

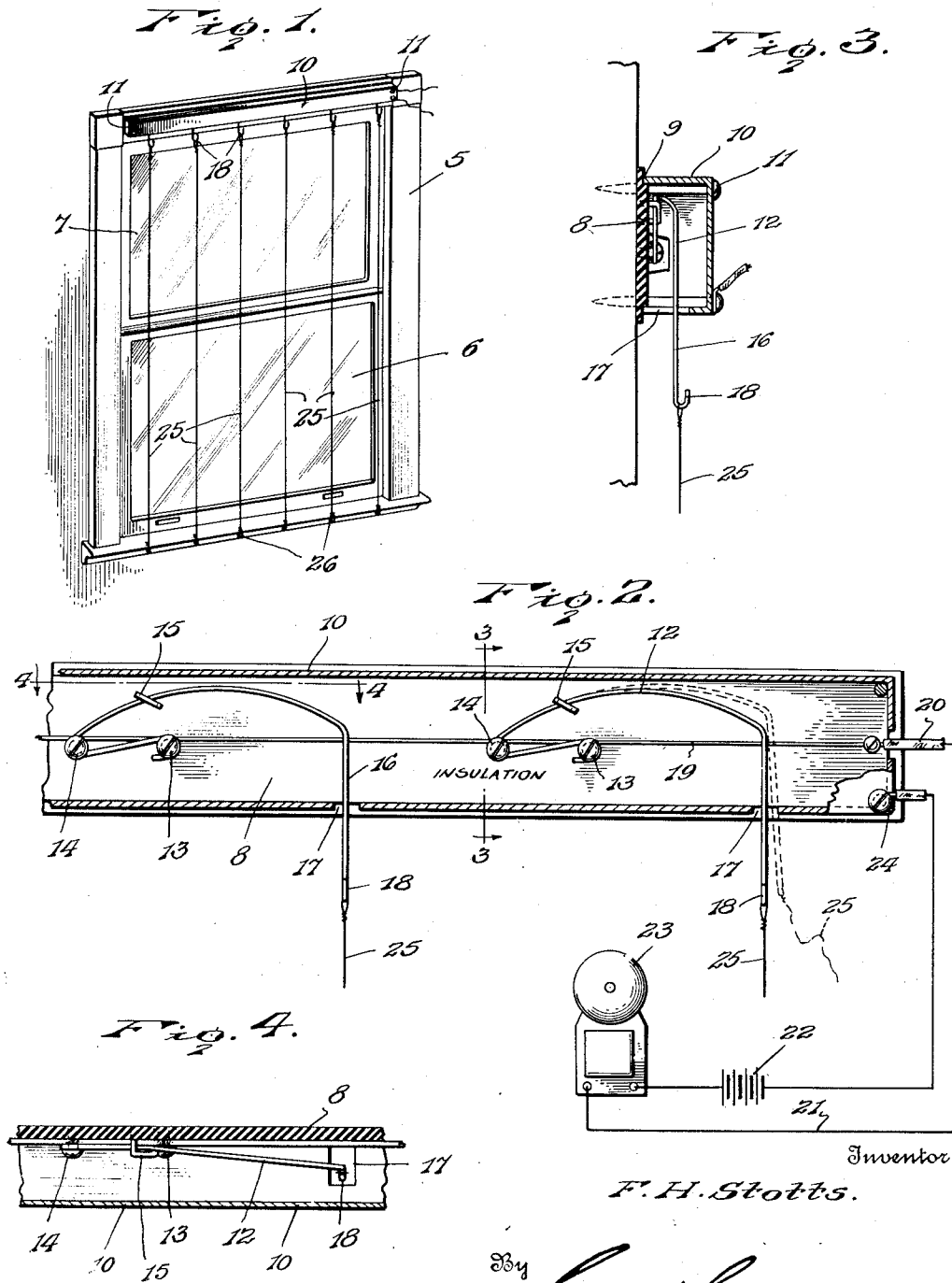
March 30, 1937.

F. H. STOTTS

2,075,147

AUTOMATIC BURGLAR ALARM

Filed Nov. 13, 1935



UNITED STATES PATENT OFFICE

2,075,147

AUTOMATIC BURGLAR ALARM

Francis H. Stotts, Wynne, Ark.

Application November 13, 1935, Serial No. 49,565

2 Claims. (Cl. 200—52)

This invention relates to burglar alarms of that general class shown and described in United States Letters Patent issued to me on the 19th day of March, 1935, under No. 1,995,082, the present invention being an improvement thereof.

The object of the invention is generally to improve and simplify the construction of the alarm and to render it more positive and sensitive in action so as to meet all requirements of the Fire Underwriters' Association.

A further object is to provide an alarm, the casing of which performs the dual function of a housing for the switch elements and as an electrical contact for cooperation with the resilient arms of said switch elements to automatically sound an alarm should an attempt be made to burglarize a house through a door or window thereof.

A further object is to form the bottom of the casing or housing with spaced guide openings which receive the free ends of the resilient arms of the switch elements, there being flexible pull or detector wires secured to the resilient arms and to fixed portions of a door or window frame, respectively, so that should said detector wires be severed or distorted, the resilient arms will automatically contact with the walls of said openings and close the alarm circuit through said casing.

In the accompanying drawing, in which similar numerals of reference indicate corresponding parts in all the figures of the drawing,—

Figure 1 is a perspective view of a window or similar closure equipped with a burglar alarm constructed in accordance with the present invention.

Figure 2 is an enlarged transverse sectional view through the casing or housing and showing the alarm circuit operatively connected therewith.

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a longitudinal sectional view taken on the line 4—4 of Figure 2.

The improved burglar alarm forming the subject-matter of the present invention is designed for installation in dwelling houses, offices, factories, and other buildings and by way of illustration is shown applied to a conventional window, in which 5 designates the frame, 6 the lower sash and 7 the upper sash. The device comprises a base member 8 preferably formed of insulating material and having its marginal edges rabbeted at 9 to form a seat for a casing or housing 10. The base member 8 is preferably

of sufficient length to fit between the side rails of the window frame at the top thereof and is secured in position on the frame by means of screws or similar fastening devices 11, which latter also serve to retain the casing or housing 10 in place. Housed within the casing 10 are a plurality of switch elements 12, each preferably formed from a single length of resilient wire having one end thereof passed around a screw or similar fastening device 13 and thence extended longitudinally and passed around a similar screw 14. The wire, after passing around the screw 14, is extended through a guide loop 15 and is curved in substantially arcuate form and spaced from the inner wall of the casing 10, the free end of the wire being extended downwardly in a straight line to form a normally straight resilient contact arm 16 which passes through an opening 17 in the casing 10 with its terminal bent to form an upstanding hook 18. The openings 17 preferably open at the rear of the casing 10 and one of said openings will be provided for each resilient contact arm 16. Extending longitudinally within the casing 10 is an electric conductor 19 preferably formed of wire, the strands of which are coiled around the screws 13 and 14 so as to insure good electrical contact with the switch elements, one end of the wire 19 is extended through an insulated sleeve 20 in the casing and operatively connected with an energized circuit 21 including a battery 22 and a bell or other alarm 23, the return wire of the circuit 21 being electrically connected with one of the screws 11, as indicated at 24. It will thus be seen that the casing 10 constitutes one terminal of the energized circuit 21, while the conductor 19 constitutes the other terminal.

Connected with the upstanding hook of each switch element is one end of a flexible pull or detector wire 25, the other end thereof being anchored in any suitable manner to the window frame, as indicated at 26. As previously stated, the resilient switch arms 16 are normally centered within the respective openings 17 so that as long as the detector wires are not disturbed, the circuit will remain open and the alarm fail to function. Should, however, an unauthorized person attempt to obtain access through the window by cutting or otherwise severing any of the detector wires 25, the resilient arm 16 connected therewith will automatically contact with the wall of the adjacent opening 17 in the casing, thereby closing the circuit through the casing and causing the bell 23 to ring continuously and thus notify the occupants of the house that an

attempt is being made to burglarize the same. Any desired number of detector wires may be employed, but it is preferred to arrange them across and longitudinally of the window at intervals of approximately eight inches apart, this arrangement having been found to produce the best results. Should two of the detector wires be pressed together in an attempt to obtain access to the window sash, the distortion of the detector wires will force one or the other of the resilient arms 16 in contact with the walls of the adjacent opening 17 and sound an alarm, as will be readily understood. By making the openings 17 relatively small, only a slight lateral movement of the resilient contact arms 16 will be necessary to close the circuit through the casing, thus rendering the device extremely sensitive and positive in action so as to meet all requirements of the Fire Underwriters' Association.

Inasmuch as the contact switch elements are mounted on the insulated base 8 and said base forms a closure for the rear of the casing 10, it follows that said switch elements and associated parts, together with the casing 10, may be positioned on the base and the latter secured in proper position to a window or door casing by merely inserting the fastening devices 11 and screwing said fastening devices into the window frame, thereby permitting the alarm to be quickly and conveniently installed.

While I have shown the alarm applied to a window, it will, of course, be understood that said alarm may be used with equally good results in connection with doors, ventilating openings, or the like without departing from the spirit of the invention. It will also be understood that the devices may be made in different sizes and shapes and nickered, japanned or otherwise coated or treated so as not to present an unsightly appearance when installed within a house.

Having thus described the invention, what is claimed as new is:

1. A burglar alarm comprising an elongated backing of insulating material, an elongated metal casing having an outer side wall and upper and lower walls extending therefrom, fasteners to secure the casing against said backing, one fastener constituting means for connecting a conductor to the casing, the lower wall having open-

ings spaced from each other longitudinally thereof, fasteners carried by said backing and spaced from each other longitudinally, a conductor extending longitudinally of the backing out of contact with the casing and engaging the fasteners carried by the backing, guide loops carried by said backing above the fasteners carried by the backing, and movable contacts consisting of strands of resilient metal secured to the fasteners carried by the backing and having bridge portions extending longitudinally of the backing through said guides and arms depending from the bridge portions and extending outwardly through the openings of the lower wall and biased for contact with side walls of the openings and having their outer ends adapted for engagement with means for holding the arms out of engagement with side walls of the openings.

2. A burglar alarm comprising an elongated backing of insulating material, an elongated metal casing having an outer side wall and upper and lower walls extending therefrom, fasteners to secure the casing against said backing, one fastener constituting means for connecting a conductor to the casing, the lower wall having openings spaced from each other longitudinally thereof, fasteners carried by said backing and spaced from each other longitudinally and grouped in pairs, a conductor wire extending longitudinally of said backing and having portions engaged about the fasteners carried by the backing, guide loops carried by the backing above the pairs of fasteners, and movable contacts each formed from a strand of resilient metal having a bowed bridge portion extending longitudinally of the backing through the guide loops and having arms at its ends, one arm being coiled about one of a pair of fasteners and extending under the bridge longitudinally thereof and coiled about the other fastener of the pair of fasteners, the other arm extending downwardly from the bridge through an opening in the bottom wall of the casing and biased for contact with the casing at a side of the opening and having its lower end bent to form a hook for engagement by a pull cord whereby the arm may be centered in the opening and held under tension out of contact with the casing.

FRANCIS H. STOTTS.