

(No Model.)

R. G. VASSAR.
ALARM LOCK.

No. 420,256.

Patented Jan. 28, 1890.

Fig. 1.

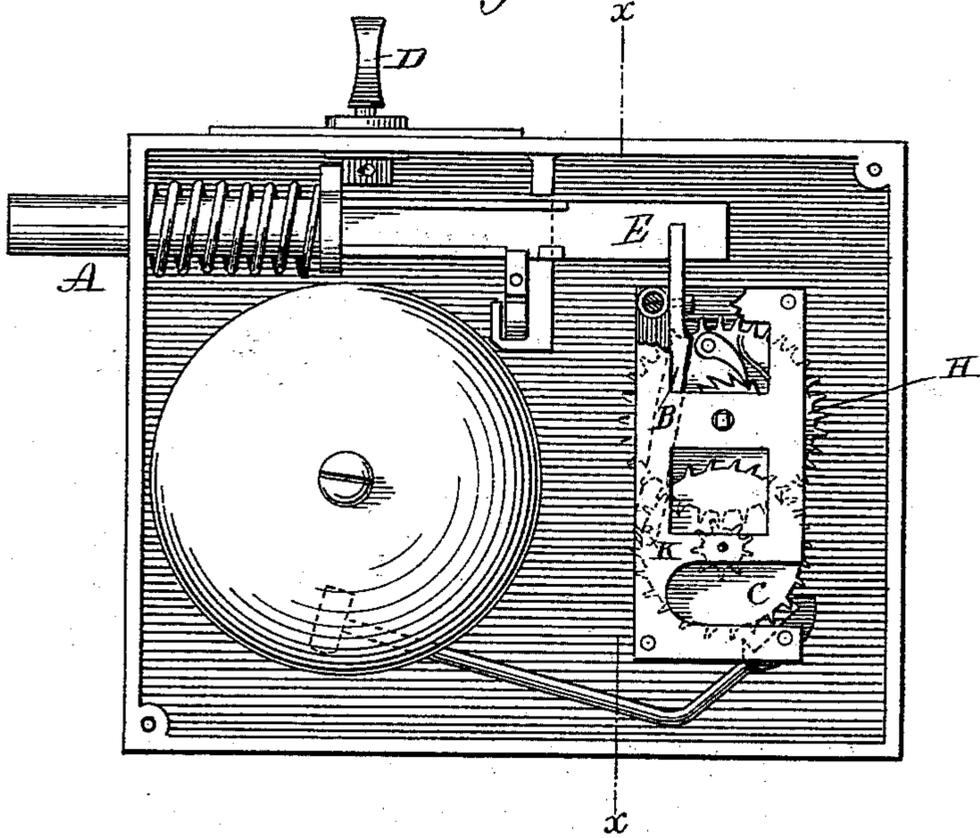


Fig. 2.

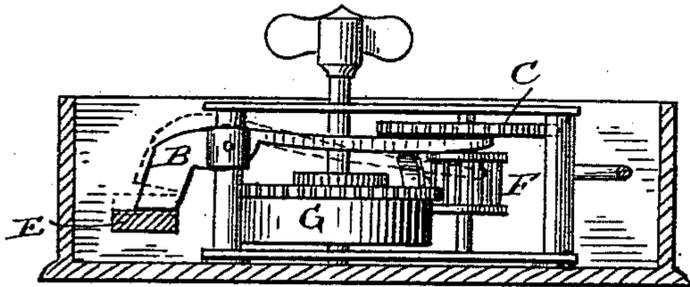


Fig. 3.

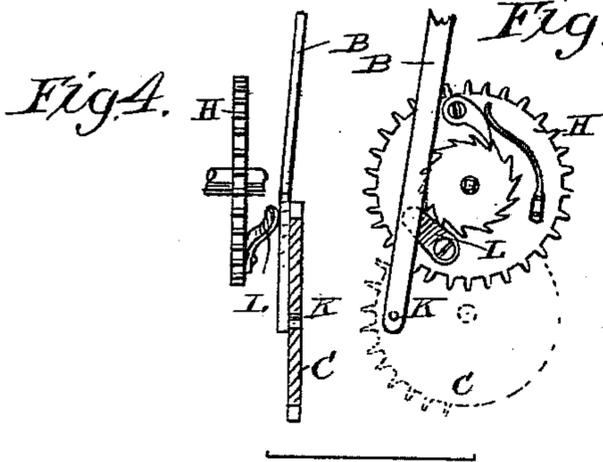


Fig. 4.

WITNESSES:

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ROBERT G. VASSAR, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE VASSAR BURGLAR ALARM MANUFACTURING COMPANY, OF NEW JERSEY.

ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 420,256, dated January 28, 1890.

Application filed January 21, 1888. Serial No. 261,454. (No 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 certain new and useful Improvements in Mechanical Alarms, of which the following is a specification.

My invention relates to the construction of an alarm mechanism designed more particularly for application to door bolts and locks, and combined with the same in such a way that the application of pressure to the door or to the bolt shall release the alarm mechanism and permit the same to sound.

The alarm mechanism of my invention is one in which the force of a normally-detained spring is utilized upon the release of a detent mechanism to operate the alarm-bell.

My present invention relates more especially to the construction of the detent device for releasing the wheels connected with the spring and for bringing the same to rest when the alarm has sounded a certain time; and the invention consists in the combination, with the detent-lever, which engages with a wheel operated by the spring and serves to normally hold the same from movement, of a second wheel moving more slowly than the detent-wheel and arranged to press the detent into re-engagement with the detent-wheel after the same has been released and has made one or more revolutions.

My invention consists, further, in the combination, with the second or more slowly-moving wheel, of a spring projection or lug arranged to engage with the detent-lever and to move the same into engagement with the more quickly-moving detent-wheel.

By my invention, as will more clearly appear from the following description, taken in connection with the accompanying drawings, the detent-wheel may, after having been released, make more than a single revolution, and yet may, after a determined number of revolutions, be brought positively to rest through the action of the second wheel in forcing the detent into re-engagement.

Figure 1 is a side elevation of a door-bolt

provided with an alarm constructed in accordance with my invention, the top plate of the case being removed. Fig. 2 is a cross-section through the case on the line X X of Fig. 1, and shows the alarm mechanism in edge view. Fig. 3 is a plan of the detent lever and wheel operating upon the same. Fig. 4 is an edge view of the same devices the detent-wheel being shown in cross-section.

A, Fig. 1, indicates the door-bolt, and D the operating-slide for the same, said bolt being provided with an operating-spring and with a catch (not shown) and arranged substantially as my prior patent, No. 298,136, dated May 6, 1884.

The bolt A is capable of a slight lateral movement on the interior of the case when pressure is applied to the door or to the bolt directly by means of a drill or other instrument, as described in my prior patent. The inner end E of the bolt is arranged to engage when so moved with the detent-lever B of the alarm mechanism, said lever being pivoted on a post of the alarm-train, as clearly shown.

C indicates the detent-wheel, with which the detent or detent-lever B engages to hold the train of wheels from movement under the stress of a spring G, which latter is wound up by any suitable means and is connected with a wheel H, through which and a pinion F the spring imparts movement to the wheel C when the latter is released from the detent. The wheel C is the wheel by which movement is imparted to the bell-hammer lever through an escapement in manner well known.

The detent or locking surfaces may be of any desired kind; but for sake of simplicity I prefer to employ, as indicated more clearly in Fig. 4, a pin K upon the detent-lever, which pin is adapted to enter a perforation or depression in the detent-wheel C, so as to hold the latter from movement.

The wheel H, which obviously will rotate more slowly than the wheel C, is in my invention utilized as a means of throwing the detent devices into re-engagement. For this purpose it is provided with a projection of any desired kind, arranged to press sidewise

against the detent-lever, so as to throw the pin K into the perforation in the wheel C at the proper period in the revolution of the latter. The wheel H should bear upon the lever B with an elastic pressure for this purpose, so as to permit said lever to move and withdraw the detent-surfaces from engagement when the bolt is moved laterally, so as to bring the part E thereon against the shorter arm of the lever.

In Figs. 2, 3, and 4 the detent-wheel is shown as locked by the detent-lever, the latter being pressed toward the wheel by means of a spring projection L, carried by the wheel H. When the lever is moved by the bolt, the pin K is withdrawn from engagement with wheel C, and the latter thereupon begins to rotate and to operate the bell-hammer. At the same time the wheel H rotates, carrying the projection L away from engagement with the lever, said projection being moved entirely away from the same by the time that the wheel C completes its revolution, so that at the first revolution of the wheel the detent devices will not re-engage. The wheel C is therefore free to rotate and to continue operating the bell-hammer until the wheel H has moved so as to bring the projection L thereupon around into re-engagement with the detent-lever and to press the same sideways toward the wheel C. The wheel C may make three or four revolutions, more or less, according to the particular proportions of the gearing. The proportions are such, however, that the projection L will come around into position to press the lever B toward the wheel C at or near the time that the perforation in the wheel approaches the pin K.

When this occurs, the detent devices are brought into engagement in obvious manner, and the train of wheels is stopped from revolution. The alarm then ceasing to sound, a subsequent operation of the bolt so as to move the detent-lever will again permit the alarm to sound during the time that the detent-wheel makes the two or more revolutions permitted to it.

I do not limit myself to any particular form of engaging devices for the detent, as there are many that may be used and are well-known in the art. Nor do I limit myself to any particular form of projection or device upon the second wheel H for bringing the detent devices into arrangement. It is desirable, however, that the detent-lever should be a spring-connection of some kind, so as to permit a movement of the lever, as already described, when the bolt is moved.

What I claim as my invention is—

1. The combination, with a detent-wheel and its detent, of a stud or projection carried by a wheel of the train for pressing the detent into re-engagement with its wheel, as and for the purpose described.

2. The combination, with the detent-wheel of a detent-lever and a second slowly-moving wheel geared to the first and carrying a projection that bears with an elastic pressure on the detent-lever, so as to force the detent into engagement with the detent-wheel, while also permitting the lever to be moved for purposes of releasing the detent-wheel.

ROBERT G. VASSAR.

Witnesses:

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