(Model.)

R. SCHADE.

ALARM LOCK.

No. 258,481. Patented May 23, 1882.

Fig. 1.

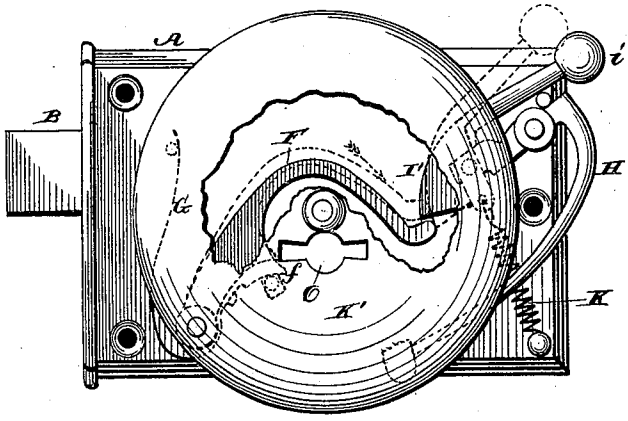


Fig. 2.

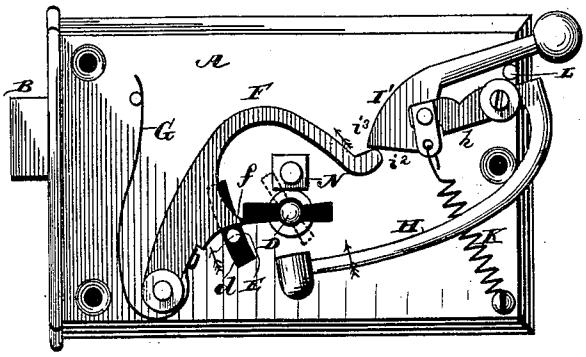


Fig. 6.

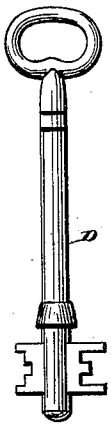


Fig. 3.

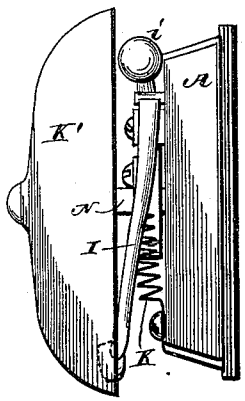


Fig. 4.

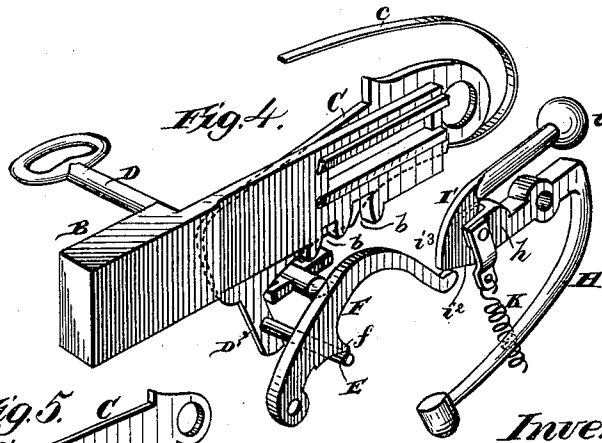
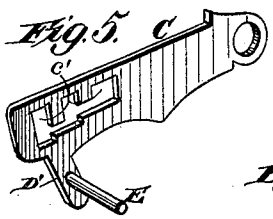


Fig. 5.



Witnesses.
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J. A. Rutherford

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UNITED STATES PATENT OFFICE.

REINHARD SCHADE, OF NEW YORK, N. Y.

ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 258,481, dated May 23, 1882.

Application filed March 31, 1882. (Model.)

To all whom it may concern:

Be it known that I, REINHARD SCHADE, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Alarm-Locks, of which the following is a specification.

The principal object of this invention is to provide, in connection with a lock having one or more tumblers, an alarm mechanism which shall be actuated by the movement of the lock tumbler or tumblers, so that whether the tumblers are raised to free the bolt by a key belonging to the lock or by any other key or instrument, an alarm will be in each instance given. This object I attain by means of the devices illustrated in the annexed drawings, in which—

Figure 1 is a side view of the alarm mechanism upon a lock-case, a portion of the gong being broken away. Fig. 2 is a like view with the gong detached. Fig. 3 is an end view of Fig. 1. Fig. 4 represents in perspective the locking and alarm mechanism detached from the lock-case. Fig. 5 represents one of the tumblers, and Fig. 6 shows the lock-key.

The lock-case A, sliding bolt B, and pivoted tumblers C, herein shown, are of ordinary construction, and belong to that class of locks in which the bolt and tumblers are adapted to be operated by means of a double key, D. (Illustrated in Fig. 6.) In a lock of this description the tumblers are pivoted at one end within the lock-case, and their free ends are normally depressed by springs *c*, so as to cause a dog upon the bolt to be received into the series of notches *c'* that are formed in the tumblers. The bolt is formed with two notches, *b b*, respectively, provided for receiving the opposite wards of the double key while the latter is being turned in the lock, and in shooting the bolt the tumblers will rise and fall twice to each complete axial rotation of the key. A single key and other forms of bolt and tumblers can be employed, although that shown is preferable, since in moving the bolt to lock or unlock the door the tumblers must be raised twice, and hence the alarm mechanism, which is dependent for its action upon the movement of the tumblers, will be actuated to sound the gong a couple of times, thereby giving a more protracted and noticeable alarm. One of the tumblers is provided with an arm, D', carrying a pin, E, that extends laterally through a slot, *d*, in the lock-case, the slot being adapted to admit of the free movement of the pin as the tumbler is raised or lowered. This pin extends through the lock-case and serves to actuate the alarm mechanism, and, if desired, two or more of the tumblers can be provided with such arms and pins.

As herein shown, the alarm mechanism is located upon the side of the lock-case, so as to be acted upon directly by the pin projecting out from one of the tumblers. This alarm mechanism is constructed as follows: A tripping arm or lever, F, is pivoted at one end upon the lock-case, and it is provided at or about its middle with a finger, *f*, which is held by a spring, G, against the pin that is carried by one of the tumblers. The vibratory hammer-arm H that is employed for sounding the gong, which is also pivoted upon the lock-case, is provided at its pivoted end with a short recessed extension, *h*, to which is pivoted a dog, I', that is weighted at one end, as at *i*, and at its opposite end adapted to be engaged by the free end of the tripping-lever, which is curved so as to bring its extremity in position to act upon the pivoted dog. The short arm *h* of the clapper-arm is normally held down by a spring, K, so that the dog will be in position to be acted upon by the tripping-lever as soon as the free end of the latter is raised. A stop, L, is provided upon the lock-case in position to arrest the movement of the clapper-arm and prevent the spring from turning the same about its pivot after it has been brought into the position shown in Fig. 1; in which figure the operative parts of the alarm mechanism are in proper relative position to be actuated for sounding the alarm. In this position of said parts the weighted end of the pivoted dog also rests upon the stop L. The gong K' is secured upon a horizontal post, N, extending laterally outward from the lock-case, as illustrated.

When the key or any other instrument is inserted in the lock and turned so as to raise the tumblers and liberate the bolt in order to operate the same, the pin that projects out from one of the tumblers will, in rising with its tumbler, strike against the finger on the tripping-

lever, and thereby cause the latter to turn about its pivot and bring its free end against the broad end i^2 of the pivoted dog, which, by reason of the spring K and stop L, has been brought into and maintained in the path of the tripping-lever. As the tripping-lever turns about its pivot and bears against the pivoted dog it will cause the clapper-arm to turn, as indicated in Fig. 2, in which the clapper-arm is shown in the act of rising. As the tripping-lever continues to turn it will trip the dog and hammer-arm, after which the spring will immediately cause the clapper-arm to swing back and strike the gong with the clapper or hammer carried at its free end, the spring also bringing the hammer-arm into proper position to again present the dog to be acted upon by the tripping-lever after the latter has been allowed to drop by the fall of the tumbler and has been restored to its first position by its spring. As the tripping-lever thus returns its free end will strike the inclined edge i^3 of the pivoted dog, which latter will turn slightly about its pivot, so as to allow the lever to pass it, the weight upon the upper end of the pivoted dog serving to bring the dog back into position as soon as the tripping-lever has passed it.

Having thus described my invention, what I claim is—

1. In an alarm-lock, the combination, with the tumbler of the lock and an alarm mechanism having a vibratory hammer-arm arranged to strike a gong, of a swinging tripping-lever operated solely by the movement of the tumbler and acting directly on the hammer-arm which sounds the gong.

2. In an alarm-lock, the combination of the tumbler provided with a laterally-projecting pin, a tripping-lever normally resting on said pin, a hammer-arm operated by the end of the tripping-lever when the latter is raised by the pin on the tumbler, and a gong which is sounded by the hammer-arm.

3. The combination, with a lock-case inclosing a sliding bolt and a vertically-movable tumbler, of a pin on said tumbler projecting laterally through the lock-case, and an alarm mechanism having its hammer operated by the vertical movement of the pin on the tumbler through the medium of a hammer-tripping lever.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

REINHARD SCHADE.

Witnesses:
WM. A. GRAHAM,
SOLOMON COHEN.