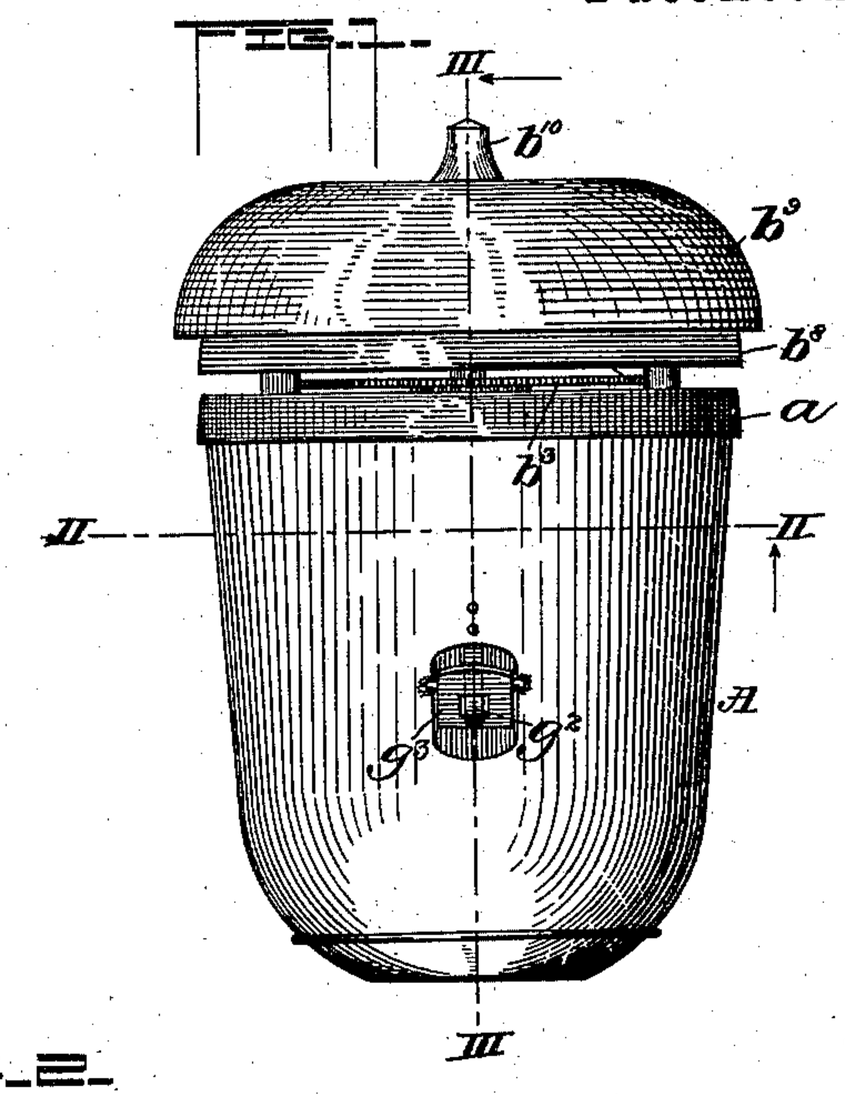
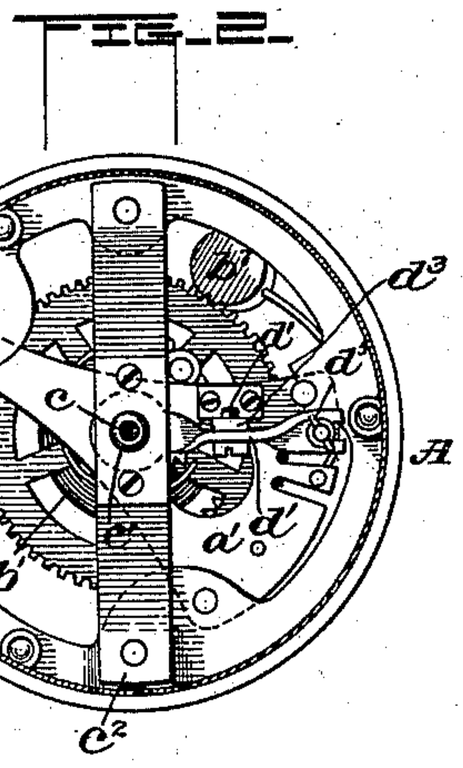
(No Model.)

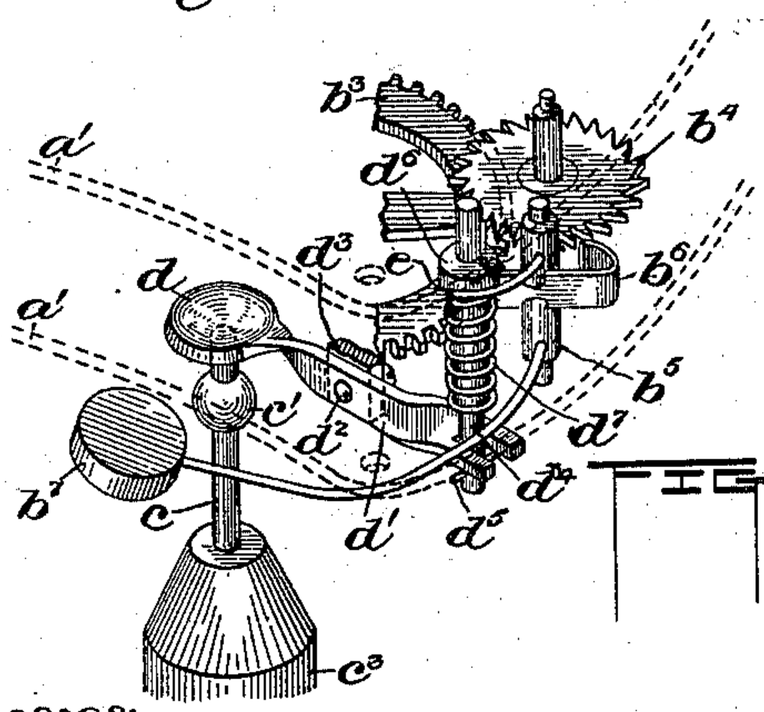
O. T. WELCH.

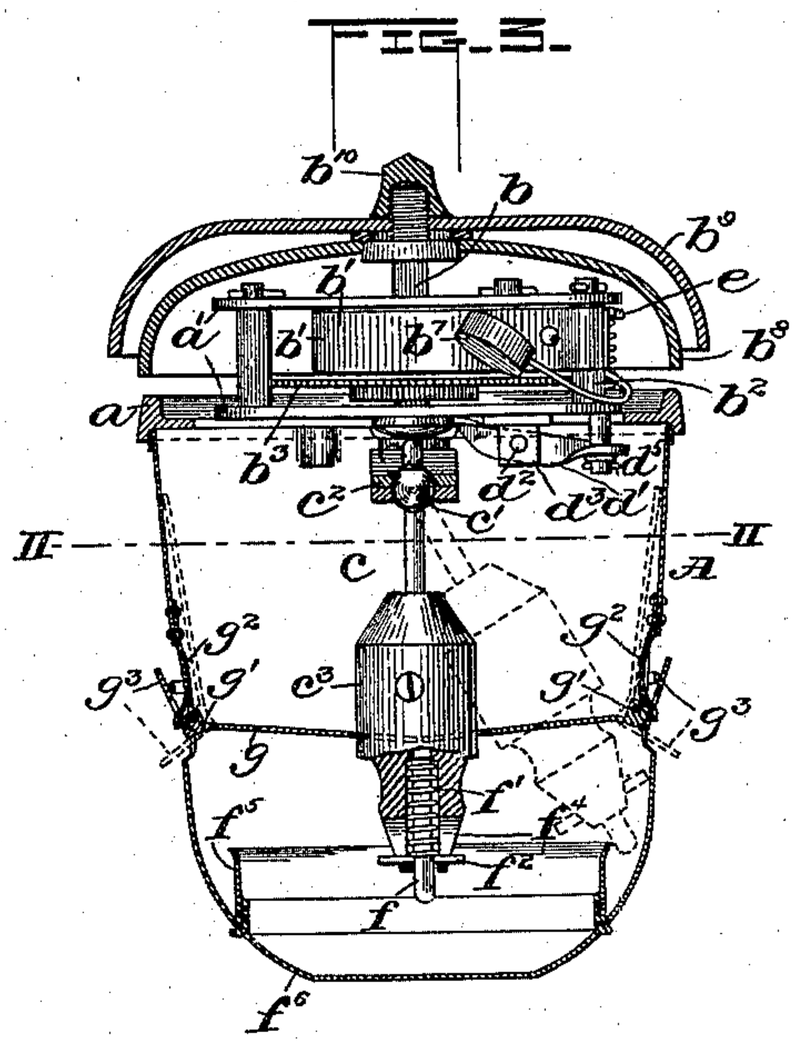
CAPSIZING BURGLAR ALARM.

No. 558,886. Patented Apr. 21, 1896.









Witnesses;
C. W. Smith
Charles E. Riordon.

Inventor
Orrin T. Welch
By Butterworth & Dowell
his Attys

UNITED STATES PATENT OFFICE.

ORRIN T. WELCH, OF TOPEKA, KANSAS.

CAPSIZING BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 558,886, dated April 21, 1896.

Application filed July 1, 1895. Serial No. 554,788. (No model.)

To all whom it may concern:

Be it known that I, ORRIN T. WELCH, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Burglar-Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to alarms, but more particularly to those employed for notifying the occupants of dwelling-houses of the presence of burglars or other trespassers.

The primary object of my invention is to provide an alarm which may be placed in any convenient position so that a burglar or other trespasser will tilt or overturn the same, and thereby operate suitable mechanism to cause the ringing of a bell, which will continue to make a noise until the mechanism has been properly reset.

Another object is to provide simple and effective mechanism which will readily permit the bell or alarm to be sounded when disturbed and which may be inclosed within a suitable casing, requiring the removal of a portion thereof before the mechanism can be returned to its normal position.

A further object of the invention is to provide means whereby the mechanism may be positively held to prevent the ringing of the bell or to retain the mechanism in such position that the bell will continue to ring till the spring is unwound.

With these and other objects in view the invention consists in the construction and combination of the several parts, substantially as hereinafter described, and then particularly defined in the claims at the end of the description.

Referring to the accompanying drawings, forming a part of this specification, Figure 1 is an elevation of the alarm in its normal position. Fig. 2 is a sectional plan view taken on the line II II of Figs. 1 and 3, looking in the direction of the arrow. Fig. 3 is a vertical sectional view, partly in elevation, taken on the line III III of Fig. 1; and Fig. 4 is a fragmentary perspective view of the alarm releasing and stopping mechanism.

In the drawings, A may designate a suitable casing having, preferably, an annulus or ring a secured to its upper portion, on which is arranged the frame a' for holding the alarm or bell-ringing mechanism. This mechanism may be of the usual or any preferred construction, having the stem or shaft b, to which is secured one end of the spring b', the other end being secured to the stud b^2 of the frame a', the said spring being prevented from unwinding without sounding an alarm by the usual ratchet-wheel and pawl, which are secured to the stem b and the gear-wheel b^3, respectively, the gear-wheel b^3 being in mesh with a pinion which operates the escapement-wheel b^4. At b^5 is an anchor-post carrying the anchor b^6, the pallets or ends of which engage the teeth of the wheel b^4, and has arranged near its lower end a rod provided with a hammer b^7, which vibrates with the movement of the anchor b^6 in the usual and well-known manner.

The stem or shaft b may have rigidly secured to its outer end the alarm-bell b^8, above which and separated therefrom by a washer or otherwise is a guard b^9, secured to the stem b by a screw-thread and a nut b^{10} or in any other suitable manner. The guard b^9 may be solid, as shown, or may have portions thereof removed to form an open framework, and serves as a ready means by which the spring may be wound and to permit the bell to properly respond by preventing said bell from coming in contact with any object either while handling or when the alarm is tilted.

For automatically releasing the escapement, so as to ring the bell when the alarm is tilted, I preferably provide a weighted lever or pendulum c, provided with a ball c' near its upper end, arranged in a socket or bearing in a bracket or suitable support c^2, secured to the ring a or to the casing or alarm-mechanism frame a', the said ball-and-socket joint of the weighted lever serving to permit the lever to swing in any direction. The lever or pendulum c has a weight c^3 secured to its lower end, and may have its upper end slightly rounded and adapted to contact with the inner end d of an arm d', which is pivoted at d^2 to a bracket or support d^3. The arm d' may have the lower surface of its inner end rounded

and its outer end bifurcated, so as to embrace the lower end of a vertically-slidable rod d^4, and may be prevented from being disengaged therefrom by a pin d^5, secured to the lower end of said rod. This rod has its ends slidingly held in apertures in the frame a' and is provided with a disk or collar d^6 near its upper end, which is rigidly secured to said rod or formed integrally therewith, as desired. The collar d^6 is normally pressed upward by a spring d^7, arranged between the lower plate of the frame a' and the collar d^6 of the rod d^4, the said collar being adapted to contact with a lever or detent e, projecting outward from the anchor-post b^5, when the rod d^3 is forced downward by the arm d', as shown in the drawings, to prevent vibratory movement of the anchor b^6 and to release said anchor when the spring d^7 raises the collar out of the path of movement of the lever e.

The weighted lever or pendulum c has its weight c^3 provided with a recess in its lower end, in which is slidingly held a rod or stem f, having a spring f', which surrounds said stem and normally presses the same downward. The stem f is guided in the weight c^3 by a pin f^2, which pin is secured to said stem and is arranged so as to work or slide in a slot f^4 in the weight, the said stem being adapted to engage the upper edge of a flange f^5, which latter is preferably circular and may form a portion of the casing A when the pendulum is forced to one side, as shown in dotted lines in Fig. 3, or when the alarm is tilted sufficiently the same result will be produced, owing to the pendulum tending to constantly assume a vertical position. In the position shown in dotted lines the arm d' will be released, thereby permitting the alarm mechanism to ring the bell, which ringing will continue until the pendulum is again brought to its normal position, as indicated in full lines in the drawings, which, in this case, can only be accomplished by removing the bottom f^6 of the casing A and raising the stem f above the edge of the flange f^5 of said casing. The bottom f^6 may be secured to the casing in any preferred manner; but I preferably provide the same with a screw-threaded portion which engages screw-threads in the casing, as this will consume a little time to remove said bottom, thereby permitting the alarm to be well sounded before the mechanism can be reset.

When it is desired to place the alarm away during the day and when not in use, it is preferable to provide some means for holding the pendulum in a fixed position, so that the alarm may be prevented from being accidentally sounded. For this purpose two fingers or fasteners g are preferably provided, which are pivoted to opposite sides of the casing A and have their ends adapted to engage and partly surround the weight c^3, as shown in Fig. 3. These fingers may be provided with eccentrically-pivoted polygonal portions g', against which the ends of springs g^2 contact to hold the said fingers either in a raised position, as shown in dotted lines, or in the position shown in full lines, though it is obvious that any other means may be employed for holding the fingers in either of said positions, if found desirable. Projecting through the casing from the portions g' are the handles g^3, adapted to contact with said casing when the fingers g are either raised or lowered, and which serve as a convenient means to raise or lower said fingers to release or hold the pendulum in a fixed position. The upper portion of the weight c^3 is preferably tapered, so that the ends of the fingers will readily pass over the body portion of the weight when said fingers are lowered.

The operation and manner of using the alarm will be readily understood from the foregoing description.

The fingers g of the alarm being raised, as shown in dotted lines in Fig. 3, and the device placed in a convenient position, so as to be readily tilted or overturned, it will be seen in the position shown, which is the normal position, that the upper end of the pendulum c engages the inner end of the arm d' and forces the rod d^4 downward against the tension of the spring d^7, causing the collar d^6 of said rod to engage the lever b^5 of the anchor b^6, thereby preventing the operation of the alarm or bell-ringing mechanism. As soon as the casing is tilted or overturned the pendulum will cant to one side until the stem f rides over the upper edge of the flange f^5, in which position it will be held by the spring f', which normally presses the stem downward, as shown in dotted lines. This movement of the pendulum releases the arm d' and permits the spring d^7 to force the rod d^4 upward, thereby carrying the collar d^6 out of the path of movement of the lever e of the anchor b^6, so as to permit the operation of the alarm mechanism, and consequently the ringing of the bell. The bell will continue to ring until the spring is unwound or the bottom of the casing f^6 is removed, when the pendulum may be again brought to the position shown in full lines and the fingers thrown down, as shown, to hold the pendulum stationary. The alarm may now be set aside, or it may be rewound by holding the casing in one hand and turning the guard b^9 with the other until the spring b' is fully wound, when it may be again placed in position for use, if desired.

I preferably make the casing oval or egg-shaped, so that it may be readily tilted, though, if found desirable, it may be made in any other preferred form. The position of the bell and the construction of the alarm mechanism may be changed, or the vertically-slidable rod may engage the bell-ringing mechanism in any other suitable manner than that shown. The arm d' may be made to work the vertically-slidable rod d^4 both ways—as, for instance, a spring may be arranged to tilt said arm in one direction, while the pendulum tilts the rods in the other.

Other changes of substantially the same character may be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the character described, the combination with a casing and mechanism for ringing an alarm, of a pendulum provided with a ball-and-socket connection with the casing, mechanism operated by the pendulum for releasing and stopping the alarm mechanism, together with means carried by the pendulum adapted to engage a portion of the casing so as to retain the pendulum in a tilted position, substantially as described.

2. In an alarm, the combination with a casing provided with an upwardly-extending flange at the lower portion thereof, of mechanism for ringing a bell, a pendulum adapted to swing to the side of the casing, mechanism operated by the pendulum for releasing and stopping the bell-ringing mechanism, together with a spring-pressed stem carried by said pendulum adapted to engage the upper edge of the flange of said casing so as to hold the pendulum to one side thereof, substantially as described.

3. In an alarm, the combination with a portable tilting casing and suitable mechanism arranged therein for ringing a bell, of a slidable rod held normally in engagement with a portion of said mechanism to prevent movement thereof, an arm pivoted within the casing and engaging the rod, means located within the casing for automatically operating said arm to release said bell-ringing mechanism when the casing is tilted, together with means for returning said slidable rod to its normal position, substantially as described.

4. In an alarm, the combination with a casing and mechanism for ringing a bell, of a pendulum adapted to swing to the side of the casing, and mechanism operated by the pendulum for releasing and stopping said bell-ringing mechanism; said casing being provided with a removable bottom for inclosing the bell releasing and stopping mechanism and to prevent the alarm from being stopped until said bottom is removed, substantially as described.

5. In an alarm, the combination with a casing and a bell arranged on said casing, of a stem, a spring having one of its ends secured to said stem, mechanism operated by the spring for ringing said bell, a guard for the bell secured to the stem and adapted to serve as a means for winding said spring, and a pendulum arranged within the casing for automatically releasing the bell-ringing mechanism when said casing is tilted; said casing being provided with a removable bottom for inclosing the bell releasing and stopping mechanism and to prevent the alarm from being stopped until said bottom is removed, substantially as described.

6. In an alarm, the combination with mechanism for ringing a bell, of a vertically-slidable rod adapted to engage a portion of said mechanism to prevent movement thereof, an arm having one end engaging said rod, a pendulum having one of its ends adapted to contact with the arm to lower the rod, together with a spring for raising said rod so as to release the bell-ringing mechanism, substantially as described.

7. In an alarm, the combination with a casing and mechanism for ringing a bell, of a pendulum adapted to swing to the side of the casing, mechanism operated by the pendulum for releasing and stopping the bell-ringing mechanism, together with fingers pivoted to the side of the casing adapted to hold the pendulum in a predetermined position, substantially as described.

8. In an alarm, the combination with a casing having substantially the form of an oval or egg, of a bell arranged on said casing, mechanism for ringing said bell, a pendulum adapted to swing to the side of the casing, mechanism operated by the pendulum adapted to stop or release the bell-ringing mechanism, means carried by said pendulum adapted to engage a portion of the casing to hold the pendulum to one side thereof, together with a removable bottom on said casing to permit the pendulum to be released, substantially as described.

9. In an alarm, the combination with a casing and a bell arranged on said casing, of an escapement-wheel, mechanism for operating said wheel, an anchor engaging the escapement-wheel, a lever projecting outwardly from the anchor, a vertically-slidable rod adapted to engage said lever, an arm pivoted to the casing and having one of its ends engaging said slidable rod, together with a pendulum arranged to swing to one side of the casing and having one of its ends adapted to contact with the inner end of the pivoted arm, substantially as described.

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

ORRIN T. WELCH.

Witnesses:
FRED. F. MATTHAEI,
MAUD WELCH.