May 29, 1923. 1,456,689

G. GESMUNDO

ALARM LOCK

Original Filed July 8, 1921 2 Sheets-Sheet 2

Fig. 2.

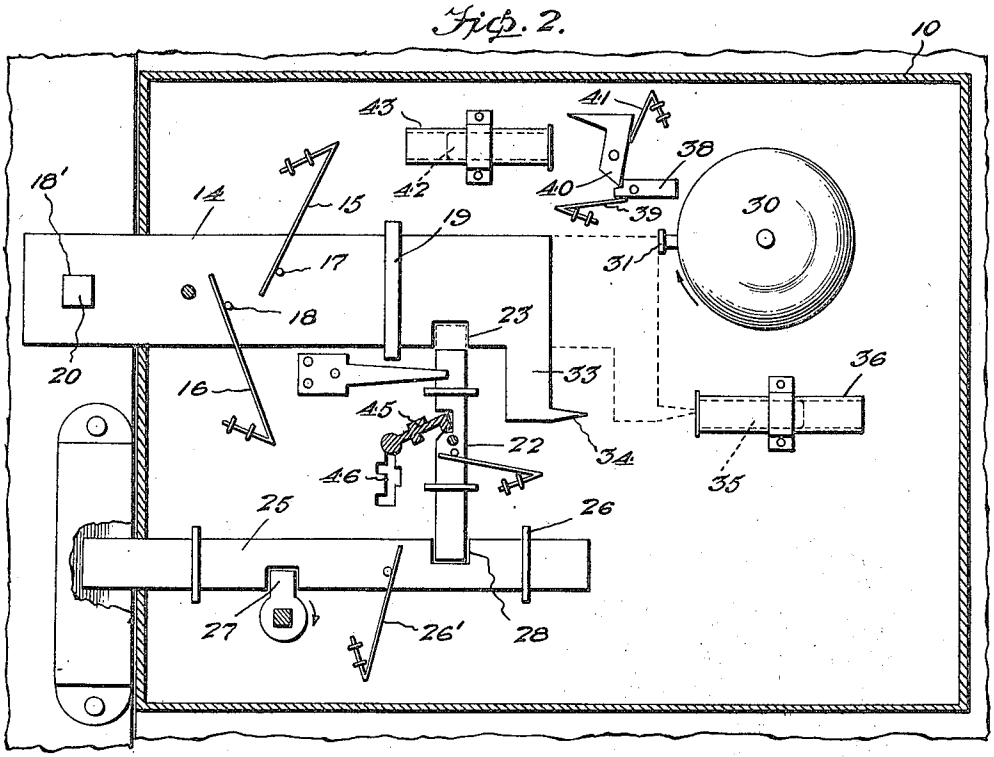
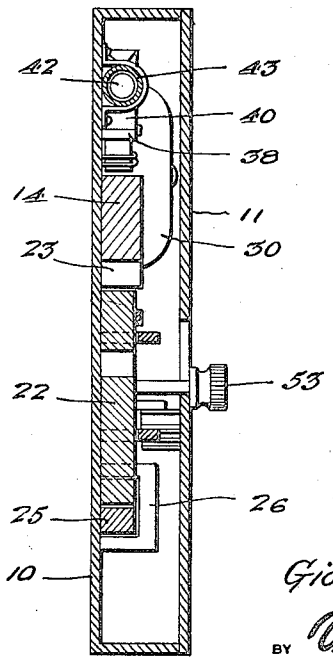


Fig. 4.



Giovanni Gesmundo
INVENTOR

BY Victor J. Evans
ATTORNEY

Paul M. Hunt
WITNESS:

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Original Filed July 8, 1921 2 Sheets-Sheet 1

Fig. 1.

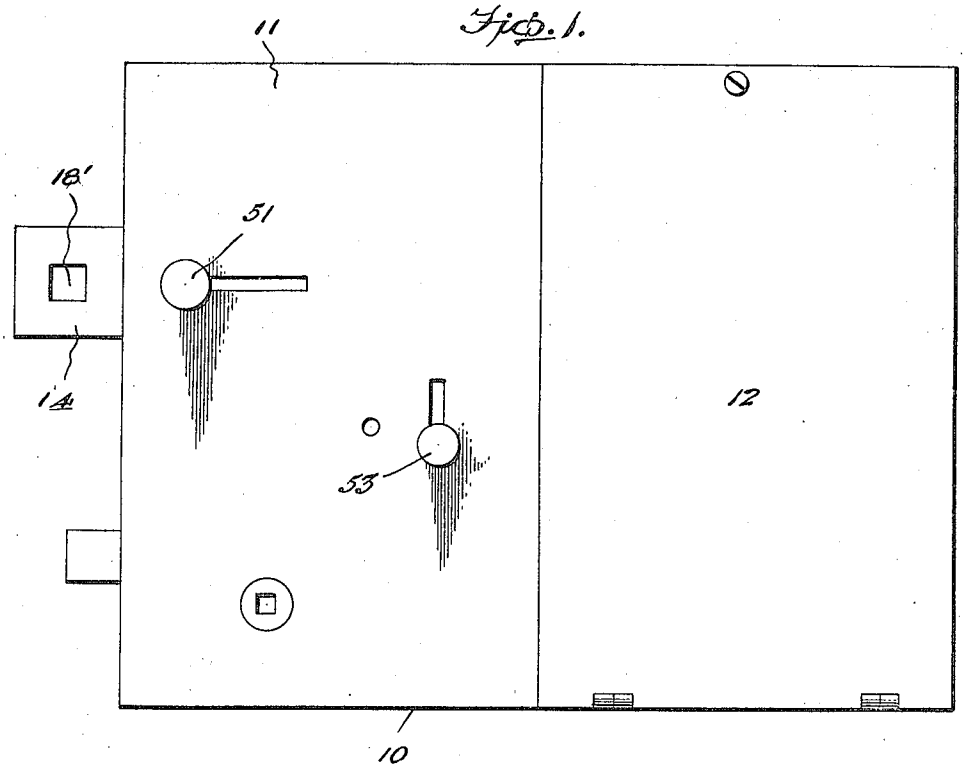
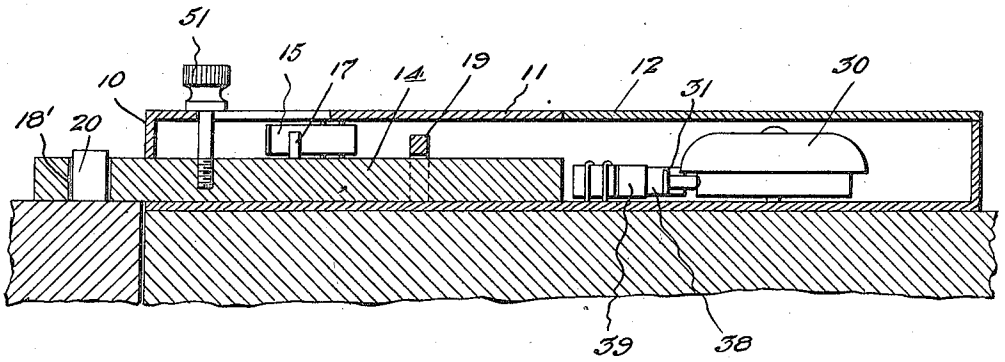


Fig. 3.



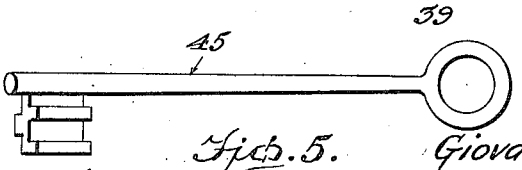


Fig. 5.

Giovanni Gesmundo
INVENTOR

BY Victor J. Evans
ATTORNEY

Paul M. Hunt
WITNESS:

Patented May 29, 1923. 1,456,689

UNITED STATES PATENT OFFICE.

GIOVANNI GESMUNDO, OF NEW YORK, N. Y.

ALARM LOCK.

Application filed July 8, 1921, Serial No. 483,311. Renewed April 6, 1923.

To all whom it may concern:

Be it known that I, GIOVANNI GESMUNDO, a citizen of Italy, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Alarm Locks, of which the following is a specification.

This invention relates to an alarm lock, and the object is to provide a lock which will sound an alarm upon an attempt being made to open a door by an unauthorized person.

A further object is to provide, in connection with a locking bar automatically released when an attempt is made to open the door, a separate bolt and means for locking the bolt when the bar is placed in condition for automatic operation.

A still further object is to provide an explosive device, or devices, automatically operated, or discharged, in connection with the operation of the alarm mechanism.

A still further object is to provide means whereby an authorized person or persons may unlock the door by the use of a key and by so doing render the automatic alarm inoperative, until reset for use as a burglar alarm.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of elements hereinafter described and claimed, it being understood that modifications may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings,

Figure 1 is a view of the lock in vertical longitudinal section,

Figure 2 is a view of the casing in elevation,

Figure 3 is a view in horizontal section,

Figure 4 is a view in vertical transverse section. Figure 5 is a perspective view of the key.

The casing 10 is provided with a cover plate 11 which however extends over only a portion of one side of the lock, the remainder of the casing being covered by a hinged plate 12, permitting access to the interior, so that the alarm mechanism may be wound, and additional explosive devices placed in position.

A slidable locking bar 14 acts under the springs 15 and 16 engaging the pins 17 and 18 and tending to throw the bar to the right, as the element appears in Figure 2. This bar passes through a guide or guides 19 and the bar is provided with an aperture 18′ near its outer end, adapted to engage a button or projecting element 20 mounted on the inner side of the door frame, it being assumed that the door in this instance swings inwardly.

When the bar 14 is thus engaged, the alarm mechanism is inoperative, but if an attempt is made to open the door, and the latter is in fact opened a trifle, so that the apertured end of the bar becomes disengaged from the button, the bar is free to move to the right under the action of the springs 15 and 16. This movement to the right can only take place when the vertical bar 22 is in its lower position, the upper end thereof being free of the recess 23 in the bar 14.

A locking bolt 25 operating in the guide 26, serves the purpose of the usual lock, the spring 26′ tending to throw this bolt to the left. The bolt may be thrown to the right, and therefore to inoperative position by rotating the element 27. The lower end of the vertical bar 22 engages a recess 28 in the bolt 25, and retains the latter in locking position, and the bar 22 is then free of upper bar 14, and the alarm mechanism is operative.

The alarm mechanism includes a bell 30, and may be of the type employing a spring and the necessary gearing, the device being wound at intervals, and the clapper mechanism being released by the operation of a trip. Under usual conditions the trip is released by a push button. In this instance the releasing device 31 is engaged by the inner end of the bar 14, when the latter moves to the right, and the bell is thereby sounded.

The bar 14 includes an offset element 33 mounting a device 34 constituting a firing pin, the latter being positioned for discharging cartridge 35 received by a cartridge holder 36. During the sounding of the alarm, the element 31 moves counterclockwise and releases the trip 38 normally held by spring 39 in engagement with the hammer 40. When this hammer is released the spring 41 forces the hammer into engagement with the cartridge 42 held in the receiving device 43.

When an authorized person desires to

open the door, assuming that the alarm mechanism is in operative position, he inserts a key, such as 45, in the key hole 46, and throws vertical bar 22 upwardly, so that the recess 23 is entered by the end of the bar, and the element 14 is held against sliding movement. This operation releases the lower end of the bar 22 from the locking bolt 25, and permits the latter to move to the right under the action of the element 27. The door may then be opened without sounding the alarm. In resetting the device the vertical bar 22 is moved downwardly by the use of the key, the bolt 25 first having been thrown to locking position. The bar 14 is under the control of a thumb member 51. The vertical bar 22 is operated by an element 53, mounted as shown. The recess in the door frame entered by the locking bolt 25 permits the slight movement of that bolt laterally, so that the door may be opened slightly for freeing the bar 14 from the button 20.

What is claimed is:

1. In a lock, a bolt movable longitudinally a slidable bar parallel with said bolt, a device movable between said bar and bolt and holding one of said elements inoperative when the other is free, means for retaining one end of the bar in engagement with the door frame, means causing the movement of the slidable bar when free of the frame, and an alarm mechanism operative upon such sliding movement and upon impact of that end of the bar opposite to that engaging the door frame.

2. In a lock, a locking bolt, a slidable bar, the bar and bolt being movable in the same direction, a bar movable perpendicularly with reference to the bar first named and the bolt, and serving to engage either of said elements while permitting the other to act, the bar thus engaging the other element being key operated, means holding the bar first named inoperative when a door to which the lock is applied is fully closed, a spring for operating the bar first named when the door is partly opened, an alarm mechanism automatically set in operation by the release of the bar, devices controlling said bars independently and an additional alarm operated by the movement of the alarm mechanism first named.

GESMUNDO, GIOVANNI.