(No Model.)

I. FREED.

ELECTRICAL SAFE PROTECTION SYSTEM.

No. 604,033. Patented May 17, 1898.

Fig. 1.

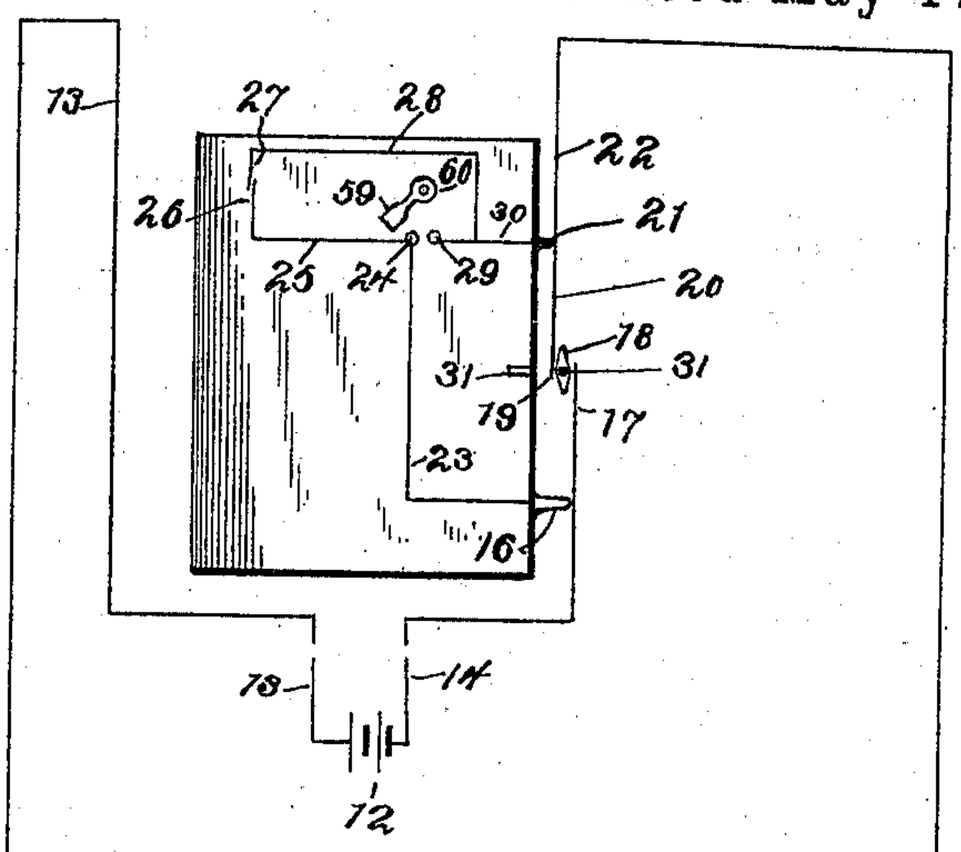


Fig. 2.

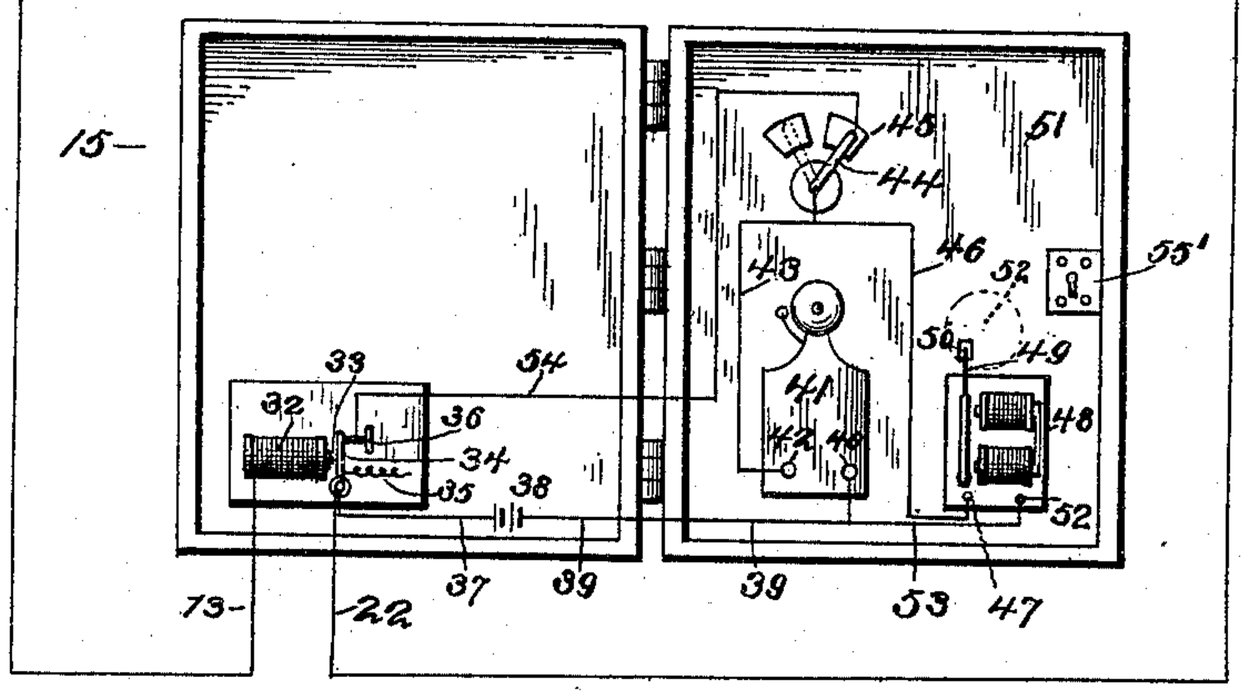
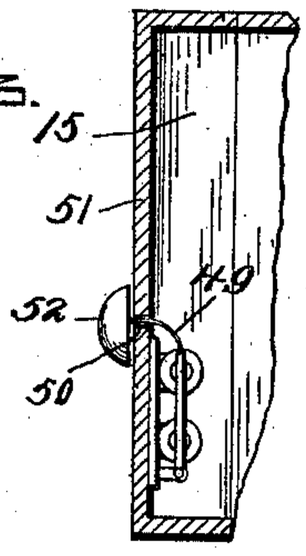


Fig. 3.



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UNITED STATES PATENT OFFICE.

ISAAC FREED, OF HARRISBURG, PENNSYLVANIA.

ELECTRICAL SAFE-PROTECTION SYSTEM.

SPECIFICATION forming part of Letters Patent No. 604,033, dated May 17, 1898.

Application filed June 15, 1897. Serial No. 640,844. (No model.)

To all whom it may concern:

Be it known that I, ISAAC FREED, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Electrical Safe-Protection Systems; 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 relates to a system for the electrical protection of safes or strong boxes for the safe deposit of valuables—such as money, papers, jewelry, and other personal property; and the object is to so protect the safe that while the rightful parties may have convenient access to the same the unauthorized tampering with the safe will immediately sound a local or distant alarm, or both, if desired.

To this end the novelty consists in the construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a diagrammatic view of the safe connections embodying my invention. Fig. 2 is a plan view of the local alarm. Fig. 3 is a transverse section of the same.

Referring to Fig. 1, which is a diagrammatic view of the safe connections, 12 shows the main battery, which may be of any of the constant closed-circuit types, and 13 14 are the conductors leading therefrom. The conductor 13 has no connection with the safe, but continues on past it to the alarm-box 15. The conductor 14, however, passes up behind the safe and in the path of a contact-stud 16, fixed in the back of the box and terminates in a spring contact-arm 17, located in the path of a switch 18. The circuit then extends through said switch to the opposite spring-contact 19 and conductor 20, across the path of the contact-stud 21, fixed in the back of the safe, thence over the conductor 22 to the alarm-box.

From the stud 16 in the back of the safe a conductor 23 extends to a switch-point 24, fixed on the door of the safe, and from said point 24 over a conductor 25 to a spring contact-point 26, fixed on the top of the safe and in the path of the door. 27 represents a similar contact-point fixed in the top of the safe and in the path of the point 26, and from it a conductor 28 extends to the switch-point 29, and thence over a conductor 30 to the contact-stud 21, before mentioned.

The switch 18 is fixed in the back wall of the recess in which the safe is located, and it is provided with a square shank 31, which extends through an alined orifice in the back of the safe, and by means of a suitable key the switch is operated from the inside of the box.

It will be understood from this construction that a person having legitimate access to the safe may open the door in the usual manner and by means of the key above referred to turn the switch 18, so as to "cut out" the box or safe from the alarm-circuit, and thus permit the removal of the safe from the recess in which it has been temporarily placed without operating the alarm mechanism.

Referring to Fig. 2, the circuit extends over the conductor 13, through the electromagnet 32, and from the non-magnetic contact-point 33 in its core to its armature 34, and through said armature to the conductor 22, which completes the closed circuit, of which the battery 12 and the safe 1 form a part, and when this circuit is closed, and which is its normal condition, the magnet 32 is energized or charged to hold its armature in contact with it. If, however, the circuit be broken at any point, the retractile spring 35 withdraws the armature from the core, and it remains in this position until the circuit is closed where it was originally opened, and also at this point, which of course must be done by hand, by moving the armature up to the magnet and closing the circuit through the armature and contact-point 33.

36 represents an adjustable contact-screw fixed in the path of the back of the armature 34, and from said armature a conductor 37 extends to one pole of an ordinary open-circuit battery 38, and from the opposite pole a conductor 39 extends to the binding-post 40 of an ordinary vibrating bell 41, located wholly within the box 15. 42 represents the opposite binding-post of said bell 41, and

from it a conductor 43 extends to a switch-lever 44, arranged to make contact with a plate 45, fixed in its path. From said switch-lever 44 a conductor 46 extends to the binding-post 47 of a second vibrating bell 48, also located within the box 15; but its hammer-arm 49 extends through an orifice 50 in the front 51 of said box 15 to sound an alarm on the gong 52, fixed on the outside of said box. From the opposite post 52 of said bell 48 a conductor 53 extends to the post 40 of the bell 41 first mentioned, and from the switch-plate 45 a conductor 54 extends to the contact-screw 36 and which completes the local or alarm circuit. It will thus be seen that if the main or closed circuit in which the safe is located, as heretofore fully described, be interrupted the armature 34 will be released and its spring 35 will draw it back and close the local circuit through the screw 36.

The front of the box 15 is provided with a "Yale" lock 55', and by means of the switch-lever 44 the local circuit may be broken when for any reason it shall not be desirable for it to operate. This switch-lever 44 is connected to the barrel of a Yale lock, extending through the front of the box, and of course it can only be manipulated from the outside by means of its appropriate key.

The gong 52, as heretofore stated, is located on the outside of the box 15, so as to sound an alarm within a considerable radius of the box; but should said gong be surreptitiously removed or silenced the bell 41 would still continue to ring, as it, with its battery and connections, is located wholly within the box and the whole is proof against any unauthorized interference. In some instances I include the box 15 and its front or door in the closed or safe circuit, so that an attempt to force the door would interrupt the circuit the same as if the safe were tampered with and start the alarm.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

A safe-alarm system, comprising the safe, provided with the contact-points 16 and 21, a conductor extending from the point 16 to the point 21 and including one or more switches, the bottom 12 and the closed circuit 13 and 14 embracing the spring-fingers 17, 19 and the switch 18, in combination with the alarm-box 15, the magnet 32, core 33 and its armature 34, forming a part of the closed circuit 13, 14, the battery 38, conductor 37 connected to said armature 34, the contact-screw 36 located in the path of said armature, the switch 44, 45, the conductor 54 connecting said switch and screw 36, the alarm-bell 41, the conductor 43 connecting one post of said switch and bell and the conductor 39 connecting the opposite post of said bell with said battery 38, substantially as and for the purpose set forth.

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

ISAAC FREED.

Witnesses:
HENRY F. FREED,
A. J. FAGER.