W. L. SANDERS & N. MORRIS.

BURGLAR ALARM.

APPLICATION FILED SEPT. 3, 1912.

1,066,952. Patented July 8, 1913.

Fig. 1.

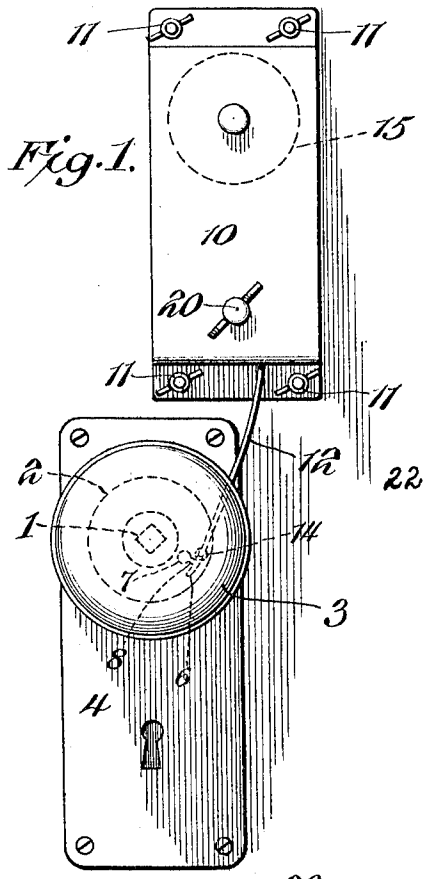


Fig. 2.

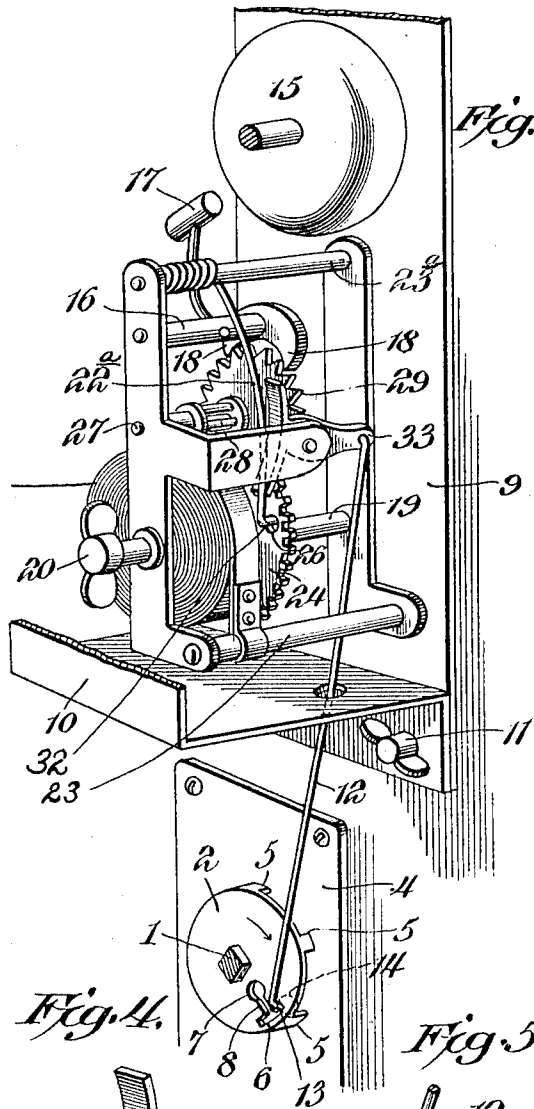


Fig. 3.

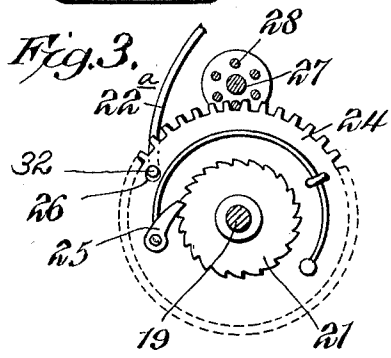
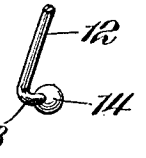
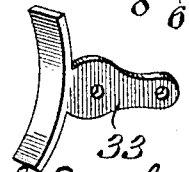


Fig. 4.

Fig. 5.





WITNESSES.

E. J. Sheehy.

R. E. Healy

Wm. L. Sanders.

Nathan Morris,

INVENTORS.

BY James J. Sheehy & Co.,

ATTYS.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM L. SANDERS AND NATHAN MORRIS, OF VANCOUVER, WASHINGTON.

BURGLAR-ALARM.

1,066,952. Specification of Letters Patent. Patented July 8, 1913.

Application filed September 3, 1912. Serial No. 718,352.

To all whom it may concern:

Be it known that we, WILLIAM L. SANDERS and NATHAN MORRIS, citizens of the United States, residing at Vancouver, in the county of Clarke and State of Washington, have invented new and useful Improvements in Burglar-Alarms, of which the following is a specification.

Our present invention pertains to burglar alarms, and consists in the alarm, hereinafter described and definitely claimed, designed to be used upon a door and constructed with a view to sounding an alarm in the event of a burglar or other unauthorized person manipulating the door knob in an attempt to open the door.

The invention in all of its details will be fully understood from the following description and claim when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is an elevation illustrating the application of our novel alarm. Fig. 2 is an enlarged perspective of the same with parts broken away. Figs. 3, 4 and 5 are views of details.

Similar reference numerals designate corresponding parts in all of the views of the drawings.

In furtherance of our invention we arrange on the knob spindle 1 a rotary plate 2, which is adapted to be turned with the spindle and is interposed between one knob 3, preferably the inside knob, and the adjacent escutcheon 4. The said rotary plate is provided with one or more marginal flanges 5 whereby its major portion is spaced from the escutcheon, and is also provided with the peculiar shaped opening illustrated. The said opening comprises a slot 6, an opening 7, of circular form, disposed at one side of and spaced from the slot 6, and a contracted portion 8 interposed between and connecting the circular portion 7 and the slot 6, all for an important purpose hereinafter set forth. Also in furtherance of our invention we provide on the door, and preferably on the inner side thereof, a casing that comprises a base plate 9, and a cover plate 10. The cover plate of said casing is suitably connected in a permanent manner to the base plate, and the base plate is extended at its ends and is preferably, though not necessarily, connected to the door in a detachable manner through the medium of thumb-screws 11 or other suitable means. The cover plate of the casing referred to may be and preferably is embellished so as to enhance rather than detract from the finished appearance of the door.

Our invention contemplates the removal of the casing from the door during the daytime or at other times when it is not desired to use the alarm, and toward such end the controlling rod 12 intermediate the rotary plate 2 and the mechanism in the casing is detachably connected to the rotary plate 2; the connection being effected by providing the rod 12 with an angularly disposed arm 13 on the end of which is a ball 14. In making the connection the said ball 14 is passed inward through the circular portion 7 of the opening in the major portion of the plate 2, after which the angularly disposed arm 13 is worked through the contracted portion 8 and into the slot 6, whereupon the connection will be complete and ready for use. To interrupt the connection the operation described is reversed, and hence it will be manifest that when the casing is removed from the door the controlling rod 12 may as readily be disconnected from the rotary plate 2.

Suitably mounted in the casing and between the base plate and the cover plate thereof, are the following elements, viz: a gong 15, an arbor 16, disposed below the gong and equipped with a hammer 17 and also with pallets 18, a shaft 19 disposed under the arbor and provided with an exterior finger-piece 20, whereby it may be rotated about its axis, a ratchet wheel 21 fixed on said shaft, a spring 22 connected to a cross-bar 23 at one end and connected at its opposite end with a toothed wheel 24 that loosely surrounds the shaft 19 and has a spring pawl 25 arranged to coöperate with the ratchet wheel 21 in conventional manner, and also has a transverse aperture 26, and a transverse shaft 27 having a pinion 28 intermeshed with the toothed wheel 24, and also having a toothed wheel 29 arranged to coöperate with and actuate the pallets 18, and through the medium of the said pallets 18 to rapidly oscillate the arbor 16 about its axis. In addition to the elements named, there is provided between the base plate and the cover plate of the casing a cross-rod 23ª, and to the said cross-

rod and the casing is fixed a depending resilient detent 22^a which is provided at its lower end with an angularly disposed portion 32, designed and adapted to enter the aperture 26 in the toothed wheel 24 when said aperture assumes a position in transverse alinement with it.

We also provide between the base plate and the cover plate of the casing a lever 33 which is fulcrumed at an intermediate point of its length and has one of its ends connected to the upper end of the controlling rod 12. On its other arm the lever 33 is provided with a depending portion positioned to engage the detent 22^a and press the same in a direction away from the toothed wheel 24, when the first-named arm of the lever is drawn downward through the medium of the controlling rod 12. It will be manifest that when the detent is pressed in the direction stated its angularly disposed portion 32 will be withdrawn from the aperture 26 in the wheel 24 to release the mechanism and bring about the sounding of the alarm, while when the lever 33 is released the detent 22^a will tend to spring toward the toothed wheel 24 and will enter the aperture 26 as soon as said aperture is in registration with the end of the detent, and in that way stop the sounding of the alarm, and make the alarm device as a whole ready for another operation.

In preparing our novel device for use, the finger-piece 20 is rotated toward the left so as to place the spring 22 under the necessary tension, and when this is done and a person turns the knob 3 in the direction indicated by arrow, the lever 33 will be rocked on its fulcrum and its depending arm will disengage the detent 22^a from the toothed wheel 24, whereupon the spring will rotate the several shafts and oscillate the arbor 16 so as to repeatedly strike the hammer against the gong and sound an alarm. When the knob 3 is turned counter-clockwise—*i. e.*, in the direction opposite to that indicated by arrow in Fig. 2, the lever 23 will be rocked on its fulcrum and its upwardly extending arm will disengage the detent 22^a from the toothed wheel 24 to enable the spring to rotate the several shafts and oscillate the arbor 16 to strike the hammer repeatedly against the gong. The sounding of the alarm will continue until in the rotation of the wheel 24 the aperture 26 reaches a position in transverse alinement with the angularly disposed portion 32 of the detent, when the detent will spring into said aperture and in that way stop the rotation of the toothed wheel 24 and the sounding of the alarm.

It will be manifest from the foregoing that the capacity of the spring 22 may be such as to adapt the alarm to repeat a number of times following one winding of the spring shaft through the medium of the finger-piece 20.

We have entered into a detailed description of the construction and relative arrangement of the elements comprised in the present and preferred embodiment of our invention in order to impart a full, clear, and exact understanding of the said embodiment. We do not desire, however, to be understood as confining ourselves to the said specific construction and relative arrangement of parts, as in the future practice of the invention such changes or modifications may be made as do not involve departure from the scope of our appended claim. For instance without affecting our invention, the controlling rod 12 may be permanently connected with the rotary plate 2, and the casing may be permanently connected with the door; also, the casing may be positioned at any desired distance from the rotary plate, and consequently the controlling rod 12 may be of any length.

Having described our invention, what we claim and desire to secure by Letters-Patent, is:

In an alarm, the combination of a gong, means to strike the same, a wheel controlling said striking means and having a transverse aperture, means for rotating the said wheel when the same is released, a laterally-movable resilient detent secured at one end and having an angularly-disposed arm at its opposite end, positioned to enter the said aperture when the two are in registration, a lever having oppositely extending arms to move the detent laterally away from the apertured wheel and also having a third arm, a knob spindle, an escutcheon, a knob on the spindle, a rotary plate mounted on the spindle to turn therewith and interposed between the knob and the escutcheon, and a controlling rod connected to the third arm of the lever and also connected to the rotary plate.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM L. SANDERS.
NATHAN MORRIS.

Witnesses:
ABE AXTELL,
W. M. BRIOBORO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."