(No Model.)

C. C. DAVIS.

PORTABLE BURGLAR ALARM.

No. 452,597. Patented May 19, 1891.

Fig. 1.

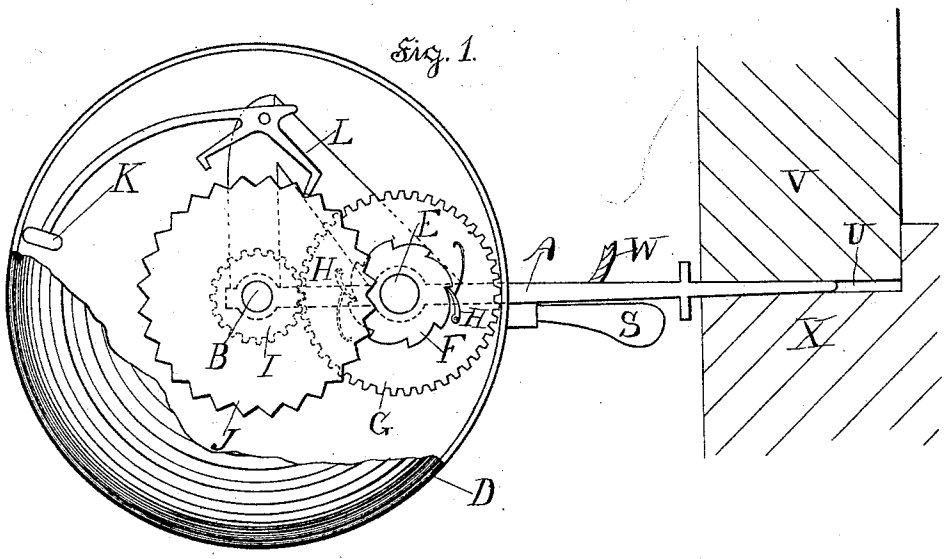


Fig. 2.

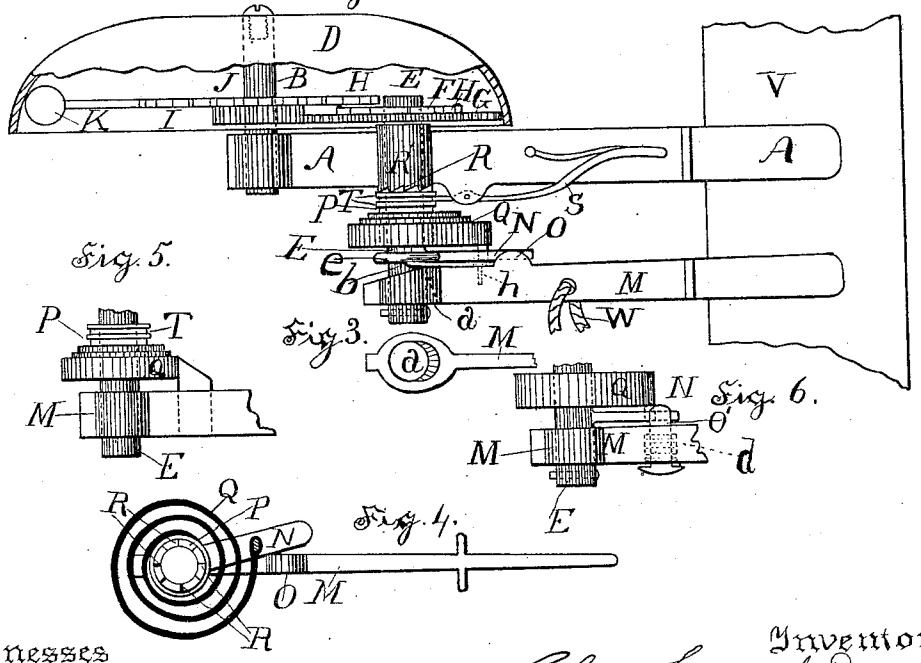


Fig. 5.

Fig. 3.

Fig. 6.

Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES CASSAT DAVIS, OF LOS ANGELES, CALIFORNIA.

PORTABLE BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 452,597, dated May 19, 1891.

Application filed July 18, 1890. Serial No. 359,218. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CASSAT DAVIS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Portable Burglar-Alarms, of which the following is a specification.

My invention relates to that class of alarms in which a blade is arranged to enter the crevice between a door or window and its casing, and in which mechanism is arranged to continuously sound an alarm for a protracted period after the door or window is opened.

The object of my invention is to simplify, to reduce in size, and to cheapen such devices, and to avoid the necessity of a separate winding-key which might become lost; also, to so construct the device that its operation does not depend upon the action of trigger mechanism, and yet to allow the device to be removed by one within the house without sounding the alarm.

The accompanying drawings illustrate my invention. They are made on a scale larger than is used in practice.

Figure 1 is a side of the alarm in place in the crevice between the door and door-frame, the top of the bell being cut away to expose the mechanism. Fig. 2 is a side view of the alarm in place, a portion of one side of the bell being broken away to expose the mechanism. Fig. 3 is a view of the under side of the end of the blade M, shown in Fig. 2. This figure is designed to show the flaring hole *a*. Fig. 4 illustrates the connection of the blade M and main spring Q. Fig. 5 is a fragmentary view illustrating a modified form of connection between the spring and blades. Fig. 6 shows a further modification of such connection.

A is the main or master blade, to one end of which is fixed the bell-post B, upon which is mounted the bell D. The driving arbor or shaft E is journaled in the master-blade A, and one of its ends extends into the chamber of the bell and is operatively connected with the alarm-operating mechanism.

The means I prefer to employ to operate the alarm consists of the ratchet-wheel F, fixed upon the end of the driving-arbor, the spur-wheel G, journaled upon such arbor and operatively connected by pawls H with the ratchet-wheel F, so that the rotation of the arbor in one direction will be free, while its rotation in the other direction will drive the spur-wheel G, which meshes with pinion I, fixed to and coaxial with escapement-wheel J, which, with said pinion, is journaled to revolve on the bell-post B to operate the bell-hammer K through the pallet L, to which the hammer is attached. On the free end of arbor E is secured the secondary, auxiliary, or winding blade M. In the preferred form (shown in Figs. 1 and 2) this blade is journaled upon the arbor; but it may be fixed upon the arbor, as shown in Fig. 5, and rotate therewith.

In the forms shown in Figs. 2 and 6 the arbor is also provided with the rigid main-spring-holding arm N, to which the outer end of the main spring is attached, arranged to be engaged by a projection of the auxiliary blade M. In Fig. 1 this projection is simply a lug O. In Fig. 6 it is formed by a spring-pressed pin O′, the normal position of which is a depressed position, as hereinafter explained.

The alarm-operating mechanism is driven by the main spring Q, operatively connecting the arbor with the master-blade. I prefer to so connect the spring with the master-blade as to allow it to be thrown out of such connection at pleasure.

On the arbor between the arm N and the master-blade A is journaled a sleeve P, to which is fixed the coiled spring Q. The end of the sleeve next the master-blade A is provided with serrations or teeth R to engage corresponding serrations R′ in the face of blade A.

I provide means for holding the sleeve and blade in operative contact and for throwing the sleeve out of such contact. To the blade A is pivoted a spring-pressed lever S, which engages the walls T of a groove to hold the serrated end of the sleeve in contact with the serrations in the blade. These serrations are arranged to hold the inner end of the spring stationary while the spring is coiled or wound up by the revolution of blade M.

In practice the spring is wound by rotating the blade M while its projection O or equivalent is in contact with arm N, as shown in Figs. 2, 4, and 6. Then the two blades are brought into the same plane edgewise, and their thin wedge-shaped free ends are then inserted in the cracks between the door and its casing, or between the two sashes of the window, or between a sash and the window-frame, as the case may be. The friction of the wedge or the expansive force of the spring holds the device in place until the door or window is opened. When the door is opened, the blades are released and the spring is thereby allowed to uncoil to rotate the arbor E.

In the form shown in Fig. 5 the uncoiling of the spring rotates the arbor E and also the blade M fixed thereto; but in the other forms shown the blade does not rotate with the arbor while the spring uncoils.

In the form of device shown in Fig. 2 the hole *a* through blade M, through which the arbor passes, is made flaring in its outer portion in the direction of the length of the blade and toward the free end thereof, as shown by Fig. 3 and also by dotted lines in Fig. 2, so that when free the outer end of the blade can be drawn away from the arm N to remove the lug O from the path of the arm, thus allowing the arm to rotate without rotating the blade.

In order to insure the movement of the blade M necessary to withdraw the lug O from the path of arm N, I provide the blade-spring *b*, arranged to press the free end of the blade away from the arm N. This spring is preferably arranged with one end in engagement with a flange or collar *e* around the arbor E and with the other arm in operative engagement with the blade M to throw its free end away from arm N. In the drawings, Fig. 2, this spring is shown fixed to blade M by a screw *h*.

Fig. 6 shows other means for operatively connecting and disconnecting the auxiliary blade M and the main-spring-holding arm N, and releasing the auxiliary blade from the action of the spring when the arms are released by the opening of the door or window. In this drawing a spring-pressed auxiliary movable stud O′ is mounted in the blade and normally pressed away from the arm N by a spring *d*, so that the blade M is normally free to revolve upon arbor E, on which it is journaled.

In practice, when it is desired to wind the spring, the stud is pressed into the position shown in the drawings, and by rotation of the blade is brought into contact with the edge of the arm N to wind the spring. When pressed against the arm N in winding the spring, the friction between the arm and lug caused by the tension of the spring Q prevents the lug from being forced out by its spring *d*, (suggested by dotted lines in Fig. 6,) and this friction continues until the blades are again released. Then the spring *d* drives the stud O′ out of contact with the arm N, which is thus left free to revolve without moving blade M.

W represents a portion of a cord by which the device can be secured to the door-knob or to a nail, so that it will swing suspended when not in use or when released by the opening of the door or window, thus allowing the bell to sound clearly without being deadened by contact with the floor.

If desired, a wire-netting may be provided attached to the master-blade and surrounding the bell to hold it free from contact with objects which might deaden its sound.

If it be desired to remove the device without sounding the alarm, the lever S is pressed, thus withdrawing the teeth R of the sleeve from contact with teeth R′ of blade A and allowing the sleeve P to revolve with the uncoiling of the main spring. The main spring is made sufficiently conoidic to allow the sleeve to be moved out of and into contact with blade A.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a portable burglar-alarm, the combination of the master-blade, alarm-operating mechanism, the driving-arbor journaled to the master-blade and operatively connected with the alarm-operating mechanism, the main spring operatively connecting the arbor with the master-blade, and the winding-blade secured to the arbor.

2. In a portable burglar-alarm, the combination of the master-blade provided with the serrations, alarm-operating mechanism, the driving-arbor journaled to the master-blade and operatively connected with the alarm-operating mechanism, the main spring secured to the sleeve, the sleeve provided with the serrations, and means for holding the sleeve in operative contact with the serrated portion of the master-blade and for throwing the sleeve out of such contact.

3. The combination of the master-blade, the main spring, the arbor provided with the rigid main-spring-holding arm, the winding-blade journaled upon the arbor, and means for operatively connecting and disconnecting the main-spring-holding arm and the winding-blade, substantially as and for the purpose set forth.

4. In a burglar-alarm, the combination of the master-blade, the main spring, the arbor provided with the rigid main-spring-holding arm and the flange, the winding-blade journaled upon the arbor and provided with the flaring hole and with the lug arranged to engage the arm, and the blade-spring arranged to press the free end of the winding-blade away from the main-spring-holding arm.

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