

2 Sheets—Sheet 1.

No. 574,524.

Patented Jan. 5, 1897.



WITNESSES:

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FIG. 2

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BURGLAR ALARM.

No. 574,524.

Patented Jan. 5, 1897.

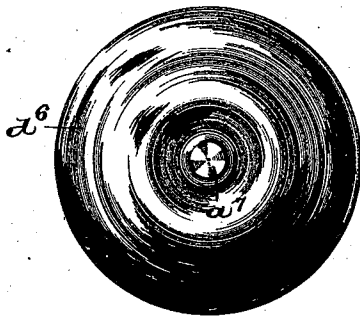


FIG. 3

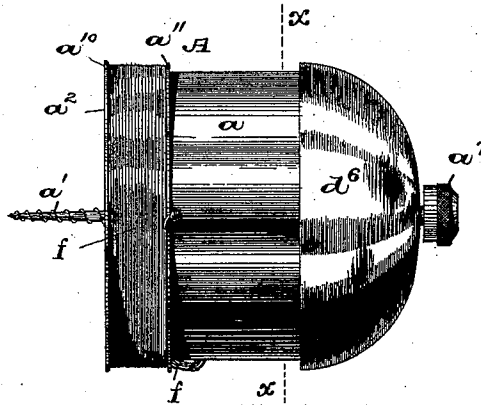


FIG. 4

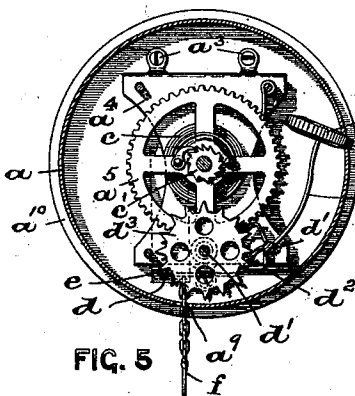


FIG. 5

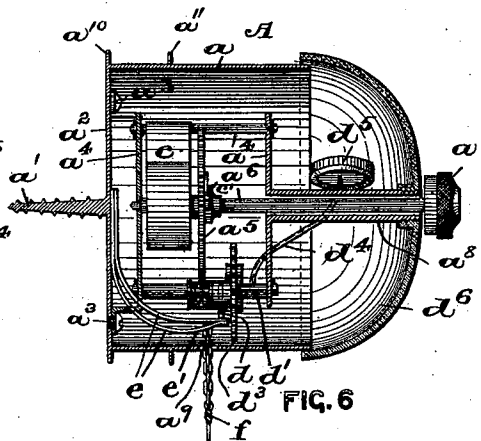


FIG. 6

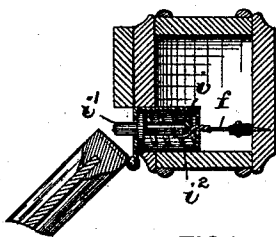


FIG. 7

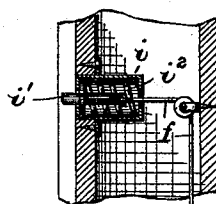


FIG. 8

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UNITED STATES PATENT OFFICE.

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BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 574,524, dated January 5, 1897.

Application filed February 8, 1896. Serial No. 578,468. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR CLEVELAND, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Alarm Apparatus; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has reference to improvements in alarm apparatus for signaling purposes, as in burglar-alarms, but may also be used for other purposes.

The invention therefore consists in the improvements hereinafter described and set forth, whereby an efficient and simple mechanical means is provided that can be conveniently adjusted to and connected with the sash of a window or a door and subsequently and automatically sound an alarm when the window-sash is raised or the door has been opened.

In the accompanying drawings, forming part of the specification, Figure 1 represents in front elevation the one side of a room having two windows, my novel construction of alarm apparatus attached to the wall, and a flexible connection for connecting the alarm mechanism with the window-sash to operate said mechanism when a window-sash is raised. Fig. 2 is a detail view of certain portions of the flexible connection on an enlarged scale. Fig. 3 is a front view, and Fig. 4 a side view, of the alarm apparatus. Fig. 5 is a cross-section of the device, taken on line x in Fig. 4; and Fig. 6 is a longitudinal vertical section of the said apparatus. Figs. 7 and 8 are two vertical sections, taken in planes at right angles to each other, of a spring-actuated device arranged in the door-jamb and connected with one end of the flexible connection attached to the alarm apparatus to release the alarm mechanism when the door has been opened.

Similar letters of reference are employed in all the above-described views to indicate corresponding parts.

In said drawings, A designates my novel construction of alarm apparatus, which can be arranged in any convenient part of the room.

B and B' indicate two windows, and b and b' are their respective window-sashes.

The alarm apparatus A, as will be clearly seen from an inspection of Figs. 3, 4, 5, and 6, consists of a casing a , which is preferably cylindrical, and has a screw a' or other suitable means whereby it can be firmly secured to the wall or other desirable part of the room. Secured to the base a^2 of said casing a , by means of screws or pins a^3 , is a frame a^4 , provided with any well-known construction of operating-gear mechanism a^5 . On an arbor a^6 , provided with a suitable finger-piece a^7 , is the usual form of operating-spring c , ratchet-wheel c' , and pawl c^2 , which permits the spring c to be wound when the arbor a^6 is turned by means of the finger-piece a^7 in the manner of ordinary clock mechanism, as will be clearly understood.

In holding engagement with an arm d on an arbor d' in the frame a^4 is a suitable spring device e , which is soldered fast to the base a^2 of the casing a , or it may be secured thereto in any other well-known manner. Said arbor d' is provided with a recoil-escapement d^2 , which is actuated by a toothed wheel d^3 of the gear mechanism when the spring device e is disengaged from its holding engagement with the arm d . Secured to said arbor d' is a suitable lever or arm d^4 , having an enlargement d^5 , which, when the arbor d' is caused to oscillate, vibrates rapidly and coming in contact with the bell or gong d^6 sounds the alarm.

As will be seen from Fig. 6, the frame a^4 is provided with an upwardly-extending tubular projection a^8 , which is screw-threaded on the top and upon which the bell or gong d^6 is screwed fast. The arbor a^6 extends through said tube a^8 and projects above the gong or bell, where it is provided with the finger-piece a^7 , substantially as shown. In this manner a very compact alarm apparatus is the result; but it will be evident that this arrangement of the several parts may be changed, if desired. In order to cause the disengagement of said spring device e with the arm d , to

operate said alarm apparatus and to give an alarm, I have attached at or near the end e' of the spring device e the end of a flexible connection f , which may be a light chain or wire or other suitable material, and which, being passed through an opening a^9 in the casing a , forms the branches f' and f^2 , which are passed over pulleys f^3 and then secured to the base-board, as at f^4 . Secured to said branches f' and f^2 of the flexible connection are other branches f^5 and f^6 , which are provided at their free ends with suitable loops or rings g and g' , respectively, which are to be hooked over certain pins or hooks b^2 and b^3 on the respective window-sashes b and b' , as clearly represented in Figs. 1 and 2. Thus it will be evident that as soon as a window-sash is but slightly raised, or if the end of the flexible connection has been fastened to a door and the latter is opened, the several branches of the flexible connection will be pulled taut, as clearly indicated in dotted outline in Fig. 1, and the spring device e will be forced from its holding-contact with the arm d , when the arbor d' and the parts connected therewith will be immediately operated upon by the gear mechanism, and thereby sound the alarm.

During the daytime, when it is not necessary to have the alarm apparatus in use, the rings or loops g and g' can be arranged over suitable pins or hooks b^4 on the window-frame, which permits the window-sash to be raised without starting the alarm mechanism.

In order to prevent a burglar from unhooking or cutting the flexible connection f by cutting the window-pane and reaching in, I have secured to said connection f two short connections f^7 and f^8 , which are attached to the respective arms h^1 and h^2 of a lever pivotally arranged as at h in the right of Fig. 1, said arm h^1 being provided with a weight h^3 , whereby when the connection f^6 is detached from the hook b^3 said weight will have caused the lever to assume the position indicated in dotted outline in said Fig. 1, which causes the arm h^2 to produce a pull on the flexible connection f^6 , and through the connection f and its branch f^2 releases the operating mechanism of the alarm apparatus, as will be evident.

Of course it will be evident that hooks similar to those shown in connection with Figs. 1 and 2 may be used on doors and the flexible connection attached thereto, whereby when the door is opened the alarm will be sounded.

In Figs. 7 and 8 I have illustrated a device which may be arranged in the door-jamb and operates the flexible connection to release the gear mechanism in the alarm apparatus when the door is opened. This device consists, essentially, of a suitable casing i , secured in

the door-jamb. In said casing is a spring-actuated post i' , to the end of which is fastened one end of the flexible connection which is secured to the spring device e of the alarm apparatus. When the door is closed, the edge of the door pushes said post entirely into the casing i , but as soon as the door is opened the spring i^2 forces said post i' forward and thus acts on the connection f to release the arm d in the alarm apparatus and causes the latter to sound the alarm.

Of course it will be clearly understood that any other suitable device may be connected with the free end of the flexible connection f , whereby my invention is applicable to other uses, such as door-bells, bicycle-alarms, &c.

By providing the casing a with the annular flanges a^{10} and a^{11} the flexible connection f , secured at one end to the spring device e , can be wound around said casing, as indicated in Fig. 2, which enables a traveling person to carry the alarm apparatus with him and readily place it in any position in his room at a hotel, connecting the flexible connection with the door or window of the room, thereby producing a safe burglar-alarm.

By my invention I have devised a simple and operative device which can be cheaply constructed.

It will be obvious that changes may be made in the details of construction of the various parts without departing from the scope of my present invention. Hence I do not limit my invention to the exact arrangements and combinations of the parts herein shown and described.

Having thus described my invention, what I claim is—

The herein-described alarm apparatus, comprising therein, a casing a , having flanges a^{10} and a^{11} , a screw a' on the back of said casing, a frame a^4 , a tubular post a^8 on said frame, an arbor a^6 and finger-piece thereon, an operating mechanism on said arbor, a gong or bell on said post a^8 , an arbor d' and striking mechanism thereon, a spring device e , normally in holding engagement with said striking mechanism, and a flexible connection connected with said spring device and adapted to be arranged between the said flanges on said casing a , and a loop or ring on the free end of said connection, adapted to be arranged over a hook on a window-sash or door, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 4th day of February, 1896.

ARTHUR CLEVELAND.

Witnesses:

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