

(No Model.)

2 Sheets—Sheet 1.

J. R. ALEXANDER.
ELECTRICAL BURGLAR ALARM.

No. 545,835.

Patented Sept. 3, 1895.

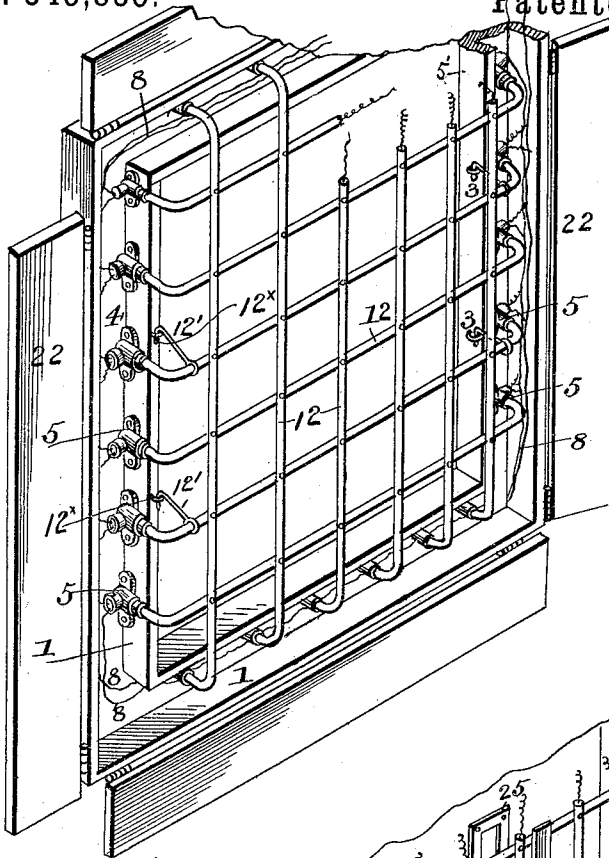


Fig. 1.

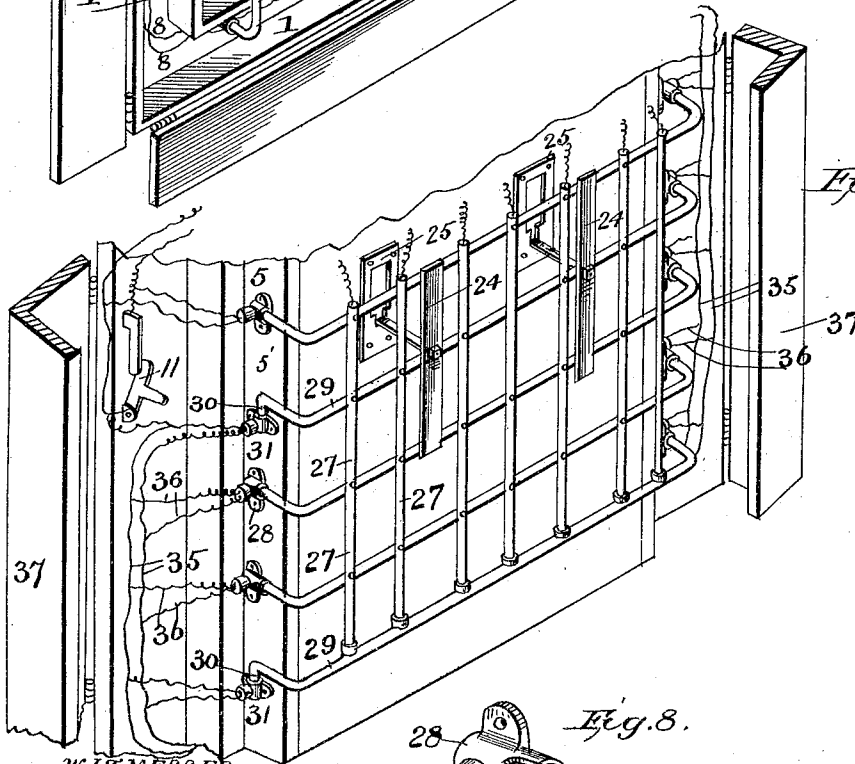


Fig. 2.

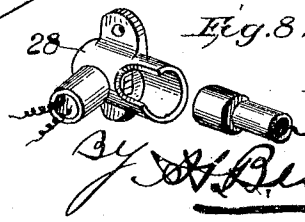


Fig. 8.

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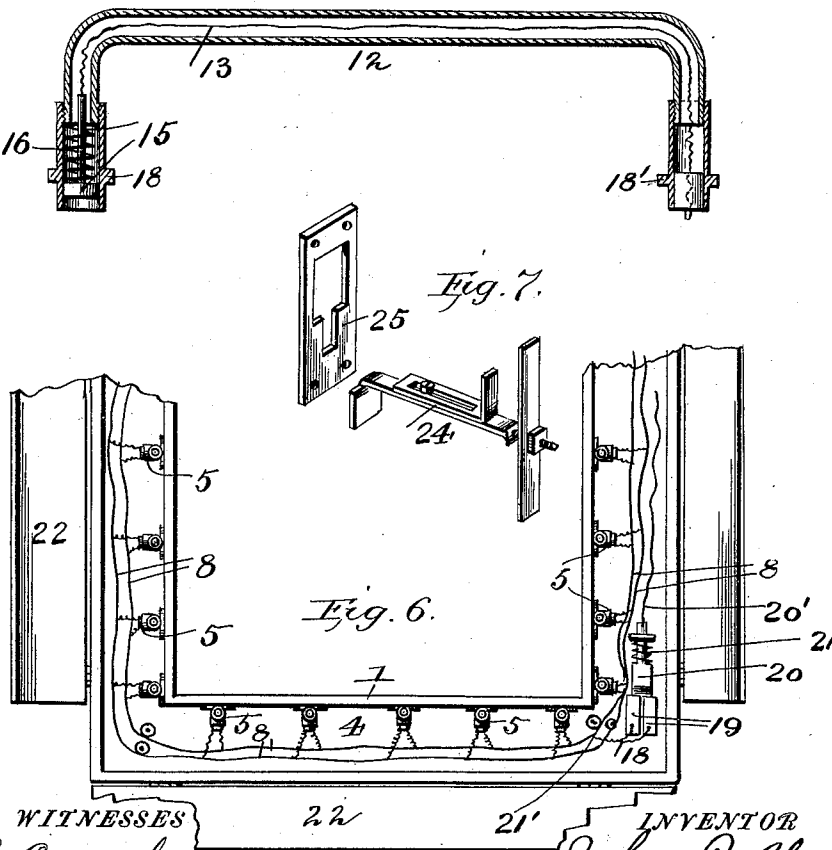
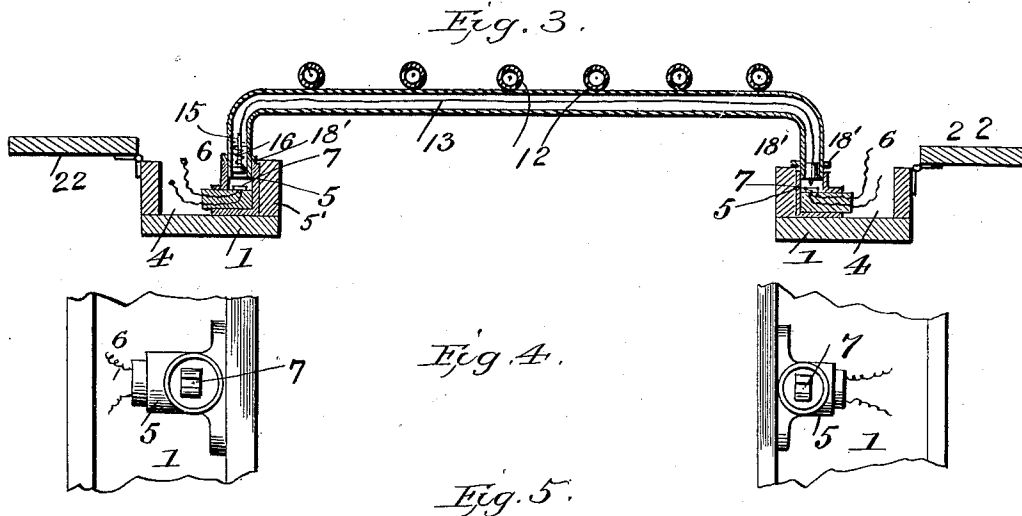
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UNITED STATES PATENT OFFICE.

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ELECTRICAL BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 545,835, dated September 3, 1895.

Application filed March 20, 1895. Serial No. 542,562. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. ALEXANDER, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Electrical Burglar-Alarms; and I do 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.

My invention has relation to electrical burglar-alarms, and among the objects in view is to provide such an alarm which will give an audible signal when an unlawful entry into a room is being effected, either through a door or a window thereof; also, to provide such an alarm which is of simple construction and adapted to be readily attached to and detached from a door or window frame; and with the various objects in view my invention consists in the novel construction, arrangement, and combination of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view illustrating my alarm apparatus adapted to be applied to a window. Fig. 2 is a like view showing a portion of grating applied to a door. Fig. 3 is a horizontal section through the grating and frame. Fig. 4 is a plan view showing what I denominate the "pockets." Fig. 5 is a sectional view, on an enlarged scale, of one of the grating-tubes, showing the wire and contact-pins. Fig. 6 is a plan view of a portion of the frame, showing the pockets and circuit-wires. Fig. 7 is a detail view of the securing devices for the grating. Fig. 8 is a like view of one of the pockets and a portion of a grating-tube.

I would state that I have a normally-open circuit with two main wires, one attached to each pole of a battery extending around the window or door, there being a number of normally-open circuit-closers extending between these wires and a number of plungers to operate the circuit-closers by bridging thereacross, which plungers are held out of contact by stretched wires, the rupture whereof causing the plungers to be forced against the two contacts and bridge them, so as to close the circuit and ring an alarm.

In order that my invention may be clearly

understood, I would state that in carrying out my invention I provide a casing or frame 1, Figs. 1, 3, 4, and 6, which may be made either of wood or metal, and which is adapted to be applied either to a window-frame or door-frame, as desired.

In Figs. 1, 3, 4, 5, and 6 of the drawings I illustrate the apparatus adapted to be applied to a window-frame, while in Fig. 2 I show the same as applied to a door-frame.

For attaching the frame 1 to the window-frame any desired means may be employed which will adapt said frame to be readily attached or detached, whenever desired. The frame 1 is provided with recesses 4, in which are arranged elbows or socket-pieces 5, attached to the strips 5' of the frame, and within said socket-pieces are arranged wires 6, terminating at the end in contact-plate 7, normally out of electrical contact with each other. The opposite ends of the wires are in electrical connection with the main electric wires 8, which are properly insulated and extend around the frame 1 and are attached thereto by loops 9. The said wires 8 lead off to and connect with a suitable battery, which may be located at any desired point in the room, and the circuit (which is a normally-open one) includes suitable alarms adapted to be operated when the circuit is closed, said alarms being arranged in any desired room or rooms and in the attic of the house.

As seen in Fig. 2, 11 is any suitable circuit-breaker interposed in one of the wires 8, in order that, when desired, the circuit may be interrupted for any length of time, and, if desired, such a circuit-breaker may be used in the arrangement seen in Fig. 1.

12, Figs. 1, 3, and 5, indicates a grating formed by a series of metal tubes which are adapted to close the window-opening to prevent entrance therethrough, and said grating is adapted to be applied to the frame 1 in a detachable manner, so that the grating may be removed when the alarm is not in use, and for this purpose any suitable means—as, for instance, hooks 12'—may be used, adapted to engage staples 12" on the frame 1. Each of the tubes contains a wire 13, one end of which terminates in a pin 14, out of contact with the plates 7 at one side of the frame 1, while the opposite end of the wire terminates in a plun-

ger 15, which is pressed by a spring 16, but which plunger is normally out of contact with the plates 7 at the opposite side of the frame 1. 18' are shoulders, collars, or nuts on the grating-tubes to prevent the latter descending too far into the pockets. Thus when any one of the tubes of the grating is cut or broken and the wire contained therein severed the circuit will be established or closed and the alarm sounded by reason of the spring forcing the plunger into contact with the contact-plates 7. Upon the frame 1 are arranged fine copper wires 18, which at one end terminate in contact-plates 19 and also are in electrical connection with the main wires, as at 21'. A plunger 20, carried by a wire 20', is normally held out of contact with the plates 19 by a spring 21, so that in the event the main wires and the wires 20' are cut the plunger will be forced, by its spring, into contact with the plates 19 and thus establish the circuit. The wire 20' in practice is to extend around the frame, so that it will be cut along with the main line-wires, and thus allow the plunger to be forced into contact with the plates 19, for the purpose set forth. Small hinged doors 22 may be employed, adapted to close over the wires and sockets when the grating is removed, and thus conceal the structural arrangement of the sockets, wires, &c. The wires 18 may run over small sheaves, if desired.

The arrangement seen in Fig. 2 is intended for application to the door-frame, and 24 is an adjustable hook or arm, which is adapted for use with the arrangement seen in Fig. 2, which arm is adapted to engage at one end a slotted plate 25, secured to the door, and said arm at its opposite end being engaged with the grating. Two of the described arms and plates may be used, as seen in Fig. 2, for securing the grating in place. In Fig. 2 the grating 27 is composed of the tubes 27', which fit at the ends in the pockets 28, and the tubes 29, having bent ends 30, also fitting in the

pockets 31. The pockets 28 are cut away, as at 32, so that when the bars 24 are unhooked from plates 25 the grating may be swung around to permit the door to be opened to allow a person to pass out of the room.

35 are the main wires, 36 the connecting-wires, and 37 the small hinged covers or doors to close over the sockets and recesses.

What I claim, and desire to secure by Letters Patent, is—

1. In an electric burglar alarm, the combination with a frame, of circuit wires carried thereby, a grating comprising tubes detachably connected with the frame, sockets carried by the frame, wires within the grating tubes, wires contained within the said sockets, contact pins and plungers carried at opposite ends of the wires in the grating tubes, and contacts carried by the wires in the sockets and normally out of contact with each other, said latter wires being in contact with the circuit wires at their outer ends, all adapted for operation as desired.

2. In an electric burglar alarm, the combination with a frame, of circuit wires carried thereby, a grating comprising tubes detachably connected with the frame, sockets carried by the frame, wires within the grating tubes, wires within the sockets, contact pins and plungers carried at opposite ends of the wires in the grating tubes, and contacts carried by the wires in the sockets and normally out of contact with each other, said latter wires being in contact with the circuit wires at their other ends, and doors or leaves hinged to the frame, and adapted to close over the circuit wires and sockets when the grating is removed, all as specified.

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

JOHN R. ALEXANDER.

Witnesses:

HENRY C. BUSH,
WILLIAM H. MCKAY.