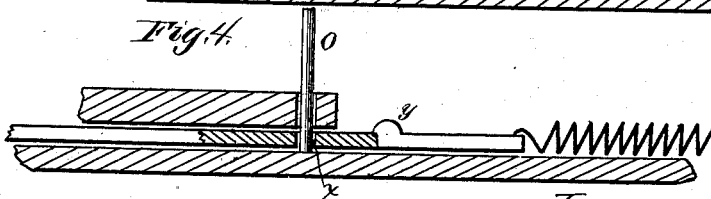
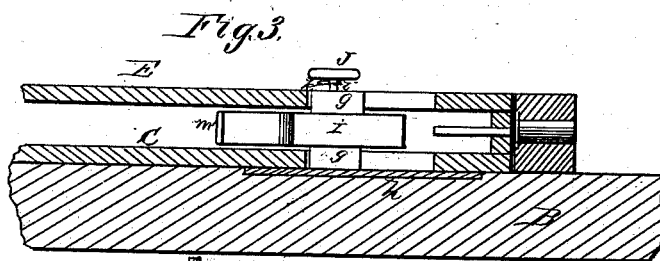
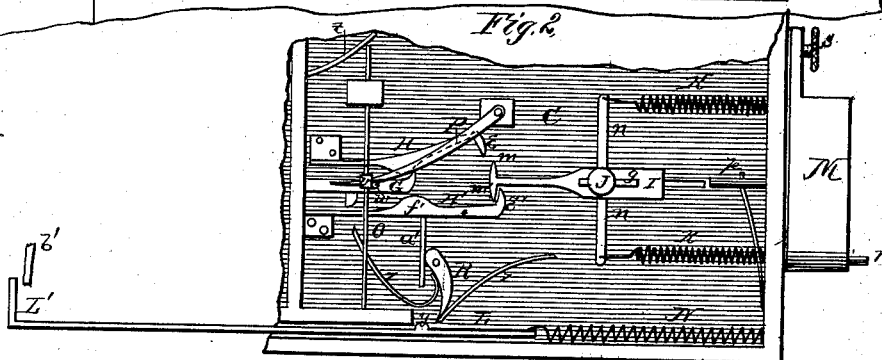
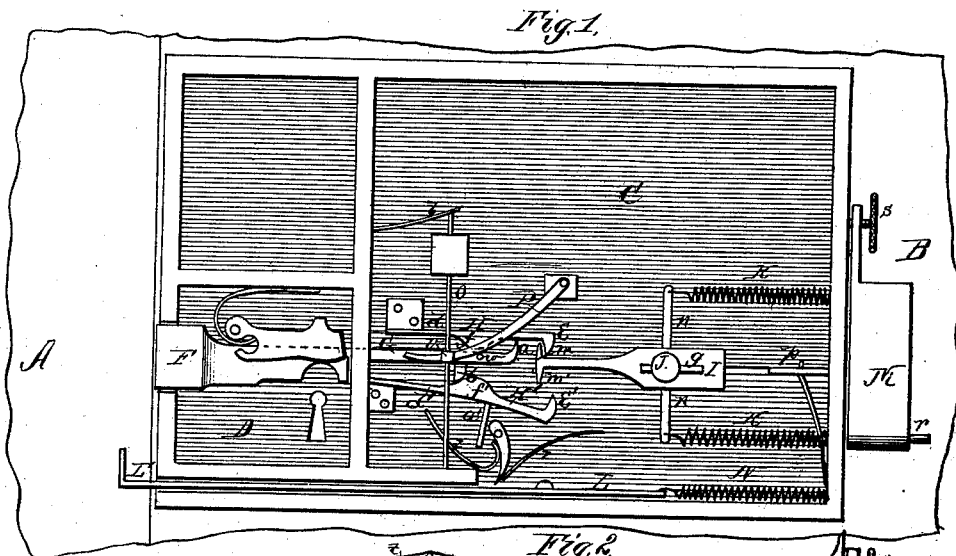


Alarm-Locks.

No. 216,219.

Patented June 3, 1879.



Witnesses:

W.C. McArthur.

John C. Rogers.

Inventor

J. N. Roberts.

Per *Wm. Alexander & Elliott*
Attorneys.

UNITED STATES PATENT OFFICE.

THEOPHILUS N. ROBERTS, OF COLUMBIA, SOUTH CAROLINA.

IMPROVEMENT IN ALARM-LOCKS.

Specification forming part of Letters Patent No. **216,219**, dated June 3, 1879; application filed April 22, 1879.

To all whom it may concern:

Be it known that I, THEOPHILUS N. ROBERTS, of Columbia, in the county of Richland and State of South Carolina, have invented certain new and useful Improvements in Burglar-Alarm Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a burglar-alarm lock, in which, when the alarm has been partially set, the locking of the door, whether from the inside or outside, completes the setting of the alarm, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a face view of the lock with the front plate removed. Fig. 2 is a part of the same view, showing a different position of the mechanism; and Figs. 3 and 4 are details of my invention.

A represents a door-frame, with door B hinged therein in any suitable manner. To the door B is secured the case C, which contains the mechanism of the main burglar-alarm, and in this case is a separate and distinct compartment or case, D, for containing the lock mechanism, the entire case being covered by a plate, E.

F is the bolt of the lock mechanism, which bolt is provided with an arm or extension, G, extending into the main case, as shown. This arm or extension is at its inner end formed with an upward lug or projection, *a*, and on its under side, a suitable distance from the end, it has another lug or projection, *b*.

Above and below the lock-bolt arm G are two triggers, H H', respectively, which are attached to two springs, *d* and *d'*, so arranged that their tendency will be to throw the triggers inward toward each other. The ends of the triggers form hoops *ee'*, respectively, which point toward each other; and said triggers are

further on their adjacent faces formed or provided with cams *f f'*, respectively.

I represents the hammer of the burglar-alarm, which is provided with wings *g g* running in slots in the case C and plate E. The slot on the outside of the case next to the door is covered by a steel strip, *h*, which is let into the door so as to allow the case to lie flat against the door. The strip *h* is of great importance, as it will prevent—in case of burglars cutting through the door—any instrument being inserted through the slot to tamper with the alarm.

From the hammer I projects a pin or short rod, *i*, which passes through the slot in the plate E, and upon the end of said rod is fastened a knob, J, by means of a pin, *k*, passing through holes in the knob and rod, or by any other suitable means.

On the end of the hammer next to the triggers are formed hooks or projections *m m'*, extending, respectively, upward and downward, as shown. The hammer is further provided with arms *n n*, to which are attached spiral springs K K, and the other ends of said springs are connected to the inner end of the case C in such a manner that the tendency of these springs will be to throw the hammer toward that end of the case.

The hammer I may be made in one piece with the firing-pin *p*, or said firing-pin may be made separate from it. In either case the firing-pin projects through the inner end of the case C, on a line with the direction of movement of the firing-pin, and extends into the cartridge-holder M, which is entirely separate from the case C, and connected thereto by being swiveled on a pin, *r*, and fastened by a set-screw, *s*.

The operation of this part of my invention is as follows: When the lock is unlocked the lug *b* on the under side of the lock-bolt arm G is in contact with the cam *f'* of the lower trigger, H', and holds the same bent downward. The upper lug, *a*, of the lock-bolt arm is at a point intermediate between the hook *e* and cam *f* of the upper trigger, H, so that said trigger will be in its normal position.

To now set the alarm, the hammer I is pulled back by means of the knob J until the hook *e*

of the upper trigger will catch on the upper hook, *m*, of the hammer, which thus holds the hammer drawn back. When the lock is then locked, either from the inside or outside of the door, and the lock-bolt *F* thrown outward, the arm *G* also moves with the bolt, and the lug *b* on said arm passes off the cam *f'* of the lower trigger, *H'*, so that the hook *e'* of said lower trigger will catch on the lower hook, *m'*, of the hammer, and immediately thereafter the lug *a* comes in contact with the cam *f* of the upper trigger, *H*, and lifts the same so that its hook *e* will become disengaged from the upper hook, *m*, of the hammer. The hammer therefore becomes held drawn back by the lower trigger, *H'*, which completes the setting of the alarm.

In then unlocking the lock as the lock-bolt and its arm are moved inward, the lower trigger, *H*, is pressed downward by the lug *b* of the lock-bolt arm coming in contact with the cam *f'* of said trigger. This releases the trigger from the hammer, and the springs *K K* throw the hammer outward with sufficient force to explode the cartridge placed in the cartridge-holder. This mechanism, however, will only act when the lock-bolt is thrown back.

If the door should be opened forcibly without throwing the bolt back, the alarm would, of course, not be given, and to guard against such contingency I have provided an auxiliary alarm, as follows:

In the bottom of the case *C* is placed a rod, *L*, having a hook, *L'*, formed on its outer end outside of said case. The inner end of said rod or bar *L* is, by a spiral spring, *N*, connected to the case, which draws said rod or bar inward.

At a suitable point, as hereinafter described, in the bar *L* is a hole, *x*, to receive the lower end of a vertical rod, *O*, which is placed in suitable guides in the case, and pressed downward by means of a spring, *t*.

P is a curved lever, pivoted at one end to a stud or block in the case *C*, and its other end passes into an eye or socket, *v*, on the vertical rod *O*. From the lock-bolt arm projects a pin, *w*, to operate against the curved lever *P*.

On the upper side of the bar *L* is a lug, *y*, and above the bar to the lock-case is pivoted a pawl, *R*, which is held in proper position by means of springs *z z*. The upper end of this pawl when turned in one direction operates against an arm, *a'*, projecting downward from the lower trigger, *H'*.

On the side of the door-frame opposite the end of the bar *L* is a pin or rod, *b'*, so arranged that the catch *L'* will be held thereby when the bar is drawn out and the door closed.

The operation of this part of my invention is as follows: When the main alarm has been partially set, as above described, the bar *L* is drawn out until the lug *y* thereon has passed the end of the pawl *R* and the hole *x* in the

bar coincides with the lower end of the vertical rod *O*, when the spring *t* at once throws said vertical rod down into the hole *x* in the bar *L*, and holds said bar in the drawn-out position. When the door is now closed the hook or catch *L'* on the end of the bar *L* will pass over the end of the pin or rod *b'*; and when now the lock is locked, and the main alarm thereby completely set, as already described, the outward movement of the lock-bolt arm *G* causes the pin *w* on said arm to raise the curved lever *P* sufficiently far to lift the vertical rod *O* out of the hole *x* in the bar *L*, and said bar is then held drawn out by its catch *L'* on the pin or rod *b'*.

If now the door should be forced open without unlocking the lock, as soon as the catch *L'* clears the rod or pin *b'* the spring *N* throws the bar *L* quickly inward. This inward movement of the bar *L* causes the lug *y* thereon to turn the pawl *R*, so that its upper end will bear against and move the arm *a'* of the lower trigger, *H'*, and said trigger turns downward, releasing the hammer and giving the alarm.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a burglar-alarm lock, the combination, with the lock-bolt, of two separate and independent triggers, both operated by said bolt, substantially in the manner and for the purpose herein described.

2. In a burglar-alarm lock, an alarm mechanism, a lock-bolt, and an intermediate mechanism operating to complete the setting of the alarm when the alarm mechanism has been partially set by hand, and upon the locking of the lock, whether from the inside or outside of the door, substantially as set forth.

3. The combination of the lock-bolt arm or extension *G*, provided with the lugs *a b*, and the two separate and independent spring-triggers *H H'*, each provided with a hook and a cam, substantially as and for the purposes herein set forth.

4. The combination of the hammer *I* with hooks *m m'*, the springs *K K*, and the spring-triggers *H H'*, substantially as and for the purposes herein set forth.

5. The combination of the sliding bar *L*, spring *N*, vertical rod *O*, and spring *t*, as and for the purposes herein set forth.

6. The combination of the vertical rod *O* with eye or socket *v*, the curved lever *P*, and the pin *w* on the lock-bolt arm *G*, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THEOPHILUS N. ROBERTS.

Witnesses:

H. A. LIGON,
E. E. JACKSON.