

(Model.)

R. G. VASSAR.

ALARM LOCK.

No. 298,136.

Patented May 6, 1884.

Fig. 1

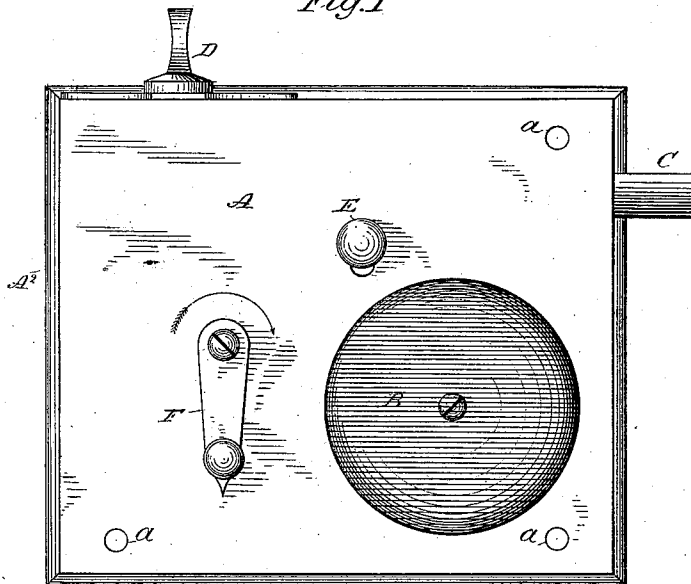


Fig. 2.

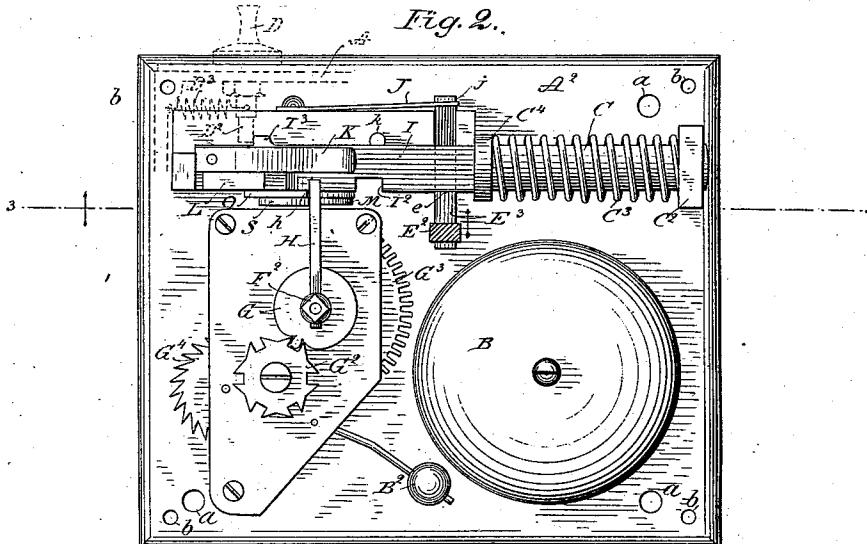
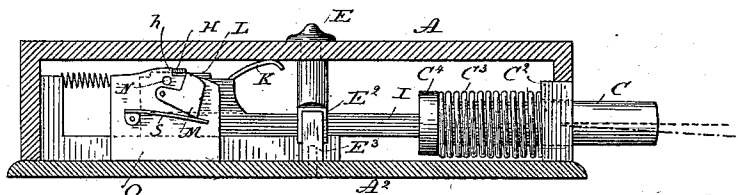


Fig. 3.



Witnesses:

Ernest Oshagen
Thos. Dooney.

Thos. Dooney.

Inventor:

R. G. Vassar,

H. C. Townsend

By his Attorney:

UNITED STATES PATENT OFFICE.

ROBERT G. VASSAR, OF NEW YORK, N. Y.

ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 298,136, dated May 6, 1884.

Application filed May 18, 1883. (Model.)

To all whom it may concern:

Be it known that I, ROBT. G. VASSAR, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Door-Bolts, of which the following is a specification.

My invention relates to door-bolts; and its object is to so construct the same that when the bolt is shot it cannot be operated so as to unlock the door by the means of any tools or instruments inserted from the outside.

To this end my invention consists in the combination, with a door-bolt, of a spring which tends to throw the bolt back when it is shot to lock the door, an operating thumb-piece or slide detached from the bolt, and so arranged that it may be brought against the bolt for throwing it to lock the door, and a suitable automatic sliding catch, which engages with the bolt automatically to hold it when it is shot, but which may be operated from the inside of the door to release the bolt and allow it to be thrown back by the action of the spring.

My invention consists, further, in certain specific combinations and details of construction, that will be specified in the claims hereto annexed.

My invention is designed more particularly for use with the automatic alarm described in a prior application filed by me, in which application I have described the bolt and alarm as so combined that the latter will be released and sounded upon the movement of the bolt sidewise, consequent upon the impingement of a tool upon it, or of pressure upon the door, upon an attempt to open it by any unauthorized person.

In the accompanying drawings, Figure 1 is a front view of the bolt-casing. Fig. 2 shows the top plate of the casing removed to expose the interior mechanism. Fig. 3 is a longitudinal cross-section on the line 3 3 of Fig. 2.

A indicates the casing of the bolt, and A² the plate upon which the bolt and its attached parts are mounted, both plate and casing being perforated at points *a*. Said plate and casing are secured together by screws passing through holes *b*, Fig. 2, in plate A², into the edge of A. The perforations *a* serve to admit screws, by which the bolt may be secured to

the inside of a door. C indicates the bolt proper, which works through a guide-piece, C², and is provided with a coiled spring, C³, abutting at one end against a collar, C⁴, on the bolt, and at the other against guide C², so that when the bolt is thrown out into the position shown in Fig. 1 the spring will be compressed. The rear portion of the bolt is provided with a plate, I, having projection I³, against the back side of which a pin or shank, D², engages, projecting downwardly from the slide D, sliding in a slot in the casing, so that the bolt may be thrown forward against the action of the spring C³, but cannot be thrown backward by said slide. A pin, *k*, projecting upward from a raised surface on plate A², assists in guiding the bolt.

D³ indicates a retracting-spring that serves to return the slide D to its normal position. Formed in plate I is a slot or recess, I², with which an automatic sliding catch-bar, E², engages when the bolt is shot. The bar E² works in a guide-slot formed in a raised portion of the base-plate A², and is provided at its upper end with a pin or projection, *j*, with which engages a spring, J, that tends to lift the catch or slide-bar E². A step or rabbet is formed on E², at *e*, to engage in slot I². E indicates a small knob, working in a slot in the casing, and having a rounded or beveled head upon the outside of casing A, and also provided with a spindle or stem, E³, that passes into a slot in E², so that E³ may be drawn down against the action of the spring J. When the bolt is shot by the slide D, the catch-bar E² engages automatically with the slot I², and locks the bolt from backward movement under the action of the compressed spring C³. When it is desired to unlock the door, the button E is moved downward, thus releasing the bolt when the spring C³ will throw it back. The button E, having a rounded surface, cannot be operated by a wire or other instrument inserted from the outside of the door, nor can that bolt be subjected to any retracting force through slide D, since the same only engages with the bolt in such a way as to enable the bolt to be shot to lock the door.

I have herein shown the bolt as combined with an automatic alarm that will be set off in case the bolt be moved laterally against the

force of a spring, K, secured to the bolt, and resting against the inner surface of the plate A. The alarm mechanism does not differ materially from that described in a prior application for patent filed by me. The essential parts thereof are as follows:

H is a spring detent-arm upon the arbor of the mainspring-wheel G³, and O is a catch-plate having a step or catch at h, with which the spring-arm engages and is locked when the alarm is wound up.

F is a handle or arm upon the outside of the casing, which is secured to the same spindle as H, and serves to wind up the alarm mechanism.

A plate, M, pivoted to plate O, allows the detent-arm H to pass in the act of winding up the mechanism, but when the mechanism is wound up will also permit the arm to spring into engagement with the step h. The plate M has a curved edge, as indicated, and a spring, S, which tends to throw said plate against the stop N, and into position where, when the detent is released and begins its retrograde movement, said detent will slide over such curved edge, and will pass the step h without engaging with the same. The bolt C, or the rearmost portion, I, is capable of a slight lateral movement, and when the bolt is shot a raised portion, L, of the plate I is in position to engage with the spring-arm H and release the alarm mechanism in case any lateral movement should be given to the rear portion of the bolt, either by the insertion of a drilling-tool or other instrument by any unauthorized party, or by an attempt to open the door when it is bolted.

G⁴ is the escapement-wheel of the alarm mechanism, which serves to impart movement to the bell-hammer B² in the ordinary way, while B indicates the bell, mounted on plate A² in position coincident with an opening cut in the top plate, A, so as to allow the sound to more readily escape.

G² indicate the well-known device of a Geneva stop to prevent overwinding of the driving-spring for the alarm mechanism.

I do not limit myself to any particular construction of catch or lock for automatically engaging with the bolt when it is thrown to lock the door, as many others may be used in place of that shown for accomplishing the same purpose—viz., the automatic detaining of the bolt after it is thrown to prevent it from being

thrown back by the action of the spring or retractor until the catch is removed from engagement with the bolt by the slide button or knob E, or other means within the control only of some authorized person. It would be within my invention to attach the slide D D² to the bolt or an extension, j; but I generally prefer not to do this, as it would afford a means whereby the bolt might be subjected to a strain by a tool inserted through the door for the purpose of unlocking it.

I am aware that a bolt having a spring which tends to throw it back and a catch for releasing the bolt, so that it can be retracted by the action of the spring, is not broadly new.

What I claim as my invention is—

1. The combination, with the sliding bolt C and its retracting-spring, of the automatic sliding catch for holding the bolt, and the rounded head or button E for the catch, projecting through the casing and nearly flush with the outer surface of the casing, as and for the purpose described.

2. The combination, with the bolt and its retractor, of a detached operating-slide or thumb-piece arranged to engage with the bolt to throw it against the stress of its retractor, but not capable of catching upon it in the opposite direction, and an automatic catch for engaging with and holding the bolt against its spring, as and for the purpose described.

3. The combination of bolt C, spring C², sliding catch E², spring J, and rounded button E, having stem or spindle E², engaging with slide E², and means for projecting said bolt through the casing.

4. The combination of a horizontally and laterally movable bolt, C, springs C² K, detached operating thumb-piece, and stud D D², so arranged that it may be brought against the bolt for throwing it to lock the door, the automatic catch, and a detent for an alarm mechanism placed in the path of the bolt when moved laterally, as and for the purpose described.

Signed at New York; in the county of New York and State of New York, this 7th day of May, A. D. 1883.

ROBERT G. VASSAR.

Witnesses:

THOS. TOOMEY,
WM. H. BLAIN.