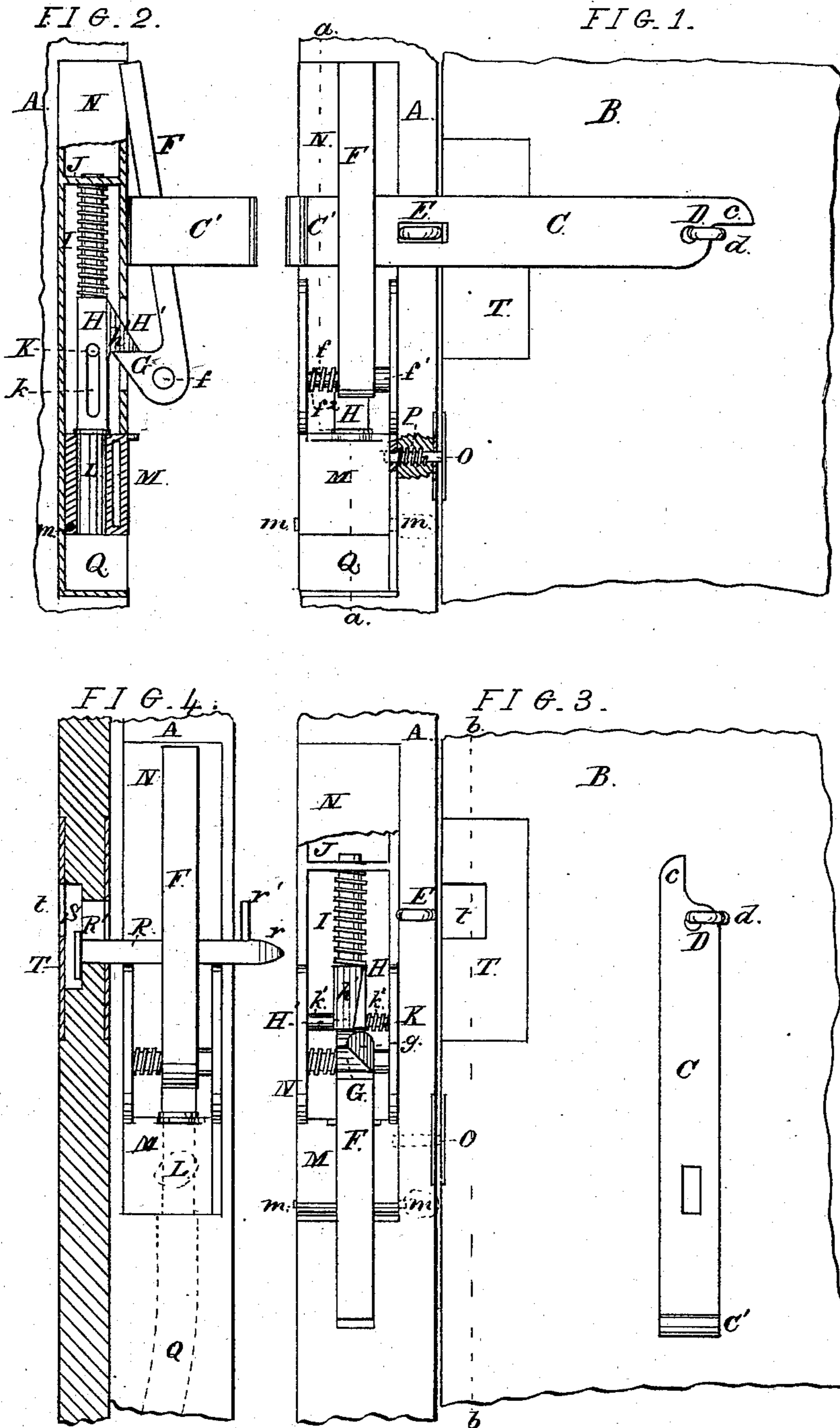


G. DIMICK & T. J. SAWYER.  
Burglar Alarm.

No. 238,093.

Patented Feb. 22, 1881.



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# UNITED STATES PATENT OFFICE.

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## BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 238,093, dated February 22, 1881.

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*To all whom it may concern:*

Be it known that we, GEORGE DIMICK and THOMAS J. SAWYER, both of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Alarm-Locks for Railway-Car Doors, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to improvements in those alarm-locks in which a cartridge is exploded on the opening of the door or entrance, as hereinafter described.

In the drawings, Figure 1 is a front view, with part broken away, showing the parts locked. Fig. 2 is a sectional view, at *a a*, Fig. 1. Fig. 3 is a front view, showing the lock open. Fig. 4 shows the door in section at *b b*, Fig. 3, with a front view of the inner lock.

A is part of the door-jamb, against which the sliding door B shuts.

C is a hasp of a padlock, secured to the door by a staple, D, and fitting on the staple E fastened in the door-jamb. The hasp C has an extension, *c*, lying over the leg *d* of the staple D, to prevent the other end of the hasp from being lifted. The hasp has a part, C', extending past the staple E and turned outward, so that the door cannot be slid open without swinging down the arm F. When the hasp is in the position shown in Fig. 1 it may be held by the locking arm or lever F, which extends up in front of it. The arm F is pivoted on a pin, *f*, on which pin, upon one side of the arm, is a collar or sleeve, *f'*, and upon the other side of the lever is a spring, *f*<sup>2</sup>, tending to keep the lever in contact with the collar *f'*.

Upon the side of the lever, at the pivot-end, is a catch, G, which takes under a catch, H', of a spring-hammer, H, so as to lift the hammer when the upper end of the arm F is drawn forward and downward. As the arm F is swung downward the catch G is drawn out from beneath the catch H', and the hammer H descends by gravity and by the force of a spring, I, bearing at its lower end against the hammer, and its upper end against a plate, J, which forms the upper guide of the hammer.

The lower guide of the hammer consists of a pin, K, working in a slot, *k*, in the hammer, so as to allow the vertical and also the side

movement of the hammer and prevent its turning.

It will be observed that, as the arm F is raised from the position shown in Fig. 3 to that shown in the other figures, the catch G will come in contact with the catch H'. The pin K has a collar or sleeve, *k'*, at one side of the hammer, and a spring, *k*<sup>2</sup>, at the other side, for the same purpose as the spring *f*<sup>2</sup>, bearing against the side of the arm F. To enable these catches to pass they have inclined faces *g* and *h'*, respectively, and the springs *f*<sup>2</sup> and *k*<sup>2</sup> allow the arm and hammer to move side-wise on their pins *f* and K, to allow the catches to pass, and as soon as the catches are past each other the springs give the necessary side return movement to engage the catches together. Either the arm F or the hammer H may work between two collars, *f' f'* or *k' k'*, so as to be incapable of side movement, and the side movement in the passing of the catches be made by the hammer H or the arm F alone.

It will be seen that the hasp cannot be removed from the staple E except in an outward direction owing to the extension *c*, and also the out-turned part C' of the end prevents the door being slid open without drawing down the arm F, so that the door cannot be opened without lifting and releasing the spring-hammer, which thus falls upon and explodes a cartridge L in a hinged block or case, M, hinged at *m* to the main case N in the jamb A. The cartridge-block M is swung out on its pivot to allow the extraction of the shell and the introduction of a fresh cartridge; but this can only be done when the door is open and the parts unlocked, for when the door is closed its edge impinges against the end of a locking-pin, O, which extends into the jamb A, and whose end enters a recess in the cartridge-block M. The pin O is drawn backward from the block M by a spring, P, when the door is removed from contact with its outer end by the opening of the door, and thus the cartridge-block can be swung out for charging it with the cartridge. Beneath the block M is a recess or passage, Q, to allow the products of explosion to escape.

In addition to the alarm on the outer side of the car, before described, an interior lock of the same construction may be used on the inside, as shown in Fig. 4.

It is not intended that both an inside and

outside lock should be used together; but they can both be used where an additional safeguard is required.

When the lock is placed on the inside of the door it is set at right angles to that upon the outside, so that a pin, R, extending inward from the door will engage under the locking arm or lever F, so that the sliding open of the door will draw out the arm or lever F and cause the discharge of the cartridge. The pin R has a head, R', resting in a recess, S, in the door, which is protected by a metal plate, T. The plate T has an aperture, *t*, through which the head R' will pass, so that the pin may be drawn out till its tapering point *r* will pass the arm F as the door is slid shut. Then when the door is shut the pin is pushed inward under the arm F, into the position shown in Fig. 4, the head dropping down into the bottom of the recess S, so that it cannot be drawn out. *r'* is a pin preventing the pin R from being drawn completely out of the door. The aperture *t* may be sealed up after the pin R has been pushed in.

Q is a passage leading from the mouth of the cartridge to the outside of the car to allow the escape of the products of explosion. The

parts may be reversed, if preferred, the hasp C or pin R being attached to the jamb, and the lock or locks being upon the door.

We claim as our invention—

1. The combination of arm or lever F, formed with catch G, sliding hammer H, formed with catch H', springs  $k^2 f^2$ , collars  $k' f'$ , and hasp C, the lever overlapping the hasp and held in position by the hammer, as and for the purpose set forth.

2. The combination of hinged arm or lever F, held in operative position by the alarm-mechanism springs  $k^2 f^2$ , collars  $k' f'$ , the staple E, and hasp C, formed with extension *c*, and out-turned portion C', as and for the purpose set forth.

3. The combination, with the hinged cartridge-block M *m*, of the spring-bolt O P, operated by the sliding door B, hasp C, and lever F, as set forth, to prevent the removal of the cartridge until after its explosion.

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