

(No Model.)

H. W. SINCLAIR.

BURGLAR ALARM.

No. 386,359.

Patented July 17, 1888.

Fig. 1.

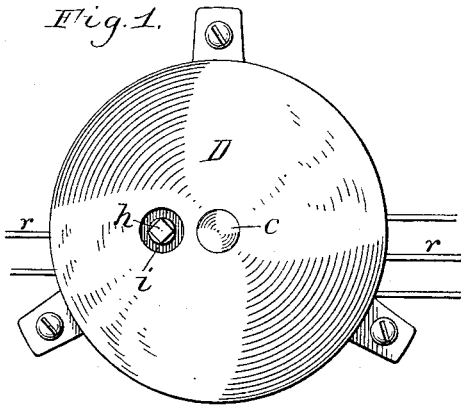


Fig. 3.

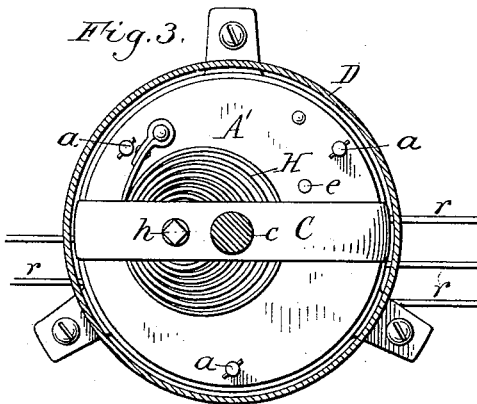


Fig. 5.

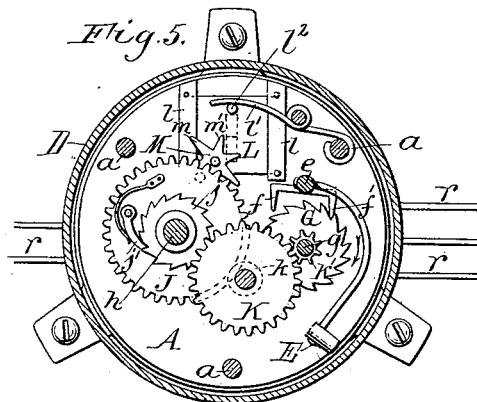
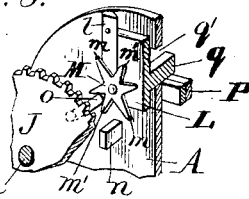


Fig. 8.



Witnesses:
Theo. L. Popp.
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Fig. 2.

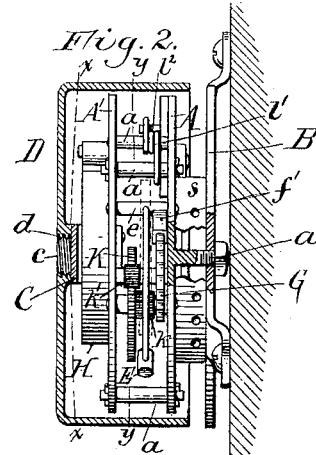


Fig. 4.

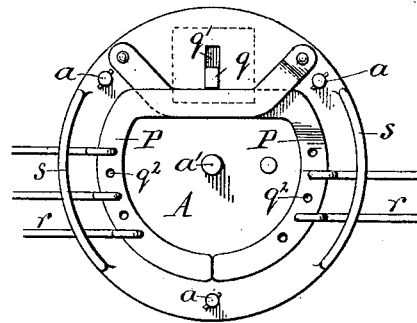


Fig. 6.

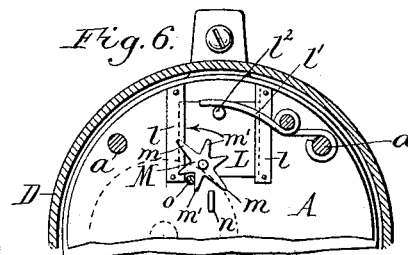
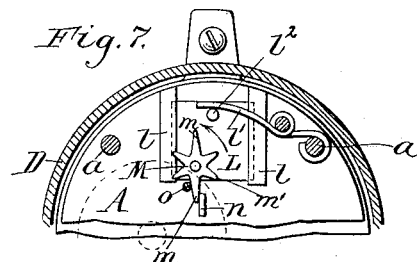


Fig. 7.



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UNITED STATES PATENT OFFICE.

HARRY W. SINCLAIR, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF
TO GEORGE H. CHADEAYNE, OF SAME PLACE.

BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 386,359, dated July 17, 1888.

Application filed April 17, 1888. Serial No. 270,993. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. SINCLAIR, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Burglar-Alarms, of which the following is a specification.

This invention relates to that class of burglar-alarms which consist of a bell and hammer, and a suitable clock-work, whereby the hammer is operated.

The object of my invention is to construct a compact and reliable alarm of this character which can be cheaply manufactured, and also to improve the construction of the mechanism whereby the clock-work is released and the alarm sounded.

The invention consists of the improvements, which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of my improved alarm. Fig. 2 is a sectional elevation thereof. Fig. 3 is a cross-section of the same in line *x x*, Fig. 2. Fig. 4 is a rear elevation of the alarm. Fig. 5 is a cross section in line *y y*, Fig. 2. Fig. 6 is a sectional elevation showing the stop of the main wheel released from the star-wheel, mounted on the sliding plate. Fig. 7 is a similar view showing the star-wheel and the stop of the main wheel in the position in which the latter is locked against movement. Fig. 8 is a perspective view of the star-wheel, sliding plate, and adjacent parts.

Like letters of reference refer to like parts in the several figures.

A A' represent two circular plates or disks, which form the supporting-frame of the alarm, and which are connected together by posts or stay-sleeves *a*. The inner plate, A, is provided on its rear side with a screw-shank, *a'*, which is secured in a threaded opening formed in a supporting bar or plate, B, which is secured to the wall or other support, and whereby the alarm is secured in position.

C represents a bar or bridge-piece secured with its outer ends to the front side of the outer plate, A', and provided on its front side with a central screw-shank, *c*.

D represents the bell, which is provided with a central screw-threaded opening, *d*, which engages over the screw-shank *c*, and whereby the bell is secured to the bridge-piece C.

E represents the vibrating hammer, which strikes the inner surface of the bell D, and is mounted on a short rock-shaft or spindle, *e*, journaled in suitable bearings formed in the supporting-plates A A'.

f f' represent two pallets, mounted on opposite sides of the rock-shaft *e* and engaging with the upper portion of a ratchet-wheel, G. The latter is secured to a spindle, *g*, journaled between the plates A A'. Upon turning the ratchet-wheel G in the direction of the arrow in Fig. 5 the pallets *f f'* are alternately oscillated by the ratchet-teeth, thereby imparting a rocking movement to the shaft *e*, vibrating the hammer E, and sounding the alarm.

H represents the coiled actuating-spring, which is secured with its outer end to the adjacent supporting-plate A', and with its inner end to the winding-spindle *h*, which latter is journaled between the plates A A', and projects with its square outer end through an opening, *i*, formed in the bell D.

j is a ratchet-wheel secured to the winding-spindle *h*, and J is the main gear-wheel which turns on the hub of the ratchet-wheel *j*, and is provided with a spring-pressed pawl, *j'*, which engages with the ratchet-wheel *j*, so as to prevent backward movement of the latter and the spindle when the spring H is wound. Motion is transmitted from the main gear-wheel J to the spindle *g* by a pinion, *k*, gear-wheel K, and a pinion, *k'*, mounted on the spindle *g*.

L represents a radially-movable plate, which slides between guides or ways *l*, secured to the inner side of the plate A, and which is held in its innermost position by a spring, *l'*, secured to the plate A and bearing against a pin, *l''*, secured to the sliding plate, as represented in Figs. 6 and 7.

M is a revolving star-wheel journaled at the inner end of the sliding plate L, and provided with one or more long teeth *m* and several short teeth, *m'*.

n represents a stop secured to the inner side of the plate A, and so arranged with reference to the star-wheel that when the latter is in its innermost position its short teeth *m'* will clear the stop *n*, while its long teeth *m* will strike the stop, as represented in Fig. 7, and thereby arrest the movement of the star-wheel. The main gear-wheel J is provided at its periphery with a pin or stop, *o*, which is adapted to en-

gage with the teeth of the star-wheel as the gear-wheel revolves, and thereby rotates the star-wheel. As the main wheel J revolves its pin *o* successively strikes the teeth of the star-wheel, and at each revolution moves the star-wheel the distance of one of its teeth. When a long tooth, *m*, is reached, as shown in Fig. 7, the tooth strikes the stop *n*, thereby arresting the movement of the star-wheel, and the pin *o* of the main wheel bearing against the adjacent side of said long tooth in turn arrests the movement of the main wheel J, and thus stops the ringing of the alarm.

P P represent two actuating-levers pivoted at their upper ends to the rear side of the plate A, and which are adapted to bear with their upper straight intersecting portions against a projection, *q*, secured to the sliding plate L and passing through a slot, *q'*, formed in the plate A. The lower portions of the levers P are preferably curved concentric with the edge of the plate *a*, and are provided with a number of openings, *q''*, in which are secured the ends of the actuating wires or cords *r*, which latter are connected with the doors or windows of the house in any suitable manner, so that upon opening said doors or windows either one of the levers P P will be actuated. A single lever may be used; but I prefer to employ two levers, as shown, as the wires sometimes approach the alarm from different sides, in which case they may be attached to the lever which is most convenient of approach.

Upon pulling either lever P P outwardly the sliding plate L is also shifted outwardly, thereby drawing the long tooth of the star-wheel M away from the stop *n*, releasing the main gear-wheel J, and causing the hammer to strike the bell. The pin *o* of the main wheel J now moves said long tooth beyond the stop *n*, and upon releasing the actuating-lever the spring *l'* returns the sliding plate L to its former position. The star-wheel is preferably provided with two long teeth, *m*, and four short teeth, *m'*, so that the main gear-wheel J will be permitted to make three revolutions before being stopped, and thus insure a long ring of the alarm. By this construction the alarm will be stopped when the coiled spring H is half unwound, thus giving two separate alarms for one winding of the spring.

It is obvious that a stationary stop may be mounted on the sliding plate instead of the star-wheel, if desired; but in this case the main wheel J will be arrested after making a single revolution, which is undesirable, as the alarm will be of too short duration. In this construction the stop *n*, secured to the plate A, is omitted.

The lightness and compactness of my improved alarm renders it very useful to commercial or other travelers who stop at hotels and similar places. The weight of the alarm is insufficient to hold it in place; but, if preferred, it may be temporarily secured to the floor or wall. When thus used, the alarm is provided on

its bottom with projecting ribs *s*, as shown in Figs. 2 and 4, upon which the alarm rests, and whereby the actuating-wires are held out of contact with the floor or other support, the supporting-ribs being provided with holes, through which said wires pass.

The bell D is so constructed as to form a casing which incloses the parts of the alarm, as shown in Figs. 1 and 2.

I claim as my invention—

1. The combination, with the supporting-plates of the alarm, the bell, and the vibrating hammer, of a hammer-actuating mechanism composed of a suitable clock-work, one of the wheels of which is provided with a stop-pin, a sliding plate provided with a projection adapted to engage with said stop-pin and with a lug projecting through a slot in the adjacent supporting-plate, and an actuating-lever pivoted to said supporting-plate and engaging against the lug of said shifting plate, substantially as set forth.

2. The combination, with the supporting-frame of the alarm, the bell, and the vibrating hammer, of a hammer-actuating mechanism consisting of a suitable clock-work, one of the wheels of which is provided with a pin or projection, a sliding plate, L, a star-wheel mounted on said sliding plate and provided with one or more long teeth and several short teeth, a stop, *n*, secured to the supporting-frame, against which the long teeth of the star-wheel engage, and an actuating-lever, whereby said sliding plate is shifted, substantially as set forth.

3. In a burglar-alarm, the combination, with the supporting-frame, the bell, and the vibrating hammer, of a clock-work whereby said hammer is operated, and having a wheel provided with a pin or projection, a sliding plate, L, provided with a projection, *q*, and spring *l'*, a star-wheel, M, journaled upon said sliding plate, a stop, *n*, secured to the main frame, and an actuating-lever, P, engaging against the projection *q* of the sliding plate, substantially as set forth.

4. In a burglar-alarm, the combination, with the supporting-plates A A', the bell D, and hammer E, mounted on a spindle having pallets *f f'*, of a ratchet-wheel, G, actuating said pallets, a mainspring, H, secured to a winding-spindle, *h*, having a ratchet-wheel, *j*, a main gear-wheel, J, having a pin, *o*, and a pawl, *j'*, engaging with the ratchet-wheel *j*, gear-wheel K, and pinions *k k'*, connecting said main gear-wheel with the spindle of the ratchet-wheel G, the sliding plate L, carrying the star-wheel M, stop *n*, secured to the plate A, and actuating-lever P, whereby the sliding plate is shifted, substantially as set forth.

Witness my hand this 5th day of April, 1888.

HARRY W. SINCLAIR.

Witnesses:

C. F. GEYER,
FRED. C. GEYER.