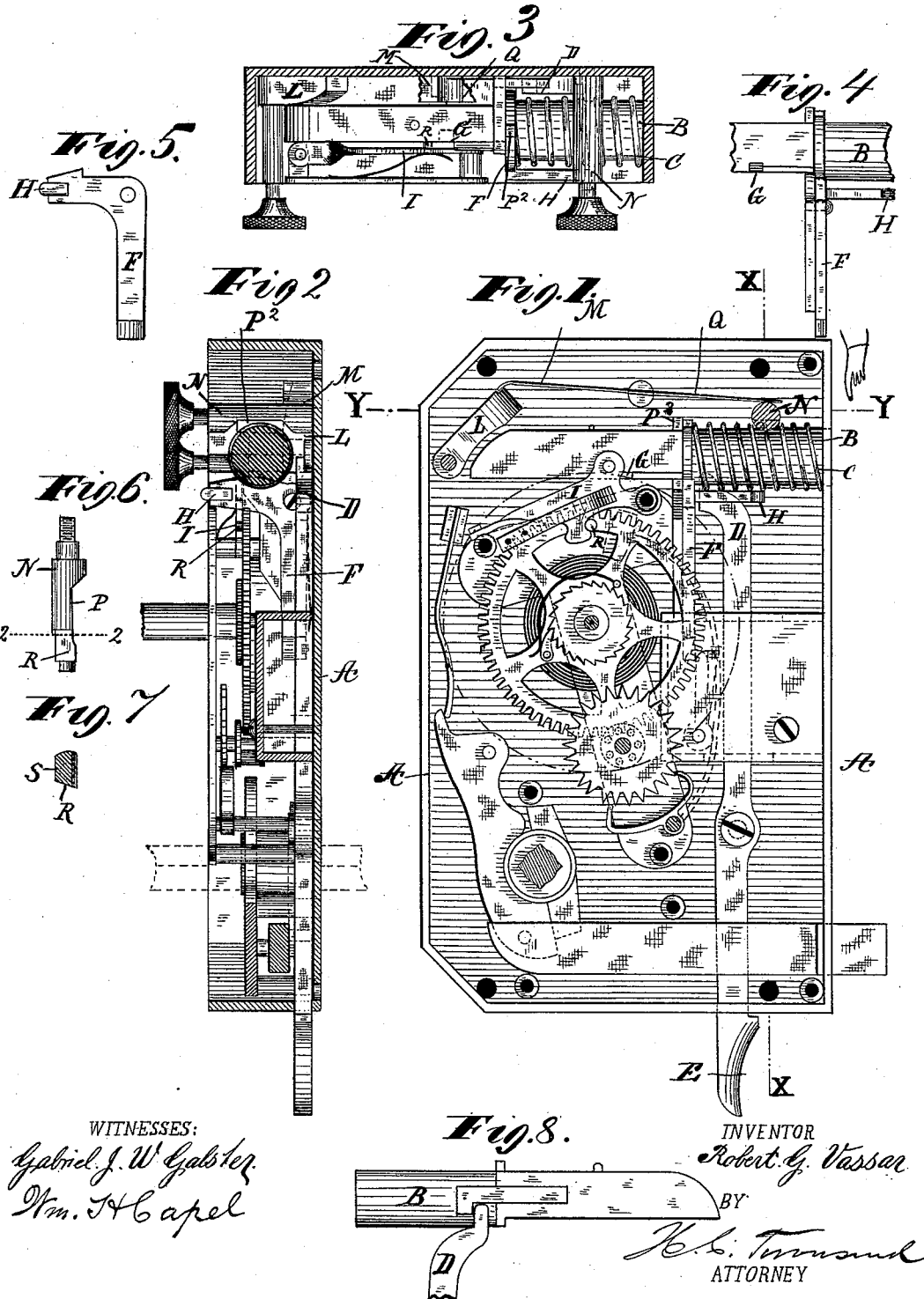


(Model.)

R. G. VASSAR.  
ALARM LOCK.

No. 420,397.

Patented Jan. 28, 1890.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 420,397, dated January 28, 1890.

Application filed June 14, 1886. Serial No. 205,083. (Model.)

*To all whom it may concern:*

Be it known that I, ROBERT 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 a certain new and useful Alarm-Lock, of which the following is a specification.

My present invention relates to improvements in alarm-locks of the general character heretofore invented by me and comprising an alarm mechanism so combined with a bolt that on the rearward movement of the same to unlock the door or a lateral movement through pressure on the door, or by impingement of a tool on the bolt the alarm mechanism will be automatically released and an alarm sounded.

In the prior application filed by me November 18, 1885, Serial No. 183,164, I have described an alarm-lock of the above-stated kind in which the alarm is set off on a rearward longitudinal movement of the bolt through the engagement of the bolt with a cam which forces the bolt sidewise against the detent-lever of the alarm mechanism. The cam described in said application is mounted upon a movable spindle by which it may be turned to one side out of engagement with the bolt, so as to cause the alarm to cease ringing; and the cam is suitably arranged with relation to said bolt so that when the bolt is thrown out the cam will automatically drop by gravity or by the action of a spring into line with said bolt, ready to throw the same to one side on a rearward movement and release the alarm.

My present invention consists in the combination, with said cam, of a catch, whereby the same may be held in an inoperative position and thus prevented from dropping into place where it will cause a release of the alarm. By this means a party leaving a room may set the lock so that he may throw the alarm-bolt so as to lock the door, but that on re-entering he will not be obliged to set off the alarm when, by the means to be hereinafter described, he releases the bolt so that its retracting-spring may throw it back and unlock the door.

In the previous form of alarm-lock described in my application before referred to,

it was necessary for the party on re-entering to set off the alarm, though he could quickly cause it to cease sounding after he had re-entered the room by turning the released cam or the spindle supporting the same so as to allow the bolt to resume its normal position, and the detent-lever of the clock-work to resume a position where it would bring the alarm mechanism to rest.

My invention consists, further, in the combination, with a bolt and alarm mechanism which is automatically released on a longitudinal rearward movement of the bolt or on a lateral movement of the same when the door is locked, of a spring for throwing the bolt backward, and a dead-lock pin or catch that may be operated from the inside of the door, so as to engage with the bolt and hold it projected and in such condition that it cannot be released and thrown back by the operation of the devices ordinarily employed for the purpose and operated from the outside of the door.

In the accompanying drawings, Figure 1 is a plan of an alarm-lock embodying my invention, the top plate being removed to better show the parts. Fig. 2 is a vertical cross-section on the line X X of Fig. 1. Fig. 3 is a cross-section on the line Y Y of Fig. 1. Figs. 4, 5, 6, 7, and 8 illustrate details of construction.

A indicates the casing of the lock, and B the bolt, which is thrown out in the direction to lock the door by the operation of a slide or lever D, which can be operated by hand through its projecting portion E from the inside of the door, or can be actuated by a key inserted from the outside of the door into a key-hole indicated in Fig. 1, after the manner described in my prior application. This slide is not attached to the bolt, but simply engages with the rear side of a projection or shoulder on the same, as indicated in Fig. 8, and cannot be used for throwing the bolt back. A spring C serves as a means for throwing the bolt to unlock the door when said bolt is disengaged from an automatic catch-lever indicated at F, Figs. 1, 2, 4, and 5. The form of catch-lever is indicated more clearly in Figs. 4 and 5. It is pivoted on a

lug or projection forming one of the guides for the bolt and has a spring under its lateral portion, which tends to force its upright portion toward the bolt, so that when the bolt is thrown out the catch will engage with a notch G in the side of the bolt, thus holding the bolt projected until by pressure of the finger on the knob or stud H, formed on an arm projecting from the catch-lever, or by the operation of said catch-lever through the engagement of a key inserted from the front of the door, with the end of the lateral arm of the lever, the catch is disengaged from the bolt, so that the spring may throw the bolt back.

Over the rear end of the bolt projects the arm of a detent-lever I, pivoted in the frame of the clock-work, and having an arm, as shown more clearly in Fig. 1, that is normally in the path of a pin R on the main wheel of the alarm mechanism. The bolt is adapted to have a slight lateral movement by moving on the edge of the opening through the casing as a fulcrum, and such lateral movement will produce obviously a movement of the detent-lever that serves to disengage the pin R and permit the alarm-movement to rotate, sounding the bell. A spring bearing on the top of the detent-lever serves to throw the lever into position to engage with the pin, and also serves to return the bolt to normal position, when the cam which serves to throw it to one side on a longitudinal rearward movement is disengaged from the bolt.

The parts as thus far described do not differ essentially from those described in my prior application.

The cam with which the bolt engages on a rearward movement is indicated at L. This cam is mounted on a suitable spindle which has a thumb-piece on the outside of the case and by which the cam may be turned into the position shown in Fig. 1, where it is held by the action of a catch of any desired kind. A form of catch suitable for the purpose is indicated at M, and consists of a spring that engages with a notch in the cam-piece L and holds it in the position shown.

When the parts are arranged as in Fig. 1 the bolt may be thrown to lock the door, and when so thrown the cam L will not drop down behind it. Therefore, when the bolt is released either from the inside of the door by operating the knob H, or from the outside of the door by a key engaging with the lateral arm of a catch-lever, the alarm will not be sounded.

When it is desired to set the lock so that after the locking of the door either from the inside or the outside the bolt cannot be released without resulting in a sounding of the alarm, it is only necessary to turn the cam L sufficiently to disengage it from the catch M and to permit it to rest on the rear end of the bolt. When the bolt is projected to lock the door, the cam will drop into position where it will be in line with the bolt, and on a release of the bolt the spring C will throw the same

back. When the rear end of the bolt engages with the cam, the bolt is caused to move sidewise or laterally and to throw the detent-lever so as to sound the alarm.

The lock or catch for fastening the bolt from the inside of the door so that the bolt cannot be thrown back although released from the catch-lever, is indicated at N, Figs. 1, 2, 3, 6, and 7. The form of catch shown may be varied in different ways without departing from the invention. The catch is here indicated as a rotatable pin or stud having a thumb-piece on the outside of the case and cut away on its side, as indicated at P, so that the bolt may move without obstruction from said pin when the pin is in the position shown in Figs. 1 and 2. After the bolt is thrown out, if the pin or catch be turned it will engage with a shoulder P<sup>2</sup> on the bolt, and the latter will be locked so that the door cannot be opened, although the bolt may be released by the operation of the devices ordinarily employed—that is to say, the catch-lever F, actuated from the inside or the outside of the door.

In order to help in retaining the locking pin or catch N in position where it will hold the bolt, I provide a spring Q, which is adapted to bear upon a flattened surface formed at R on the pin when the pin is turned into proper position.

At S another flat surface is formed upon the pin in proper position for the spring to engage with it when the pin is turned into the position shown in Fig. 1, where it does not interfere with the movements of the bolt in the ordinary way. These surfaces are more clearly indicated in Fig. 7, where a cross-section of the pin on the line 2 2 of Fig. 6 is shown.

The pin or catch N forms a dead-lock, which can be operated from the inside of the door, so as to render it impossible to operate the bolt from the outside.

What I claim as my invention is—

1. The combination, with an alarm-bolt, and an alarm mechanism released by the bolt on a lateral movement of the same, of a cam for forcing the bolt to one side when said bolt is retracted, and a catch for holding said cam out of position for engagement by the bolt.

2. The combination, in an alarm-lock, of a bolt capable of lateral movement, a spring for retracting the bolt when the bolt is released from an automatic catch, a cam for throwing the bolt to one side when it is retracted by the action of a spring, a stem or spindle upon which the cam is mounted, and a spring M for engaging with the cam, so as to hold it out of position for engagement by the bolt.

3. The combination, in an alarm-lock, of a bolt, a spring for throwing the bolt back, an automatic catch for holding the bolt projected, an alarm released on a rearward movement of said bolt, and a positive locking pin or device for engaging with the bolt so as to

hold the same projected against the action of its spring, said locking device being provided with means whereby it may be thrown into position to lock the bolt from the inside of the door.

4. The combination, with the bolt, of a spring for retracting the same, an automatic catch-lever for holding the same projected, and the axially-turning locking-pin N, formed, as described, to allow the bolt to move freely when set in one position and to engage with the bolt when turned, as described.

5. The combination, with the bolt having a

retracting-spring, of the axially-turning locking-pin N, provided with an operating thumb-piece outside of the case and a spring Q engaging with said pin for holding the same in position to lock the bolt.

Signed at New York, in the county of New York and State of New York, this 11th day of June, A. D. 1886.

ROBERT G. VASSAR.

Witnesses:

WM. H. CAPEL,

WM. HENRY GARDINER.