No. 776,341. PATENTED NOV. 29, 1904.

G. A. MOSER.

ALARM LOCK.

APPLICATION FILED JAN. 16, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

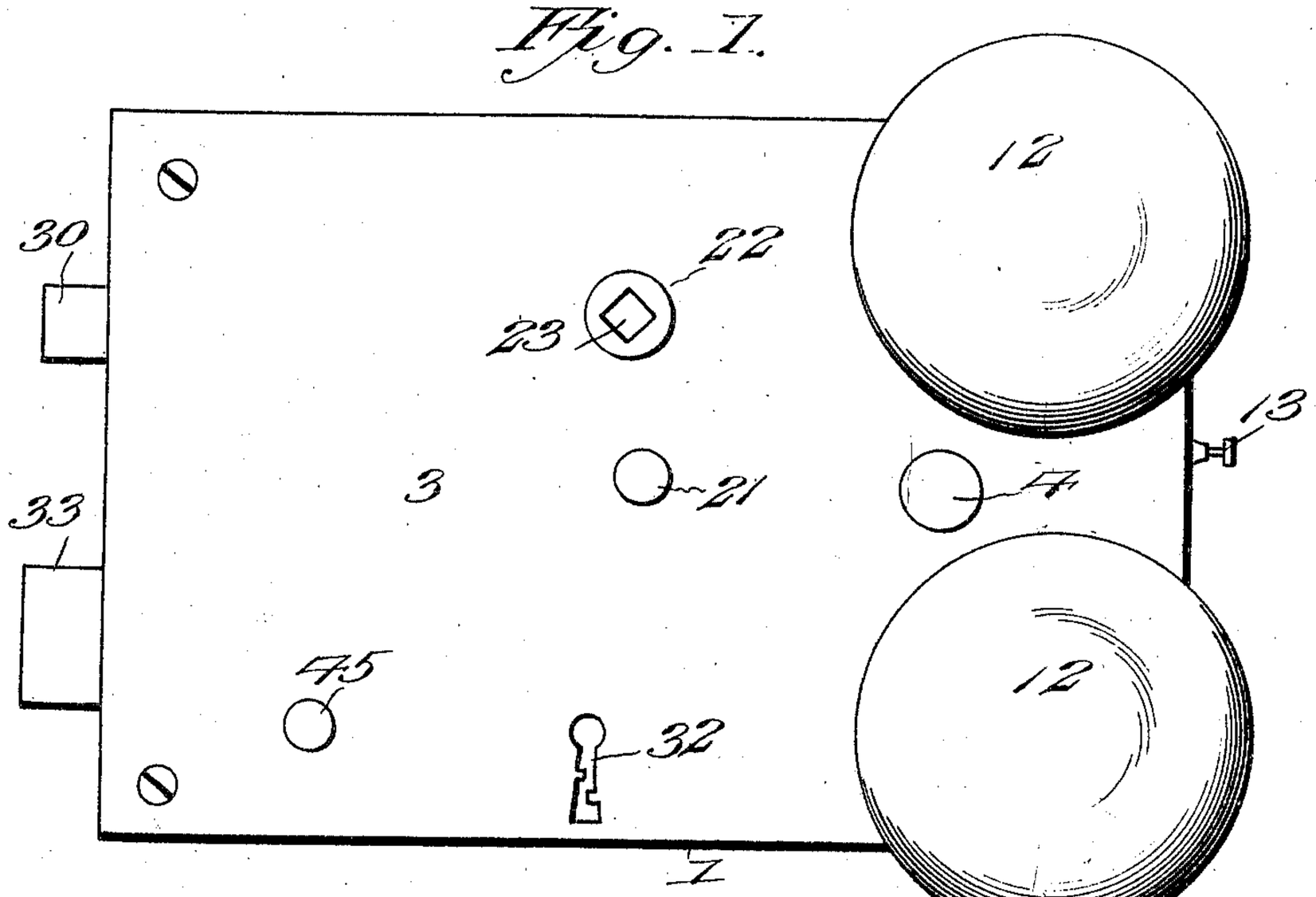
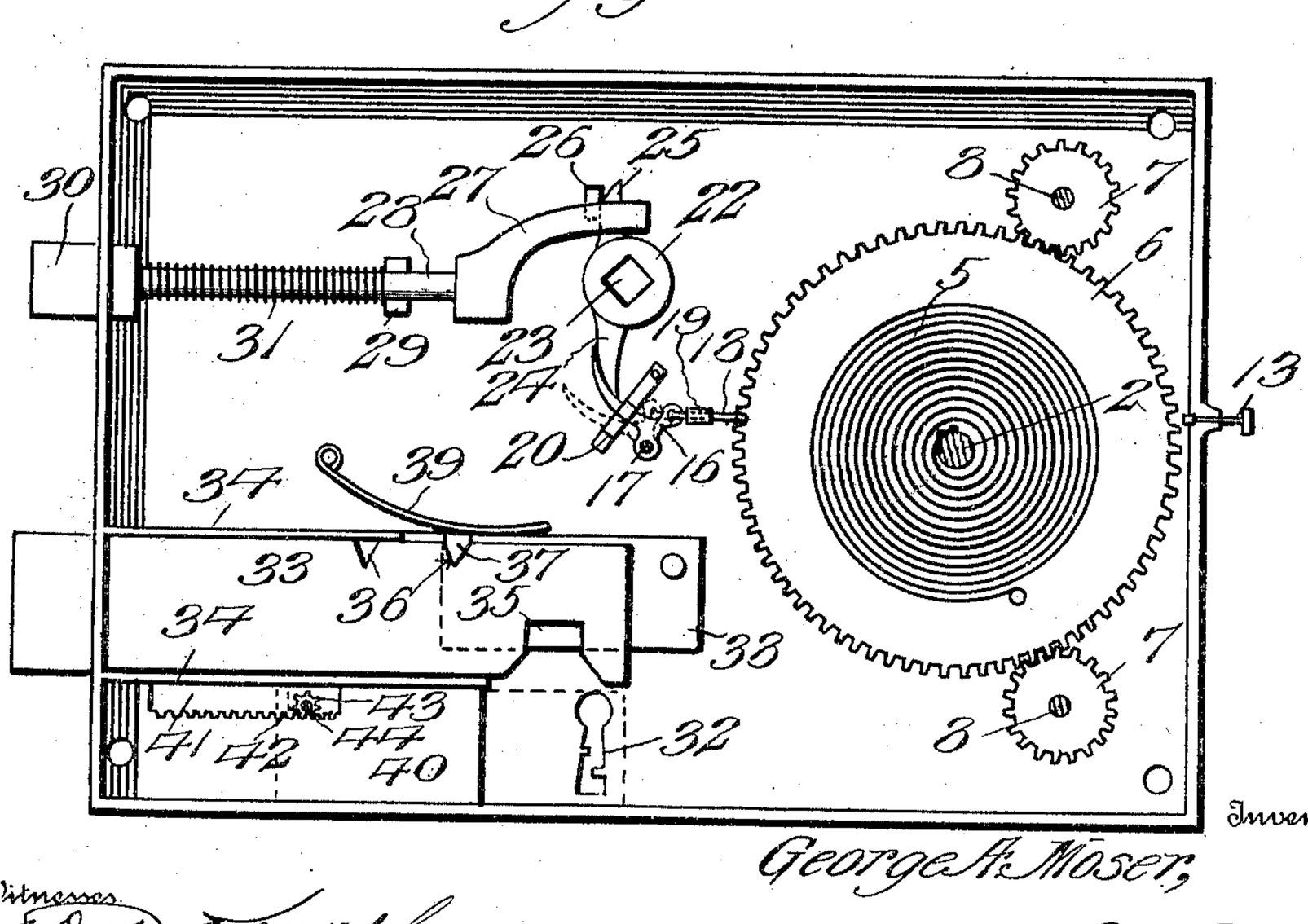


Fig. 3.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

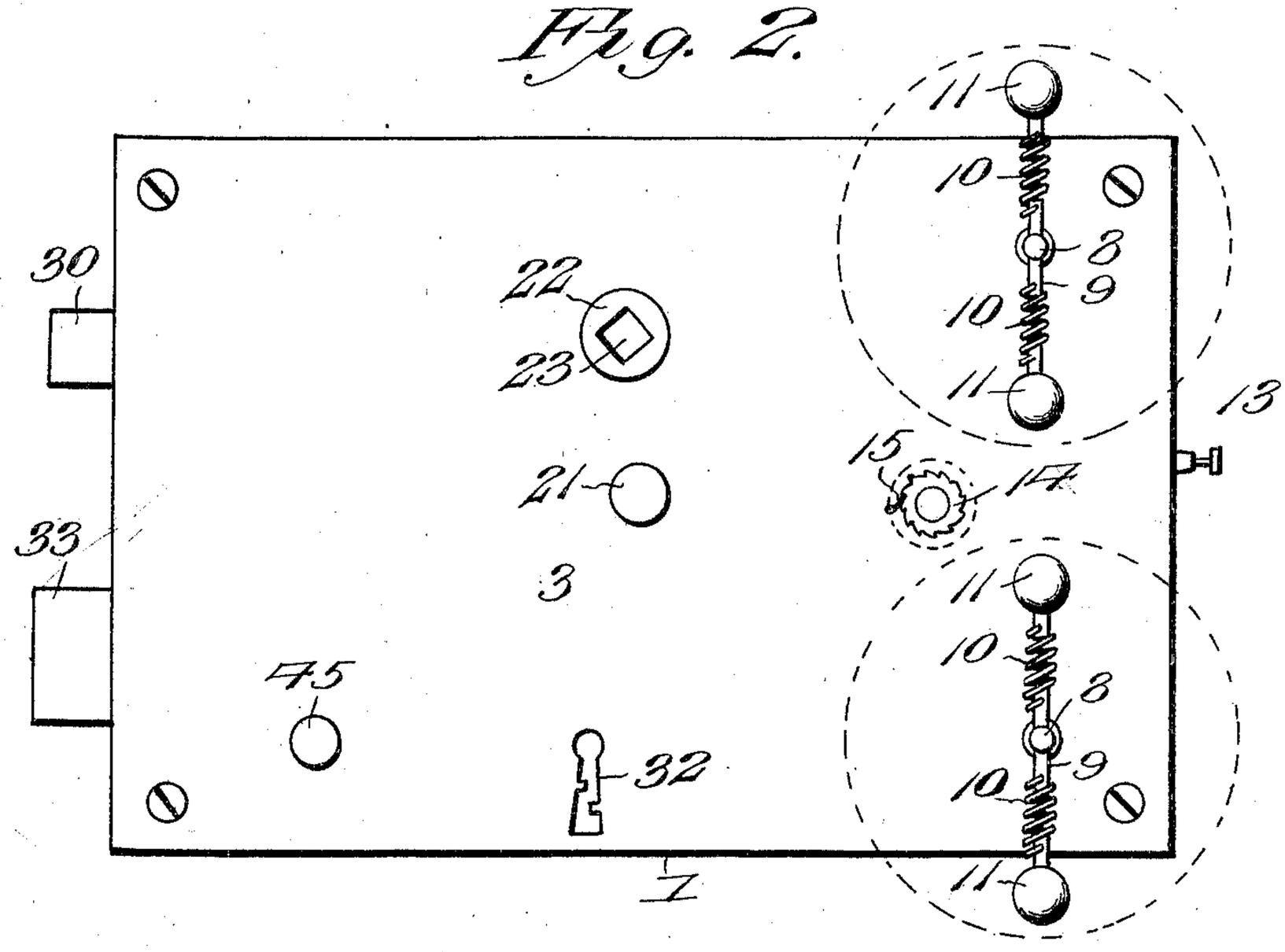


Fig. 4.

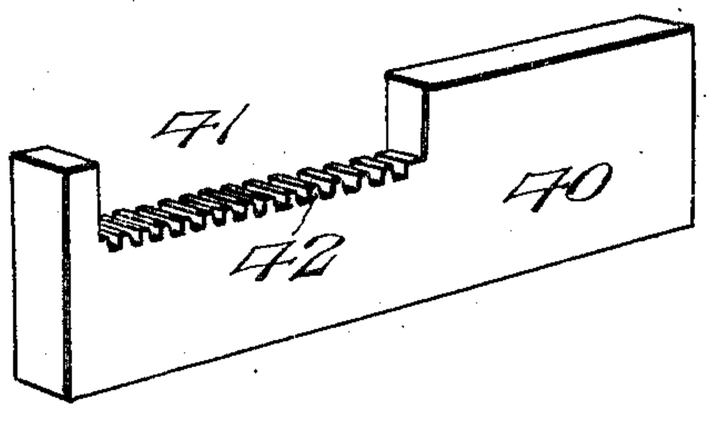
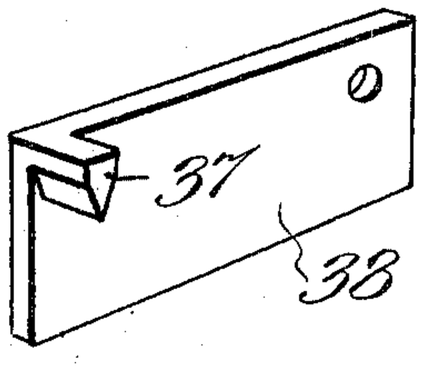


Fig. 5.



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No. 776,341. Patented November 29, 1904.

UNITED STATES PATENT OFFICE.

GEORGE A. MOSER, OF WESTGROVE, PENNSYLVANIA.

ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 776,341, dated November 29, 1904.

Application filed January 16, 1904. Serial No. 189,372. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. MOSER, a citizen of the United States, residing at Westgrove, in the county of Chester and State of Pennsylvania, have invented new and useful Improvements in Locks, of which the following is a specification.

My invention relates to new and useful improvements in alarm-locks; and its object is to provide a device of this character having a bell connected thereto and which is adapted to be automatically sounded when the knob connected to the lock is rotated.

A further object is to provide a device by means of which the alarm can be prevented from operating when desired.

With the above and other objects in view the invention consists of an arrangement of gears for transmitting motion from a coiled spring to rotary clappers arranged within the bell; and the invention also consists of mechanism which is interposed between the gears and the latch of the lock whereby when the latch is retracted the gears are released and set in operation by the coils of the spring.

The invention also consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is an elevation of the inner face of the lock. Fig. 2 is a similar view with the bells and the knob of the spring-winding mechanism removed. Fig. 3 is a similar view with the face-plate of the lock-casing removed. Fig. 4 is a perspective view of the slide for closing the keyhole. Fig. 5 is a similar view of the bolt-lock.

Referring to the figures by numerals of reference, 1 is the lock-casing, and arranged therein is a spindle 2, which projects through a detachable face-plate 3 and is provided at its outer end with a knob 4. Coiled about this spindle is a spring 5, the ends of which are fastened to the spindle and to a gear 6, respectively. This gear meshes with similar gears 7, arranged on rotating spindles 8, journaled within the casing 1 and its face-plate 3, and secured to the outer ends of these spindles 8 are laterally-extending arms 9, connected by springs 10 with clappers 11. Bells 12 extend over the clappers and are adapted to be sounded when said clappers are rotated with the gears 7. A pin 13 is slidably mounted within one end of the casing and is adapted to be moved into engagement with the gear 6, so as to prevent the rotation thereof subsequent to the winding of spring 5. A ratchet-wheel 14 is secured to the spindle 2 and is normally engaged by a pawl 15, whereby the spring 5 is prevented from coiling except when the gear 6 rotates. A bell-crank lever 16 is journaled upon a pin 17, extending through casing 1, and is connected at one end to a locking-pin 18, slidably mounted within a guide 19 and adapted to engage the gear 6. A notched spring-strip 20 bears upon the bell-crank lever 16, and by moving said lever under any one of the notches in said strip said lever will be automatically locked against movement except when sufficient pressure is exerted thereupon to force the notched strip away from the lever 16, so as to permit said lever to be turned. A knob 21 is secured to the pin 17, so as to permit the same to be readily turned. A sleeve 22 is revolubly mounted in casing 1 and has an angular passage 23 therein for the spindle of a door-knob. Arms 24 and 25 extend in opposite directions from this sleeve, and one of them contacts with one end of the bell-crank lever 16, while the other is adapted to be limited in its movement in one direction by a stop 26. This last-mentioned arm 25 projects through a plate 27, extending from the inner end of a rod 28, which is slidably mounted within a guide 29 and has a latch 30 secured to its outer end. This latch is held normally projected from one end of the casing 1 by a coiled spring 31, which bears at opposite ends on the guide 29 and the latch 30, respectively.

Arranged adjacent to the keyholes 32 is a sliding bolt 33, mounted between suitable guides 34 provided therefor, and the lower edge of this bolt has a recess 35 for the reception of a key. Notches 36 are formed in the upper edge of the bolt, and one of these is adapted to receive a projection 37, formed at one side of a locking-plate 38, pivoted at one side and in rear of the bolt 33. The lower

edge of this locking-plate projects across the recess 35, so that when a key is rotated for retracting or projecting a bolt the plate 38 will be raised so as to disengage the projection 37 from bolt 33. The projection is held normally in contact with the bolt by a spring 39 bearing thereon. Slidably mounted within the casing and adjacent the bolt 33 is a plate 40, having a recess 41, in one edge along the inner face of which are arranged teeth 42. These teeth are engaged by a gear 43, which is secured to a spindle 44, extending through the casing and having a knob 45 at its outer end. By rotating the knob the gear 43 will impart longitudinal movement to the plate 40 and bring it into position across the keyhole 32, and thereby prevent the insertion of keys or tools thereinto.

In order to arrange the lock so as to sound the alarm when the knob is turned by unauthorized persons, the pin 13 is slid into engagement with the gear 6, and knob 4 is then rotated so as to wind the spring 5 on the spindle 2. The pawl 15 prevents the uncoiling of the spring subsequent to the winding operation. The knob 21 is then turned so as to swing the bell-crank lever 16 and force the pin 18 into engagement with gear 6. As long as the pin 13 is in engagement with the gear 6 the knob of the lock can be rotated without sounding the alarm; but when the pin 13 is disengaged from the gear the knob when turned will rotate the sleeve 22 and cause the arm 24 to swing the bell-crank lever 16 so as to retract the pin 18. The spring 5 will promptly rotate the gear 6, and the gears 7, meshing therewith, will be revolved and cause the clappers 11 to strike the bells 12.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the principle or sacrificing any of the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

Having thus described the invention, what is claimed as new is—

1. In a lock, the combination with the casing having a spring-operated gear therein, and an alarm adapted to be operated by the gear, of a pin rotatably mounted within the casing, a bell-crank lever thereon, a locking-pin connected to the lever and adapted to engage the gear, a latch, latch-operating mechanism for retracting the locking-pin from the gear and a retaining device operating upon the lever.

2. In a lock, the combination with a casing having a spring-operated gear therein; of a gear meshing therewith, resiliently-supported clappers rotatable with the last-mentioned gear, a bell upon the casing and inclosing the clappers, a bell-crank lever within the casing, a locking-pin connected thereto and adapted to engage one of the gears, a latch slidably mounted within the casing, a sleeve revolubly mounted within the casing, and oppositely-extending arms upon the sleeve contacting with and adapted to simultaneously operate the latch and bell-crank lever.

3. In a lock, the combination with a casing having a spring-operated gear therein; of a gear meshing therewith, clappers rotatable with the last-mentioned gear, a bell inclosing the clappers, a bell-crank lever pivoted within the casing, a knob connected thereto and rotatable therewith, a pin extending from the lever and adapted to engage one of the gears, a retaining device extending over and bearing upon the bell-crank lever, a latch extending from the casing, a sleeve rotatably mounted in the casing, and oppositely-extending arms contacting with and adapted to simultaneously operate the latch and lever.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. MOSER.

Witnesses:
CHARLES RAMSBURG,
DANIEL H. GREEN.