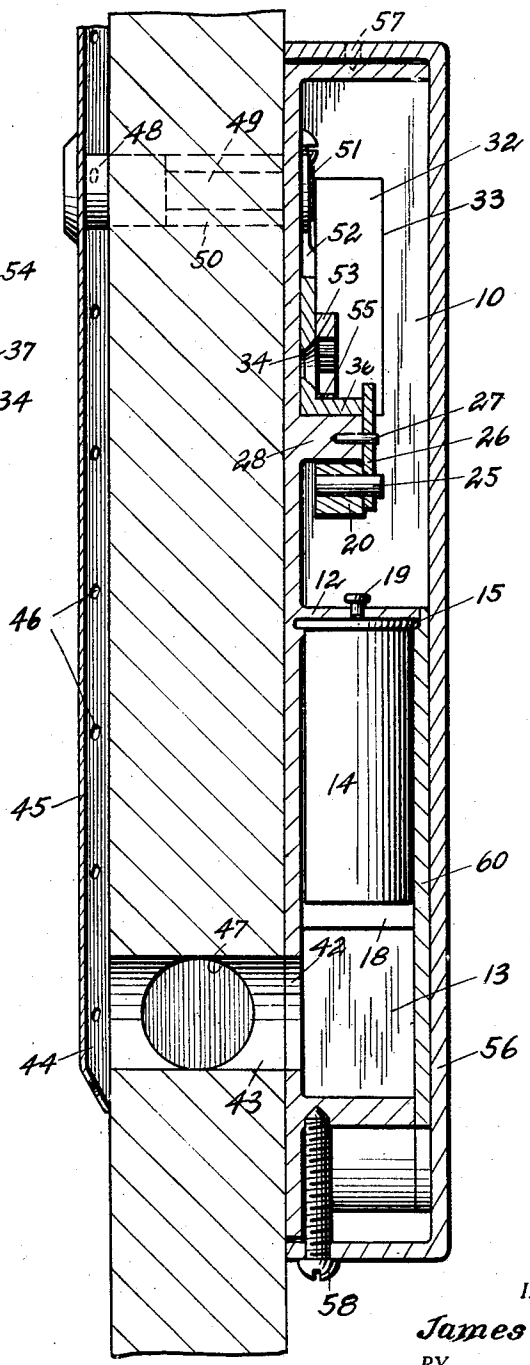
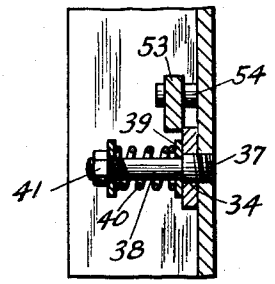


Fig. 5.



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Patented May 13, 1930 1,758,096

UNITED STATES PATENT OFFICE

JAMES J. WALSH, OF PHILADELPHIA, PENNSYLVANIA

BURGLARPROOF LOCK

Application filed October 19, 1928. Serial No. 313,390.

My invention relates to locks, for doors and the like, and its object is to provide a lock which is capable of releasing a charge of gas whenever an attempt is made to force it.

The invention resides in a lock having a bolt which may be manipulated with perfect safety by using the proper key but which will actuate certain mechanism for discharging a gas, which is confined in a container or bomb, whenever sufficient force is applied to the lock to cause the bolt to move laterally or to bend; the person attempting to force the lock being repelled or overcome, according to the nature of the gas employed, before the bolt is forced from its socket. A practical application of my invention is shown in the accompanying drawings in which—

Figure 1 is a perspective view of a fragment of a door upon which an embodiment of my invention has been installed,

Figure 2 an enlarged elevation of the lock shown in Figure 1 but with the cover and cover plate omitted and with the bolt of the lock shown in engagement with a striker or socket fixed to the jamb of the door,

Figure 3 a horizontal section through the door, jamb and lock, taken in the plane of line 3—3 on Figure 2,

Figure 4 a vertical section, taken in the plane of the broken line 4—4 on Figure 2, and

Figure 5 a fragmentary section through the lock only, taken on line 5—5 on Figure 2 but showing a different arrangement for holding the bolt against lateral movement.

The locking and the gas releasing mechanisms are preferably mounted in an upper compartment 10 formed in a casing 11 and separated by a partition 12 from a lower compartment 13 in which is mounted a gas container or bomb 14. The container, which is charged with compressed gas, may be of fragile material, such as glass, and adapted to be broken when an attempt is made to force the lock or it may be in the form of a bomb. The one shown is circular in cross-section and provided on its upper end with a flange 15 disposed in a recess 16 formed in partition 12 between a pair of flanges 17 and 18 which may be formed integral with the casing and partition 12.

In practice, I have obtained excellent results from a bomb consisting of a shot-gun shell loaded with tear gas. This bomb is discharged by a firing pin 19 slidably mounted in partition 12 and adapted to be struck by the head 20 of a hammer 21 pivoted on a screw or pin 22 and drawn downwardly by a spring 23 having its lower end secured to the casing and its upper end connected to the hammer by a link 24 which slidably extends through partition 12. The head of the hammer has a projection 25, shown as a pin, which is rockably mounted in the lower end of a trigger 26 supported on a pin 27 fixed in a lug 28 formed on the casing. When the trigger is disengaged from pin 27, the spring will jerk the head of the hammer against the firing pin and discharge the bomb.

The casing is adapted to be secured to the inside of a door 29 and a striker or socket 30 to the jamb 31 in alignment with a bolt 32 slidably mounted in compartment 10 and extendable through a slot 33 formed in the side wall of the casing. The inner end of the bolt may be relatively thin, made of bendable material and provided with a slot 34 which straddles a screw 35 threaded into the casing and adapted to hold the inner end of the bolt against lateral movement.

The upper end of the trigger extends above lug 28 and the lower edge of the bolt is provided with a ledge 36 which slidably engages the lug and the upper end of the trigger so that, if an attempt is made to force the door inwardly, the outer end of the bolt is held by socket 30 and the inner end by screw 35 while the side wall of the casing bends the inner part of the bolt against the trigger and forces it off from pin 27, allowing the spring to jerk the head of the hammer against the fir-

ing pin. The bolt will not be bent sufficiently to prevent it from being manipulated by the key but it must be straightened or replaced before the lock can be reset and reloaded.

Instead of using screw 35 for holding the bolt against lateral movement and causing it to be bent when an attempt is made to force the lock, the arrangement shown in Figure 5 may be employed in which the large part 37 of a shouldered bolt 38 is secured in the casing, extends through slot 34, and is abutted by a washer 39 which is held thereagainst by a coil spring 40 whose tension may be regulated by a nut 41 threaded onto the free end of the bolt. When an attempt is made to force a lock having this arrangement, the inner end of bolt 32 will press against washer 39, compress spring 40, and force trigger 26 off from pin 27 without damaging the bolt.

In order that the gas may reach the outside of the door, compartment 13 is provided with an aperture 42 which aligns with a bore 43 formed in the door and communicating with a chamber 44 formed between the outside of the door and a face plate 45 secured thereto and provided along its edges with a series of small apertures 46 through which the gas can escape. To provide against the possibility of the would-be invader filling apertures 46 with a substance which would withstand the pressure of the gas in chamber 44 when the bomb is discharged, a hole 47 is provided which extends from bore 43 to the edge of the door.

The mechanism for manipulating the bolt may take a variety of forms but has been shown as consisting of a conventional lock barrel 48 extending through the upper end of the face plate and having its blade 49 extending through a hole 50 in the door and engaging a socket 51 which is rotatably mounted in the casing and provided with an arm 52 for depressing a tumbler 53 and throwing the bolt; the tumbler being held against a stop 54 by a leaf spring 55 having one end fixed in the tumbler and the other end slidable upon ledge 36.

It is apparent that, by rotating arm 52 by means of the proper key inserted in barrel 48, bolt 32 may be extended and withdrawn without danger of disengaging the trigger from pin 27 and it has been found in practice that, if the door is sprung as much as a quarter of an inch, the trigger will be forced from the pin and the gas discharged.

The casing is preferably provided with a cover 56 which is secured to the casing by dowels 57 and a set screw 58 and provided with a slot 59 through which bolt 32 may be extended. In order to prevent gas from entering the room when the bomb is discharged, a cover plate 60 is fitted over compartment 13 and may be secured in place by screws threaded into apertures 61 in its walls which are preferably offset from the walls of compartment 10.

While I have illustrated and described my invention as applied to a certain type of lock mounted upon a door, it is evident that it may be incorporated in other types of locks adapted to other uses, and modifications made without departing from the spirit of the invention, as hereinbefore set forth and hereinafter claimed. I do not wish to limit myself to the precise construction set forth but consider that I am at liberty to make such changes, alterations and applications as fairly come within the scope of the appended claims.

I claim:—

1. A lock including a gas-filled container, a firing pin for discharging the gas from the container, a hammer for forcing the firing pin against the container, means for holding the hammer out of contact with the firing pin, and a bolt slidable longitudinally in close proximity to the holding means and so arranged that lateral movement of the bolt will cause it to dislodge the holding means.

2. A lock including a gas-filled container, a firing pin for discharging the gas from the container, a hammer, a spring for drawing the hammer against the firing pin, means for holding the hammer against the action of the spring, a bolt slidable adjacent the holding means, and means tending to hold the inner end of the bolt from moving against the holding means and dislodging it.

3. A lock including a casing, a gas-filled container in the casing, a firing pin for discharging the gas from the container, a hammer, a spring for drawing the hammer against the firing pin, a pin in the casing, a trigger mounted on the pin and supporting the hammer against the action of the spring, and a bolt slidable in the casing adjacent the trigger and adapted to force the trigger off the pin and release the hammer if deflected from its normal path.

4. In a combination with a door jamb, a socket on the jamb and a door having holes therein, a lock including a casing secured to one side of the door and having an aperture aligning with a hole, a face plate covering said hole and secured to the other side of the door to form a chamber, a bolt slidable in the casing and adapted to enter the socket, mechanism for moving the bolt, a gas-filled container in the casing, mechanism for discharging the gas from the container, and means in close proximity to the bolt for holding the discharging mechanism in inoperative position and adapted to be operated by a lateral movement of the bolt.

5. Means for preventing access to a building through a doorway including a door hung in the doorway and provided with a transverse bore and a hole extending from the bore to the edge of the door, a face plate

secured to the outside of the door over the transverse bore and provided with apertures, a casing secured to the inside of the door and having an aperture aligning with the bore, a gas-filled container in the casing, means for discharging the gas from the container, means for holding the discharging means in inoperative position, a bolt slidable adjacent the holding means for engaging a socket in the doorway, mechanism for manipulating the bolt, and means tending to prevent the bolt from moving laterally against the holding means and dislodging it and causing the gas to be discharged.

In testimony whereof I have signed my name to this specification.

JAMES J. WALSH.