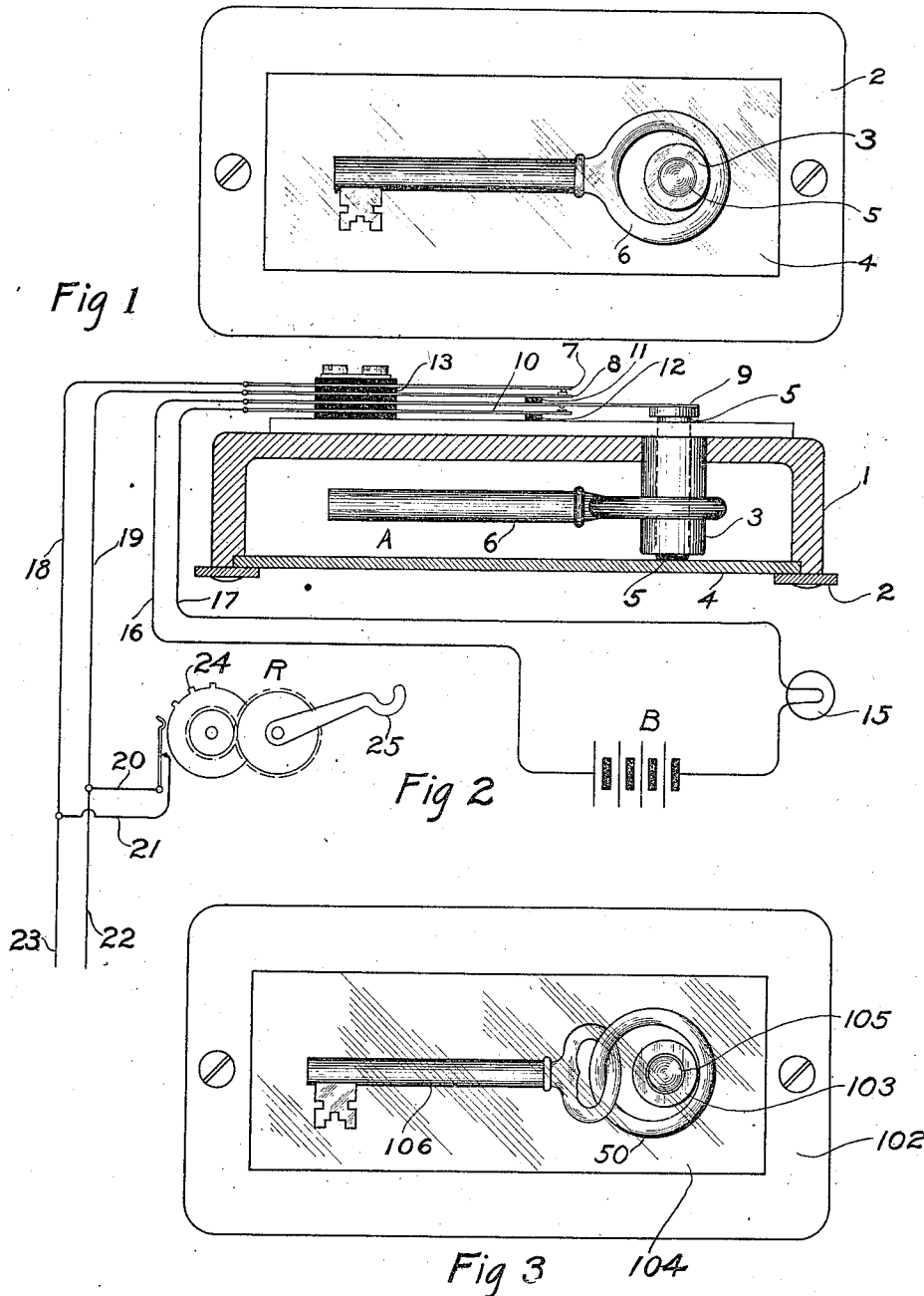


W. J. ST. ONGE.
ALARM SYSTEM.
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975,175.

Patented Nov. 8, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

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ALARM SYSTEM.

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To all whom it may concern:

Be it known that I, WALTER J. ST. ONGE, a citizen of the United States, residing in Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Alarm Systems; 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.

My invention relates to alarm systems and is more especially directed at means for controlling the same. In such systems as fire alarm, watchmen and similar systems, it is common to employ a box at the substations where a key is mounted behind some fragile substance, such as glass, a glass plate for example. This key can be reached by crushing the fragile plate. It is then removed and the box unlocked, opened and the fire alarm signal sent in. The fragile plate is often used to control a circuit employed in connection with the system; sometimes the main circuit itself. There may be a switch in the circuit which is restrained by the plate from operating to open or close the circuit to complete the desired connections or cause other changes as required. In order to release the switch it is necessary to crush the part of the plate restraining the same. The idea, being that this portion of the plate will be crushed when the part inclosing the key is broken for the purpose of removing the key. As sometimes happens only that portion of the plate proximate to the key is crushed, the key being removed leaving the switch or other circuit controlling means in its normal position. I have devised means to prevent this, associating the key with the circuit controller in such a way that it cannot be removed without crushing that part of the plate which restrains the circuit controller, thus releasing the same.

My invention will be best understood by reference to the following description when taken in connection with the following illustrations showing specific embodiments thereof, while the scope will be more particularly pointed out in the appended claims.

Figure 1 is a front view of the device. Fig. 2 is a horizontal cross-section taken above the key showing the circuit controller and a diagram of circuit connections con-

trolled thereby. Fig. 3 is a front view of a modified form.

Referring now to Figs. 1 and 2: At 1, I show a portion of the box, at 2 an escutcheon plate, at 4 a glass plate held between the box 1 and the escutcheon plate 2. The portion 1 and the plate 4 form the walls of the inclosure A. A hollow stud 3, is mounted in the back wall of this space and extends near to the rear surface of the plate 4. A button 5 is mounted to reciprocate in this hollow stud.

At 6 I show a key, the eye of which fits over the stud 3, so that the key is loosely attached or hung thereto.

At 7 and 8 I show the contact springs of an electric switch. The spring 8 is connected by an insulating stud 11 to a long spring 9, which engages the button 5, tending always to press it toward the glass 4, which acts as a restraint thereupon. When the glass is broken, this spring pushes the button forward until the spring 9 engages a fourth spring contact 10, which is spaced from the back of the inclosure by an insulating stud 12. The other ends of the springs are separated from each other by insulating members 13. The springs 9 and 10 are connected in a circuit 16—17 with a lamp 15 and a battery B. When the glass is broken, the switch 9—10 closes, completing a circuit through this lamp and the same is lighted. The springs 7 and 8 are connected in a shunt 18—19 of a switch 20—21 in the main circuit 22—23. The switch 20—21 is adapted to be operated by make and break wheel 24, controlled through a lever, 25. When the box is open, the lever 25 is depressed to send in the fire alarm signal to the central station. Unless the switch 7—8 is opened, no signal will be sent, as the switch 20—21 will be shunted. It therefore happens, that when the key is removed and the signal sent in, unless the glass is broken to release the button 5, no signal will be sent to the central station. By my arrangement it is impossible to remove the key without breaking the glass around the button.

In Fig. 3 I show a modification, the escutcheon plate being shown at 102, the glass plate at 104, the stud at 103, the button at 105 and the key at 106. A ring 50, is linked with the eye of the key and encircles the stud so that the key is associated with the

button through this ring. When the key is removed, the ring will break the glass around the button releasing the same.

While I have shown these particular forms of my invention, it will be obvious to those skilled in the art, that numerous and extensive departures from the form and the details of the apparatus here shown may be made without departing from the spirit of this invention, the same being shown herein for the purpose of clearly illustrating specific embodiments thereof.

I claim—

1. In a device of the class described, the combination of an electric circuit, means for controlling said circuit, a key, an inclosure in which said key is mounted, and means to cause the operation of said circuit controlling means before said key can be removed from the inclosure.

2. In a device of the class described, the combination of an electric circuit, means for controlling said circuit, a key, an inclosure in which said key is mounted, a fragile plate forming part of the inclosing walls and means to cause the operation of said circuit controlling means before said key can be removed from said inclosure.

3. In a device of the class described, the combination of an electric circuit, means for controlling said circuit, a fragile plate controlling said means, a key and an inclosure therefor, said key adapted to crush said plate when the key is removed from said inclosure.

4. In a device of the class described, the combination of an electric circuit, a switch in said circuit controlling the same, a fragile plate controlling said switch and adapted when crushed to permit the operation thereof, a key and an inclosure therefor, said plate mounted in the walls of said inclosure, said key adapted when removed to crush said plate whereupon said switch is operated to control said circuit.

5. In a device of the class described, the combination of an electric circuit, a switch in said circuit, an inclosure, a fragile plate, means mounted in said inclosure controlling said switch spring, a spring pressing said means against said plate, a key housed in said inclosure adapted when removed to cause the crushing of said plate whereby said spring pressed means is released and said switch operated.

6. In a device of the class described, the combination of an electric circuit, a switch in said circuit, an inclosure, a fragile plate mounted in the walls of said inclosure, a button mounted in said inclosure, a spring pressing said button against said plate, and a key housed in said inclosure, adapted when removed to cause the crushing of said

plate, whereupon said button is released and said switch operated.

7. In a device of the class described, the combination of an electric circuit, a switch therein, an inclosure, a hollow stud mounted in said inclosure, a button controlling said switch mounted to reciprocate in said stud, a fragile plate, said button being spring pressed against said plate and a key loosely connected to said stud, said key adapted to cause the crushing of said plate when removed from said button, whereupon said spring pressed button is released and said switch operated.

8. In a device of the class described, the combination of an electric circuit, means controlling said circuit, a fragile plate normally restraining the operation of said means, a key and a ring attached to said key and said means, said key and ring adapted to crush said plate to permit the operation of said circuit controlling means when the key is removed thereupon.

9. In a device of the class described, the combination of an inclosure, an electric circuit, normally restrained circuit controlling means mounted in said inclosure, a key associated with said circuit controlling means and means to prevent the removal of said key until said circuit controlling means is released.

10. In a device of the class described, the combination of an electric circuit, normally restrained circuit controlling means, a key associated therewith, and means to prevent the removal of said key therefrom until said circuit controlling means is released.

11. In a device as described, the combination of an electric circuit, a switch therein, means normally restraining said switch, a key associated with said switch, said restraining means adapted to release said switch when said key is removed.

12. In a device as described, the combination of an electric circuit, a switch therein, a fragile plate normally restraining said switch, a key associated with said switch, said plate adapted to release said switch when said key is removed.

13. In a device of the class described, the combination of an electric circuit, a switch therein, a fragile plate normally restraining said switch, a key associated with said switch, said key when removed adapted to cause the crushing of said plate, whereby said switch is released.

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

WALTER J. ST. ONGE.

Witnesses:

T. K. DIEDRICK,
F. O. RICHEY.