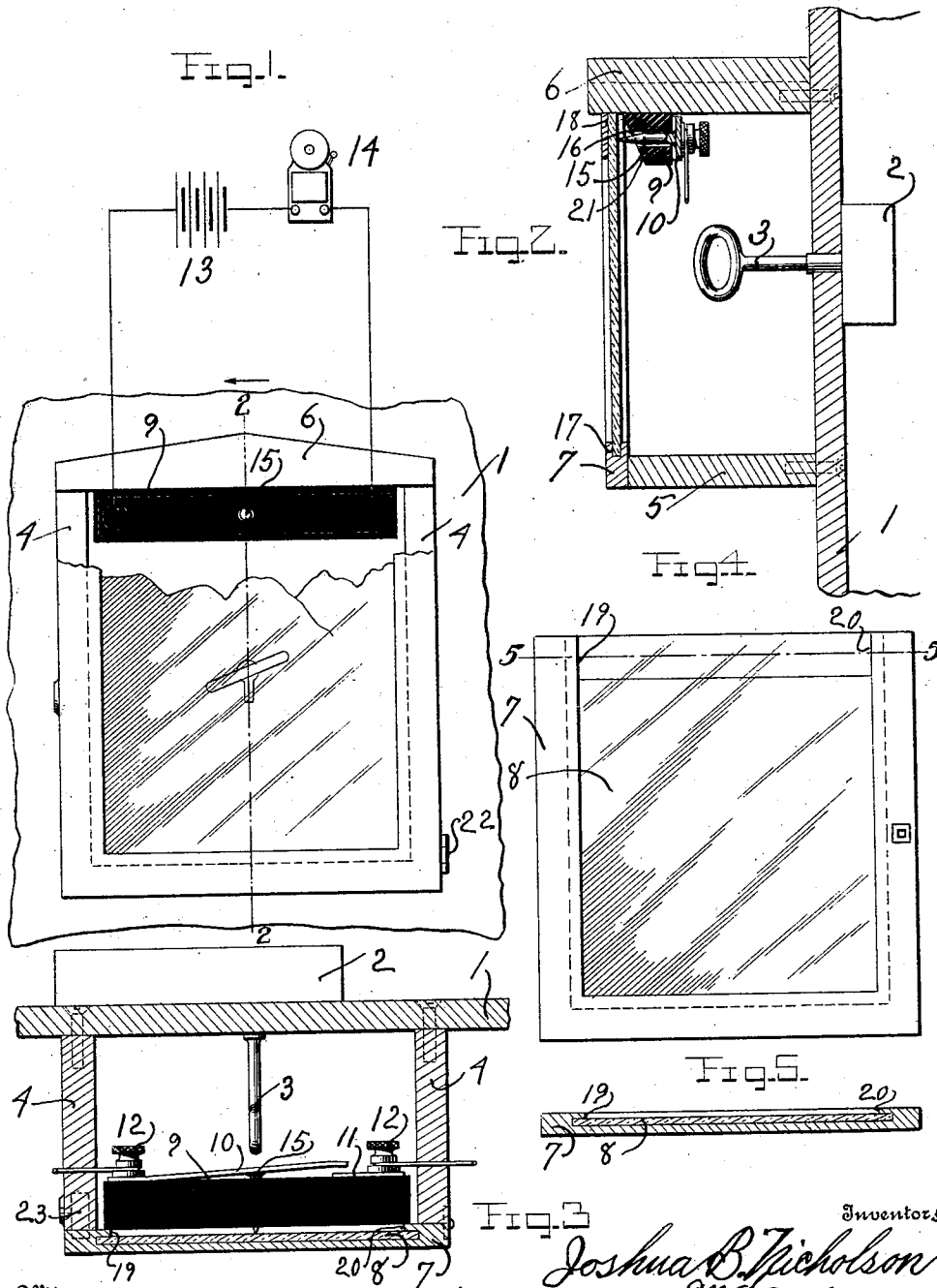


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 ALARM DEVICE FOR FIRE ALARM BOXES.
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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOSHUA B. NICHOLSON and ARTEMUS R. WARFIELD, citizens of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Alarm Devices for Fire-Alarm Boxes, of which the following is a description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to an alarm device designed to be used in connection with and to form an attachment for fire alarm boxes, and the purpose thereof is to deter persons from operating the fire alarm box unless there is an actual necessity for the fire apparatus in the vicinity.

The fire departments of large cities are put to considerable trouble and expense in answering calls, or false alarms as they are designated, sent in by mischievous persons when there is in fact no fire or other occasion for the presence of the fire apparatus in the vicinity; and, while such acts are commonly considered misdemeanors and the offender punished if caught, the fact that with fire alarm boxes as commonly used an alarm may be sent in without attracting much if any attention makes it possible for a person by choosing a time when no one is about a box to send in an alarm and then depart, in which case his detection and apprehension are rendered difficult and uncertain if not impossible.

With these difficulties to be overcome our invention consists in an alarm device which will be set in operation and will ring a bell thus giving a loud and continuous alarm at the fire alarm box whenever it is operated. This feature will not deter persons with honest intention from sending in a fire alarm when there is an actual necessity for the fire apparatus; on the other hand persons with evil intentions will hesitate to send in a false alarm when they know that the sending in of an alarm will cause a bell at the box to ring, thus attracting the attention of persons in the vicinity and rendering the identification of the sender likely if not certain.

Our invention while carrying out the useful and desirable purposes above suggested is at the same time simple in construction and cheap to manufacture, and it may be

readily applied to existing fire alarm boxes with a minimum of expense, and with but a slight change in the boxes from their present and usual form.

In the accompanying drawing: Figure 1 shows an elevation of a portion of the door of a common form of fire alarm box with our improved alarm device attached thereto, Fig. 2 is a section taken upon a plane at right angles to the plane of Fig. 1 and intersecting the same along the line 2—2, Fig. 3 is a plan view showing the parts in section, the plane of such view however being just beneath the roof portion 6 of the inclosure for the key of the fire alarm box, Fig. 4 is a view showing the cover and glass plate carried thereby for the key inclosure, the view showing the parts as seen from within the inclosure, and Fig. 5 is a sectional view taken upon the line 5—5 of Fig. 4.

In the drawings, 1 is a portion of the door with which fire alarm boxes are ordinarily provided and which has to be opened before access can be had to the interior mechanism for sending an alarm. These doors are provided with a lock 2, the key 3 of which is contained within an auxiliary key inclosing box or casing secured to the door 1 and comprising sides 4, a bottom 5, and a roof portion 6. This key box is provided with a cover comprising a frame 7 hinged to one of the sides 4 and which carries a glass plate 8 through which the key may be seen.

In sending in an alarm the glass 8 is broken and the key 3 turned to unlock the box, when the door 1 may be opened and access had to the interior mechanism of the box, which is then operated to send in an alarm. Our improved alarm device is designed so that as soon as the glass plate is broken a bell will commence to ring, thereby attracting the attention of persons in the vicinity to the person at the box.

Our device comprises a block 9 of insulating material secured to the under side of the roof 6 of the key box, upon which block contacts 10, 11 of stiff metal are secured. 12 are binding posts which serve to secure the contact strips 10, 11 to the block 9, and with which conducting wires are connected which lead to a battery or other source of electricity 13 and an electric bell 14; the bell 14, battery 13, and contact strips 10 and 11 being thus

included in a single electric circuit. The contacts 10 and 11 are normally held apart, and the circuit in which they are included therefore broken, by means of a strut 15, one
 5 end of which bears against the spring contact member 10 and the other end of which bears against the upper end of the glass plate 8. A hole 16 is formed in the block 9 through which the strut 15 passes.

10 From the construction thus far described it will be obvious that with the parts in the position shown and which is their normal position, the circuit in which the contacts, the battery and the bell are included is broken
 15 and the bell silent. As soon, however, as the glass plate is broken to gain access to the key, the pieces of glass will fall out from the frame and the strut will be released, thereby permitting the contacts to close the circuit
 20 and establish a current through the bell and cause it to ring.

The frame 7 of the cover for the key box is provided with a groove extending along each side and across the bottom, which groove is
 25 adapted to receive and hold the glass plate 8 in position. The form of this groove throughout the sides and bottom portions of the frame is as shown at 17 Fig. 2. At the top, however, the groove is extended clear
 30 through the frame, so that the glass plate can be inserted from above and passed down through the grooves into proper position, as shown at 18 Fig. 2, and the inner side of the frame is cut away between the points 19 and
 35 20, Figs. 3, 4 and 5. The purpose of this construction is to lessen and in fact eliminate the possibility of the glass sticking in the frame and failing to fall therefrom after it has been broken, thereby insuring that the
 40 strut 15 will permit the contacts 10 and 11 to close as soon as the glass 8 is broken.

To further provide against the possibility of the glass sticking and failing to fall from the frame after it has been broken we bevel
 45 the surface of the block 9 which faces the glass, as shown at 21, Fig. 2.

The cover of the key box is ordinarily hinged thereto as at 22, and is provided with a lock at 23 so that it can be opened to permit
 50 the insertion of a new glass.

The bell 14 will be located out of reach so that it cannot be tampered with, and the circuit wires leading thereto will be suitably protected. The illustration of a separate
 55 battery 13 in connection with our device must be regarded as a mere conventional showing, as we intend to use current derived from the same source as the current which is utilized for sending signals to the central
 60 station, for operating the bell.

Having thus described our invention and explained the mode of operation thereof, what we claim and desire to secure by Letters Patent is:—

65 1. In a fire alarm box, a door; a lock

therefor; a key for operating said lock; a key box inclosing said key, a portion of said box being of glass; a circuit controlling device located within said key box; means in engagement with said circuit controlling
 70 device and said glass for controlling said circuit controlling device; a bell adjacent said fire alarm box, the operation whereof is controlled by said circuit controlling device; and a source of electricity adapted to supply
 75 current to said bell.

2. In a fire alarm box, a door; a lock therefor; a key for operating said lock; a key box inclosing said key, a portion of said
 80 box being of glass; a circuit closing device located within said key box; means in engagement with said circuit closing device and said glass for normally holding said circuit closing device open to thereby main-
 85 tain the circuit which it controls broken; a bell adjacent said fire alarm box and in circuit with said circuit closer; and a source of electricity in circuit with said circuit closer and said bell.

3. In a fire alarm box, a door; a lock
 90 therefor; a key for operating said lock; a key box inclosing said key, a portion of said box being of glass; a block of insulating material located within said key box; contact strips carried by said block and through
 95 which a current of electricity may flow; a strut extending between said glass and one of said contact strips and by means of which said contact strips are normally held apart from one another to thereby maintain
 100 the circuit in which said strips are included broken; a bell adjacent said fire alarm box and in circuit with said contact strips; and a source of electricity in circuit with said contact strips and said bell.
 105

4. In a fire alarm box, a door; a lock therefor; a key for operating said lock; a key box inclosing said key, a portion of
 110 said box being of glass; a block of insulating material located within said key box, one surface thereof being beveled and disposed adjacent said glass; contact strips carried by said block and through which a current of electricity may flow; a strut extending between said glass and one of said
 115 contact strips and by means of which said contact strips are normally held apart from one another to thereby maintain the circuit in which said strips are included broken; a bell adjacent said fire alarm box and in circuit
 120 with said contact strips; and a source of electricity in circuit with said contact strips and said bell.

5. In a fire alarm box, a door; means for securing said door closed; means for re-
 125 leasing said door so that it may be opened; a box secured to said door and inclosing said releasing means, one of the walls of said box being of glass; a circuit controlling device located within said box; a strut in en-
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gagement with said circuit controlling device and said glass whereby the operation of said circuit controlling device is controlled; a bell located adjacent said fire alarm box; and a source of electricity by means of which said bell may be operated, the flow of electricity to said bell being controlled by said circuit controlling device.

This specification signed and witnessed this 29th day of June A. D. 1908.

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In the presence of—

R. N. FLINT,
A. M. PARKINS.