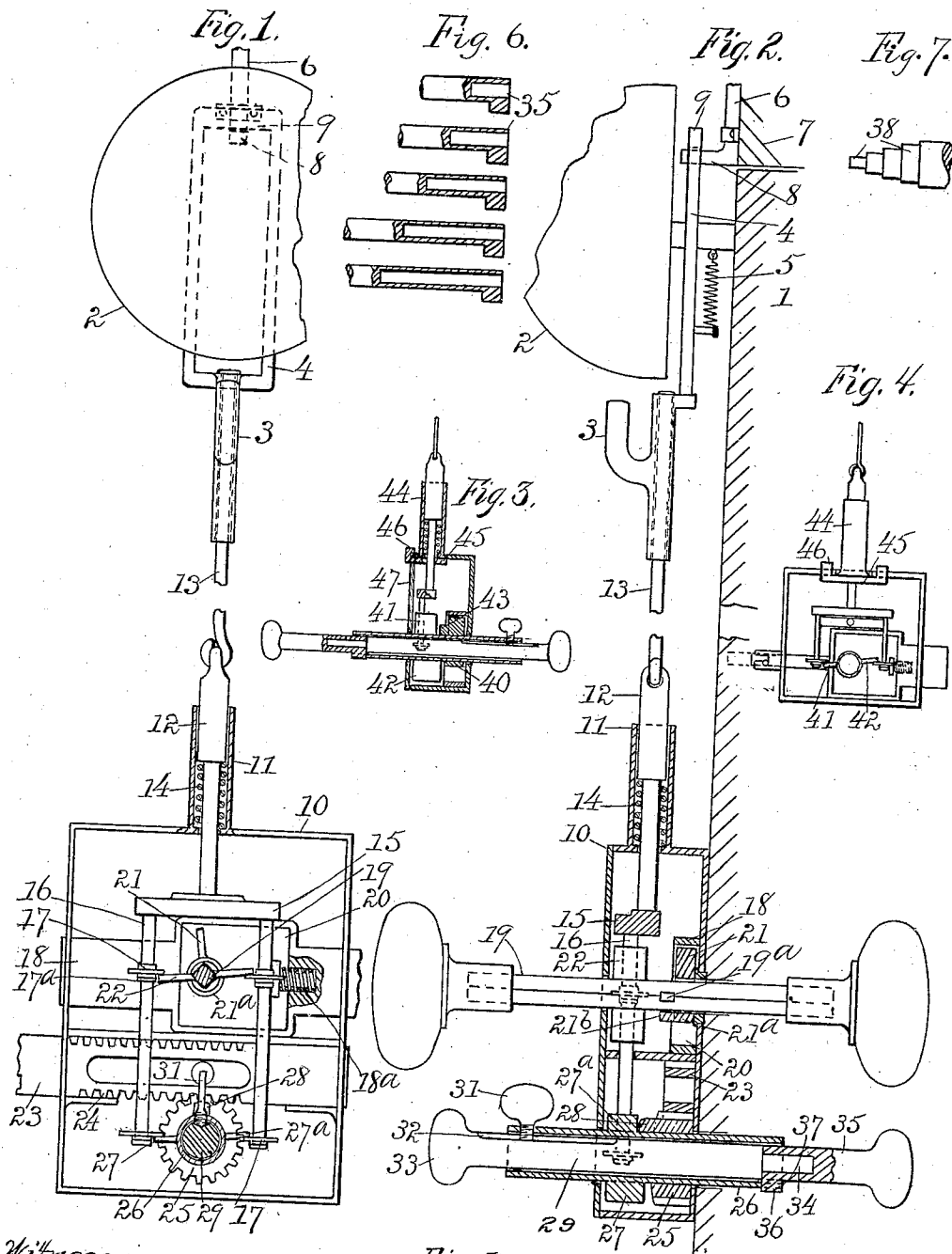


No. 848,710.

PATENTED APR. 2, 1907.

I. WATKINS.  
LATCH FOR BURGLAR ALARMS.

APPLICATION FILED JULY 12, 1905.



Witnesses:

Lena E. Berkovich  
Lena E. Johnson

Fig. 5.

Inventor:

Isaac Watkins.  
Jenkins & Barker  
Attorneys.

# UNITED STATES PATENT OFFICE.

ISAAC WATKINS, OF HARTFORD, CONNECTICUT.

## LATCH FOR BURGLAR-ALARMS.

No. 848,710.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed July 12, 1905. Serial No. 269,315.

*To all whom it may concern:*

Be it known that I, ISAAC WATKINS, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented and produced a new and Improved Latch for Burglar-Alarms, of which the following is a specification.

My invention relates to the class of devices used for securing a door in a closed position and to that class of such locks and latches as are provided with means for sounding an alarm; and the object of my invention is to provide a lock or latch with mechanism whereby an alarm will be sounded before the bolt or latch is thrown to unfasten the door; and a further object of the invention is that in which the alarm shall be sounded a number of times before the latch or bolt is thrown to unfasten the door; and a further object of the invention is to provide a device in which the movement of either the bolt or latch shall operate to sound an alarm and also one in which the mechanism may be changed to substitute either a latch or a lock mechanism. One form of device in the use of which these objects may be attained is illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved lock and burglar-alarm with parts cut in section to show construction and with the front plate of the lock-case removed. Fig. 2 is a view in central vertical section of the device shown in Fig. 1, the spindles being turned from the position shown in Fig. 1. Fig. 3 is a view, on reduced scale, showing the application of my invention in a structure embodying a latch or lock only. Fig. 4 is a face view of the lock-case with the front plate removed. Fig. 5 is a detail view showing the substitution of a knob-spindle in the place of the key mechanism. Fig. 6 is a detail view showing the construction of different keys. Fig. 7 is a detail view showing a modified form of key-pin.

In the accompanying drawings the numeral 1 denotes a door or like part to which my improved mechanism is adapted to be secured.

The numeral 2 denotes a gong secured to the upper part of the door, and 3 denotes a spring-actuated striker adapted to sound the gong. This striker is mounted on a sliding plate appurtenant to the gong, and a spring 5 may be employed for forcing the plate and

striker in one direction. A slide 6 may be secured to the head 7 of the door-frame, this slide having a toe 8 engaging underneath the cross-bar 9 of the sliding plate 4 when the door is closed. This slide 6 may be suitably connected with another alarm, as one located in a room above that to which the door 1 opens, and the device thus employed to sound an alarm not only on the door, but one in a room removed therefrom.

The numeral 10 denotes the lock-case, in which the lock mechanism is located. A tubular projection 11 extends from one edge of the case in which a plunger 12 is located, a connection 13 from the sliding plate 4 to this plunger operatively connecting the parts. A spring 14 is located within the projection 11, thrusting with one end against the wall of the case and with the other against a shoulder on the plunger, normally forcing the plunger outward. A sliding frame 15 is mounted within the lock-case, this frame having a cross-bar secured to the plunger 12 and side bars 16 rigidly secured to the cross-bar. Yielding members 17 are mounted on the side bars, there being two sets of these pawls, one set operating in connection with the latch and the other in connection with the locking-bolt. A latch 18 is mounted to slide laterally in the lock-case, and a knob-spindle 19, provided with suitable knobs, is passed depthwise through the case in the usual manner. This latch has an opening 20, through which the knob-spindle passes, and a projection 21 on a loose collar 21<sup>a</sup> engages an end wall of the opening 20 to withdraw the latch from engagement with its socket in its keeper in the usual manner. This collar has a lug 21<sup>b</sup>, located in the path of movement of a lug 19<sup>a</sup> on the spindle 19. The lug 19<sup>a</sup>, engaging the lug 21<sup>b</sup>, rotates the collar until the projection 21 has passed beyond a central line, when the spring 18<sup>a</sup>, controlling the movement of the latch 18, throws the latch and allows the collar 21<sup>a</sup> to travel forward independent of the spindle 19. Projections 22 are located on opposite sides of the knob-spindle above the projection 21, and these projections are adapted to engage the yielding member 17 in the turning movement of the spindle to force the frame 15 against the tension of the spring 14. As soon as the projections pass the yielding members the spring forces the frame upward, throwing the striker 3 against the gong and sounding the latter.

It will be noted that the yielding members 17 may travel freely upward along the bars 16 to allow the lugs 22 to pass, but that they will fall by gravity or by any other means desired into contact with the shoulders 17<sup>a</sup>, which prevent movement along the rod in this direction and compels the frame to be moved when the lugs 22 come in contact with the upper sides of the yielding members. The location of these projections on opposite sides of the spindle causes the frame 15 to be operated twice to a single throwing of the latch by the projection 21.

A locking-bolt 23 is mounted in the lock-case, having teeth 24 engaging with a pinion 25. This pinion is loosely mounted on a sleeve 26, extending depthwise through the case, this sleeve bearing lugs 27 27<sup>a</sup>, the former of which is adapted to strike a lug 28 on the pinion 25 and the latter passing over said lug, as shown in Fig. 2. From this construction it will be seen that contact of the lugs 27 27<sup>a</sup> with the yielding members on the bars 16 will cause the frame to be moved to sound the alarm before contact of the lug 27 with the lug 28 to rotate the pinion 25 and throw the lock-bolt. The lugs 27 27<sup>a</sup> on this sleeve are adapted to strike the other set of yielding members on the side bars 16 from those operated by the knob-spindle for the purpose of operating the frame 15 to sound the alarm in the turning movement of the pinion, which is operated in the rotation of the sleeve. It will be seen from this construction that the frame 15 in the turning movement of the sleeve will be moved to sound the alarm once before the lug 27 engages the lug 28 to rotate the pinion to throw the bolt 23.

From the above construction it will be noted that should an attempt be made to unfasten the door either by turning the knob-spindle or by turning the latch-sleeve 26 the alarm will be sounded and that neither the latch or the bolt can be thrown to unfasten the door without sounding the alarm. It will be noted that the mechanism herein shown is arranged to sound the alarm twice before the latch or bolt is thrown to unfasten the door, and from this it will be seen that the mechanism may be readily changed to cause any number of blows to be struck on the gong before the latch or bolt shall be operated.

The numeral 29 denotes an adjustable key-pin mounted in the sleeve 26. This key-pin is adjustable, as by means of the set-screw 31, fitting within a slot 32 in the pin or against the surface thereof. The inner end of this key-pin bears a thumb-turn 33, by means of which the sleeve may be turned from inside the door. The opposite end of the key-pin is reduced, forming a pin 34 proper for the reception of the barrel of the key 35. The opening in the barrel of the key is made of a

required depth, so that when the end of the pin 34 strikes the bottom of the opening the ward 36 of the key will be located in the slot 37 in the sleeve 26 to enable the latter to be turned as the key is rotated. By making the key-pin 29 adjustable I am enabled to use different keys for throwing the latch, these keys having openings in the barrel of different depths and the key, which shall be properly located to throw the latch, being determined by the position of the key-pin 29. By this arrangement if a key shall be lost the key-pin 29 may be adjusted so that a different key, with an opening of a different depth in its barrel, will be required to throw the latch, and I thus provide a combination-lock for the accommodation of keys of different structure. It is obvious that this same result may be attained by forming the key-pin as shown in Fig. 7 of the drawings, the end of the pin in this instance being stepped to provide what may be termed a "series" of pins 38 on the end thereof. In this form of the device the different keys of course will have the openings in the barrels of different diameter to enable the key to be properly located on the pin to locate the wards of the keys in the slot in the sleeve 26.

In the form of the device shown in Figs. 3 and 4 of the drawings I have shown a device in which a key or a knob may be used for throwing the latch. In this form of the device the structure is the same as that hereinbefore described with the exception that only a single bolt or latch is shown. This may be operated by a key, as shown in Fig. 3 of the drawings, which is the same as the structure shown in Figs. 1 and 2 as to the key part of the mechanism with the exception that a collar 40 is loosely mounted on the sleeve, which has projections 41 42 to engage a lug 43 on the collar in a manner similar to that described with reference to the lugs 27 27<sup>a</sup> in engagement with the lug 28 on the gear 25, this collar 40 being similarly constructed to the collar 21<sup>a</sup>, or the key-pin may be removed and a knob-spindle 39 inserted in its place, as shown in Fig. 5 of the drawings, and the structure then adapted for use with a knob as the means of throwing the latch or a key to serve this purpose.

It will be obvious that the device may be employed as a fastening for a door with the latch and lock-bolt, either or both, and without the operation of the alarm by simply drawing up the plunger 12 and securing it in any desired manner so that the yielding members 17 will lie out of the path of movement of the arms 22.

While I have shown and described herein one means for carrying out my invention, it will be obvious that such means may be altered to a considerable extent without departing from the invention, and I do not de-

sire or intend to limit myself to the exact means for accomplishing the desired ends herein shown and described.

The neck or sleeve 44 (shown in Figs. 3 and 4 of the drawings) is secured to a base 45, having clips 46 embracing the edge of the latch-case, the neck 44 projecting through an opening made in the top wall of the case. When the cover 47 is secured in position, the base 45 is firmly held, and is thus removably secured.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An alarm, means for sounding the alarm, a lock-case, a sliding frame mounted in the case and including bars rigidly united, said frame being operatively connected with the alarm-sounding mechanism, a latch mounted within the case independently of said frame, and mechanism mounted in the case and connected with the latch and sliding frame to operate both.

2. An alarm, means for sounding the alarm, a lock-case, a sliding frame mounted within the case and including side parts rigidly connected, connections between said frame and alarm-sounding mechanism, a latch mounted to slide in the case independently of said frame, and operating mechanism connected with the latch and sliding frame to initially operate the latter to sound the alarm and subsequently move the latch to release it.

3. An alarm, means for sounding the alarm, a lock-case containing a sliding frame including side parts rigidly connected, connections between said slide and alarm-sounding mechanism, a latch mounted in the case independently of said frame, and operating mechanism connected with the frame and latch to operate the former and sound the alarm before the operation of the latch.

4. An alarm, striking mechanism therefor, a lock-case containing a slide including side parts rigidly connected, connections between said slide and alarm-striking mechanism, a sliding latch borne in the case independently of said slide, a rotating spindle mounted in the case, and connections between said spindle and latch and slide for operating the latter to sound the alarm before releasing the latch.

5. An alarm, means for sounding the alarm, a lock-case bearing a sliding frame including side parts rigidly connected, connections between said frame and alarm-sounding mechanism, a sliding latch mounted independently of said frame, a spindle, yielding members borne on the sliding frame, and lugs on the spindle to engage said yielding members, and a lug also on the said spindle to operate the latch, said lugs being arranged to operate the slide and sound the alarm before the operation of the latch.

6. An alarm, means for sounding the alarm, a lock-case, a sliding frame mounted within said case and including side parts rigidly connected, yielding members mounted to slide on the side parts, connections between the sliding frame and alarm-sounding mechanism, a sliding latch, a spindle, and lugs mounted on said spindle to engage the yielding members to operate the sliding frame and to operate the latch.

7. An alarm, mechanism for sounding the alarm, a lock-case bearing a sliding frame operatively connected with the alarm-sounding mechanism, a latch mounted to slide transversely to the direction of movement of the frame, a rotating spindle mounted in the latch, a collar loosely borne on the spindle to engage and operate the latch, and lugs on the spindle to engage and operate both the sliding frame and said collar.

8. In a lock mechanism including a case, a sliding frame adapted for attachment to an alarm mechanism and mounted in the case, the alarm mechanism, a latch mounted in the case, a lock-bolt mounted in the case, a spindle to slide said latch and connected to operate said sliding frame, and a rotating part mounted in the case to operate the bolt and connected with said sliding frame.

9. In a lock mechanism including a case, a sliding frame adapted for connection with an alarm mechanism, the alarm mechanism, a sliding latch, a sliding bolt, rotating mechanism appurtenant to the latch, rotating mechanism mounted in the case to operate the bolt, both of the rotating mechanisms being connected with the sliding frame to operate said frame to sound an alarm before releasing the latch or bolt.

10. In a lock including a case, a sliding frame mounted therein, a latch and a bolt each sliding in a direction transversely to the direction of movement of the sliding frame, rotating mechanism for the latch, rotating mechanism for the bolt, connections between said sliding frame and each of the rotating mechanisms to operate the frame to sound an alarm before releasing the latch or bolt, and the alarm mechanism.

11. In a lock mechanism, a case, a latch mounted therein, a sliding-frame located within the case, alarm mechanism located without the case and operatively connected with said sliding frame, a rotating mechanism operatively connected with the sliding frame and the latch and provided with means for the reception of a knob or a key to operate both the frame and the latch.

12. In a lock including a case, a sliding frame mounted within the case and including side parts rigidly connected, yielding members slidable along said side parts, a latch, a spindle, alarm mechanism connected with said sliding frame, and lugs on said spindle to

coöperate with said yielding members to move the frame and a lug for operating the latch.

13. In a lock including a case, a sliding frame mounted therein and including side parts rigidly connected and having yielding members slidable therealong, alarm mechanism connected with said sliding frame, a latch having an opening, a spindle projecting through the opening in said latch and between the side parts of said frame, and lugs on said spindle for engaging said yielding members to operate the frame and for engaging the latch to operate it.

14. In a lock mechanism including a case, a sliding frame including side parts rigidly connected, yielding members mounted to slide on the side parts, alarm mechanism connected with said sliding frame, a sliding latch, a sliding bolt, a spindle for operating the latch, a spindle for operating the bolt, and lugs on each of said spindles for engagement with said yielding members to operate the sliding frame.

ISAAC WATKINS.

Witnesses:

ARTHUR B. JENKINS,  
LENA E. BERKOVITCH.