

A. LINDSTROM.
BURGLAR ALARM.
APPLICATION FILED OCT. 24, 1911.

1,059,547.

Patented Apr. 22, 1913.

2 SHEETS-SHEET 1.

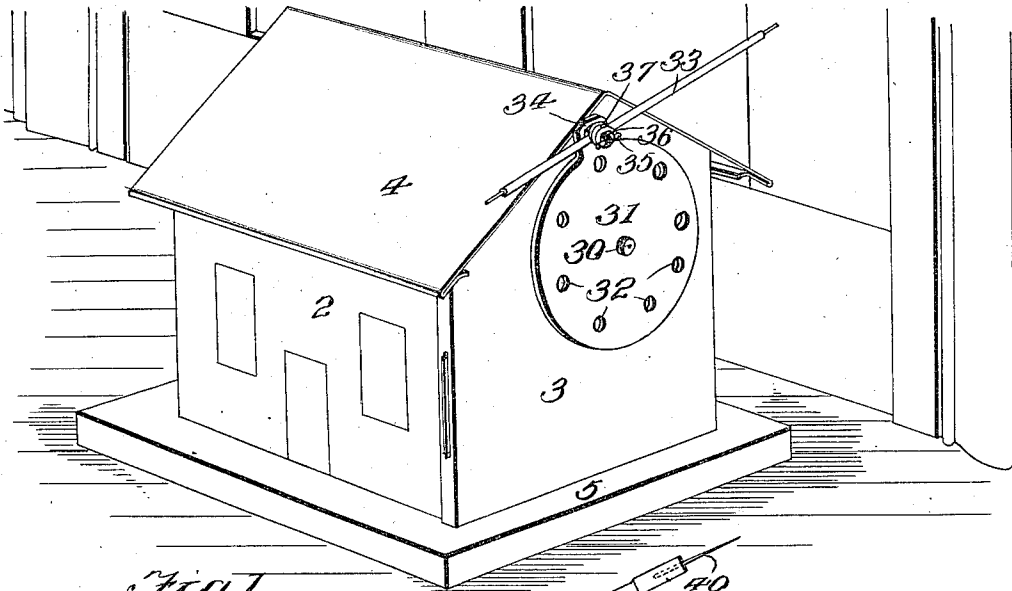


Fig. 1.

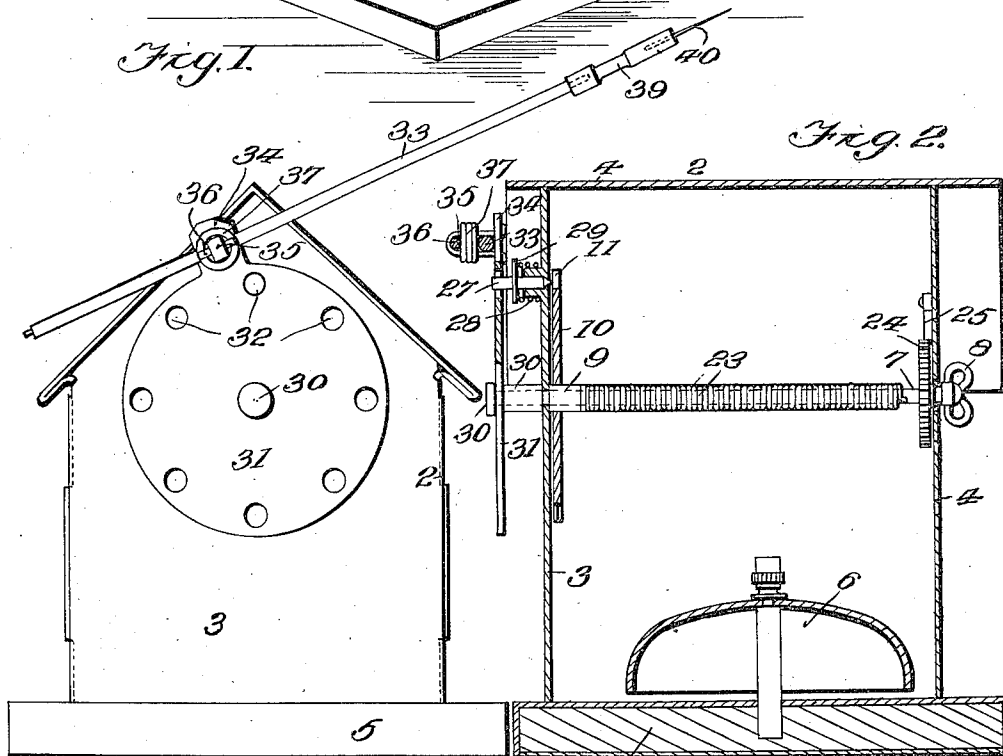


Fig. 2.

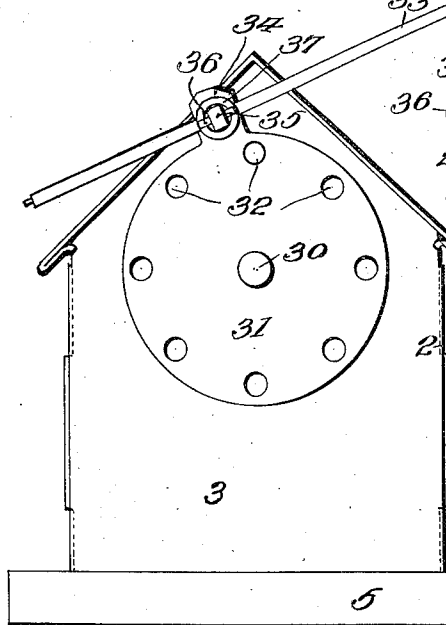


Fig. 3.

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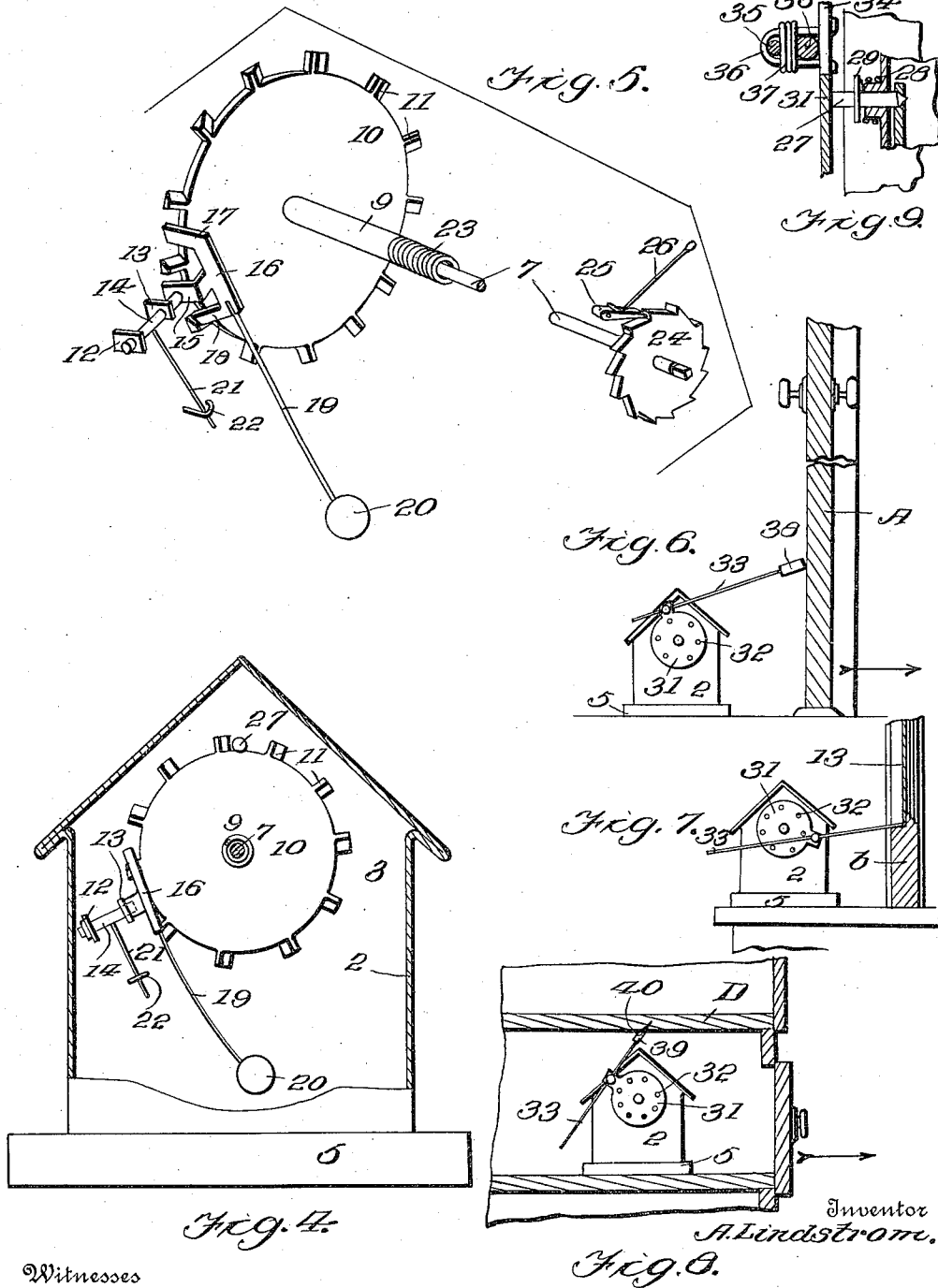
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UNITED STATES PATENT OFFICE.

ANDREW LINDSTROM, OF SAN FRANCISCO, CALIFORNIA.

BURGLAR-ALARM.

1,059,547.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDREW LINDSTROM, citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Burglar-Alarms, of which the following is a specification.

My invention relates to alarms, and particularly to burglar alarms of that type in which a gong is sounded upon the actuation of the alarm by the unauthorized movement of the element to which the alarm is applied.

One object of my invention is the provision of a very simple, cheap and effective alarm adapted to be used under a large variety of different circumstances.

A further object is to provide an alarm having an adjustable actuating arm, capable of being turned and shifted to any desired position, and engaged with a window, door, drawer or other element, upon whose movement the alarm is to be sounded.

Another object is to provide an alarm which will sound upon the movement of the element to which it is connected, and which will continue to sound even though the element is no longer shifted.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings in which:

Figure 1 is a perspective view of my device as used in connection with a door opening toward the alarm; Fig. 2 is a longitudinal vertical section through the casing; Fig. 3 is a face view of the casing and detent releasing disk; Fig. 4 is a vertical section on the line 4-4 of Fig. 2, looking toward the face plate of the casing; Fig. 5 is a fragmentary perspective view of the clapper actuating wheel and the clapper; Fig. 6 is a view showing the application of my device to a door opening outward; Fig. 7 is a view showing the application of my alarm to a window; and Fig. 8 is a like view showing the application of the alarm to a drawer. Fig. 9 is a detailed sectional view on the same line as Fig. 2 but showing the detaining pin in the position it occupies when in register with one of the perforations 32.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

It will be seen by reference to the figures, that the principal mechanism of my alarm is contained within a casing 2 which is shown as rectangular in form, though not necessarily limited to this form, and which includes the front plate 3, the rear plate 4 and the base 5 which is preferably weighted in any suitable manner. Disposed within the casing and preferably mounted upon the base 5 is an alarm bell 6 of any suitable character.

Passing longitudinally through the casing and rotatably mounted in the front and rear plates is a shaft 7 provided at one end exterior to the casing with a winding head 8. Mounted upon the forward end of the shaft adjacent to the front plate 3 is a freely rotatable sleeve 9, carrying upon it the disk or wheel 10 formed with projecting teeth 11. These teeth extend radially from the disk or wheel 10 and each tooth is beveled upon its upper face for a purpose to be later stated.

Mounted upon brackets or supports 12 and 13 projecting from the inner face of the front plate is a shaft 14, carrying upon one end adjacent to the wheel 10 a projecting arm 15. Formed with this arm is the U-shaped member 16 having the depending legs 17 and 18, one of which is always in the path of movement of the teeth 11. This arm 15 oscillates back and forth so that when the leg 17 is raised out of the path of movement of the teeth 11, the leg 18 will be correspondingly depressed and vice versa. The lower ends of both the legs 17 and 18 are beveled as shown in Fig. 5, so that as the beveled faces of the teeth come in contact with the beveled faces of the legs, the U-shaped member 16 will be rocked and the shaft 14 oscillated. Carried upon the U-shaped member 16 is the outwardly projecting arm 19 upon the extremity of which is mounted the clapper 20. In order to hold the shaft 14 yieldingly in an initial position and return it to this position upon each release of the rocker 16, I provide the outwardly extending spring 21 attached to the shaft 14, the free end of the spring engaging with the face plate 3. The spring is prevented from any lateral deflection by the arched guide 22.

Surrounding the shaft 6 is a spring 23. This spring is coiled around the shaft and connected at one end to a ratchet wheel 24 fast on the shaft, and at its other end connected to the sleeve 9. Coacting with the

ratchet wheel is a pawl 25 held in engagement with the teeth of the ratchet wheel by means of a spring 26.

Mounted upon the front plate 3 is a detent 27 having the form of a pin, this pin passing through a hole in the front plate 3. The pin plays through the hole in the front plate and is adapted to be forced inward into the path of movement of the teeth 11, or to be shifted outward out of said path of movement. For the purpose of holding it out of said path of movement, I provide a coiled spring 28 surrounding the pin and bearing against a shoulder 29 on the pin. This spring 28 acts to force the pin outward so that normally the inner end of the spring is out of said path of movement of the teeth 11.

Mounted upon the end of the shaft 6 is a cap 30 which is freely rotatable upon the shaft and which carries a disk 31 having a plurality of spaced perforations 32 on its margin. As the disk rotates, these perforations 32 are adapted to register with the pin 27, and when one of the perforations does so register, the spring 28 will act to force the pin outward and into the perforation as in Fig. 2. The disk 31 is provided with an arm 33 or rod which is pivotally mounted upon the disk and is also shiftably mounted with relation thereto and is intended to engage the door, window or other object, with relation to which the alarm is set. Preferably, as illustrated in Fig. 2, the disk 31 is formed with a perforated lug 34, through which passes a U-shaped clip 35, the inner ends of which are turned inward against the inner face of the disk 31. The rod 33 passes across the face of the disk and through this clip 35. Also passing through the clip is a pin 36, and disposed between the pin 36 and the rod 33, and surrounding the clip 35, is a coiled spring 37 which bears against the face of the rod 33 and frictionally engages it so as to impede any longitudinal movement of the rod. The clip 35 is rotatable within the perforation in lug 34 and thus the arm or rod 33 may be either shifted longitudinally or rotated with relation to the disk.

While I may form the rod 33 in any suitable manner, I preferably reduce it at its ends so that a weight 38 may be applied to one end of the rod when necessary, and a tip 39 may be applied to the other end of the rod. This tip is preferably of rubber and is provided at its extremity with a sharp pointed pin 40 adapted to be forced into the material of the door, window, etc., to which the device is applied.

The operation of my device is as follows. In order to set the alarm, the pin 27 is forced inward so that its inner end is disposed between two of the teeth 11 on the wheel or disk 10. The pin is held in this

position by turning the disk 31 so that the face of the wheel bears against the pin and holds it forced in against the force of the spring 28. In that position, the disk or wheel 10 is locked from movement. The winding shaft is then actuated by means of the head 8, and the spring 23 is wound up to any degree required. The arm or rod 33 is now engaged with the member to which the alarm is to be applied. When this member is moved, it will act to rotate the disk 31 so as to bring one of the perforations 32 into alinement with the pin 27, whereupon the spring 28 will cause the detent pin 27 to spring outward and free itself from the disk 10. As soon as the disk 10 is freed, the spring 23 will act to rotate the disk, and the teeth on the disk 10 engaging the rocker 16 will cause an oscillation of the clapper and a consequent sounding of the alarm.

My improved alarm may be applied in a number of different ways and used in connection with a number of different objects. I have shown it in Fig. 6 as used in connection with a door, the door opening in the direction of the arrow. In this case, the weight 38 is mounted upon one end of the rod 33 and the rod is rested against the door. If the door be opened, the weight will drop, causing a rotation of the disk 31 and the consequent sounding of the alarm as before described.

In Fig. 7 I have shown the device as applied to a window. In this case, B designates the window, and the arm 33 rests upon the lower sash rail *b*. When the sash is raised, the arm will be raised, rotating the disk 31 and the alarm will be sounded.

An example of how the device may be used for sounding the alarm upon the opening of a drawer is illustrated in Fig. 8. In this case, C indicates a drawer and D the bottom of the drawer immediately above the first named drawer. The alarm is placed within the first named drawer C and the arm 33 directed upward. In this case, the tip 39 is used and the point so disposed as to enter the wood bottom of the drawer above. It will be seen that this tip will yield somewhat and will act to resiliently force the pin upward. Now when the drawer C is pulled open, the pin 40 engaging the drawer D, the rod 33 will be turned, carrying with it the disk and the alarm will be sounded.

It will be understood that these are merely illustrative examples of the manner in which my device may be used, as the manner of its use will, of course, depend upon the circumstances of any particular case. One of the main advantages of my invention resides in the fact that it is adapted for use under a large number of different circumstances. The alarm is simple, portable, has no complicated mechanism to get out of

order. It is positive in its action and as before remarked, will continue to sound the alarm as long as the spring retains enough tension to cause the rotation of the clapper actuating wheel.

What I claim is:

1. An alarm including in its organization a bell, a clapper coacting with the bell, a spring actuated shaft, a rotatable member mounted on the shaft and having radially projecting teeth engageable with the clapper mechanism to oscillate the same, a detent shiftable into position to engage the rotatable member to prevent its actuation, a spring normally holding the detent disengaged from the rotatable member, and a disk engaging the detent to hold it in engagement with the rotatable member but having perforations adapted to register with the detent and thereby permit its disengagement from the rotatable member.

2. An alarm including in its organization a bell, a pivoted clapper, a winding shaft, a spring mounted on the winding shaft, a wheel having radially projecting teeth engaging with the clapper to oscillate the latter, said wheel being connected to the spring, a detent adapted to be shifted into position to impede the rotation of said wheel, a spring yieldingly forcing the detent out of such engaging position, a disk adapted to engage the detent to hold it in such engaging position but having perforations alining with the detent whereby to permit the detent to be forced outward by its spring, and an adjustable arm carried by said disk.

3. An alarm including in its organization a bell, a pivoted clapper having a U-shaped rocker arm connected thereto, a shaft, a wheel mounted on the shaft but freely rotatable with relation thereto, a spring on the shaft engaging the said wheel to operate it, radially disposed teeth on the wheel engaging the said rocker arm, a ratchet wheel on the shaft, a pawl coacting therewith, a detent shiftable into position to prevent a rotation of the wheel, yielding means for holding the detent out of such position, a disk

acting to hold the detent in its engaging position, said disk being provided with a plurality of spaced perforations registerable with said detent, and an arm rotatably mounted upon the disk and longitudinally shiftable with relation thereto.

4. An alarm including in its organization a bell, a clapper, clapper actuating mechanism, a detent pin shiftable into position to prevent the actuation of said mechanism, a spring for holding the detent out of such position, a disk forcing the detent into such position but having an opening registerable with the detent to permit the detent to be disengaged from the clapper mechanism, a rotatable clamp mounted upon the margin of the disk, a longitudinally shiftable rod passing through said clamp, and a spring on the clamp frictionally engaging the rod.

5. An alarm of the character described, comprising a casing, an alarm bell disposed within the casing, a pivoted clapper within the casing coacting with the bell, a winding shaft passing through the casing, a winding head at one end of the shaft, a toothed wheel mounted on the shaft and freely rotatable with relation thereto, the teeth of said wheel engaging the clapper to oscillate the same, a spring on the shaft connected at one end to said wheel, a pawl and ratchet for holding the shaft in any rotated position against the action of the spring, a detent pin mounted on the front of the casing and projecting through the same, and projectable in the path of movement of the teeth on said wheel, a spring acting to force the pin outward, a wheel rotatably mounted upon the end of the shaft exterior to the front of the casing, said wheel having perforations registerable with the detent pin, a rotatable clamp mounted on the wheel, and a rod extending through the clamp.

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

ANDREW LINDSTROM. [L. S.]

Witnesses:

JOHN P. JANSSEN,
GROVER F. GALVAN.