(No Model.) 2 Sheets—Sheet 1.

# J. W. & W. D. GILSTRAP.

## BURGLAR ALARM FOR SAFES.

No. 530,411. Patented Dec. 4, 1894.

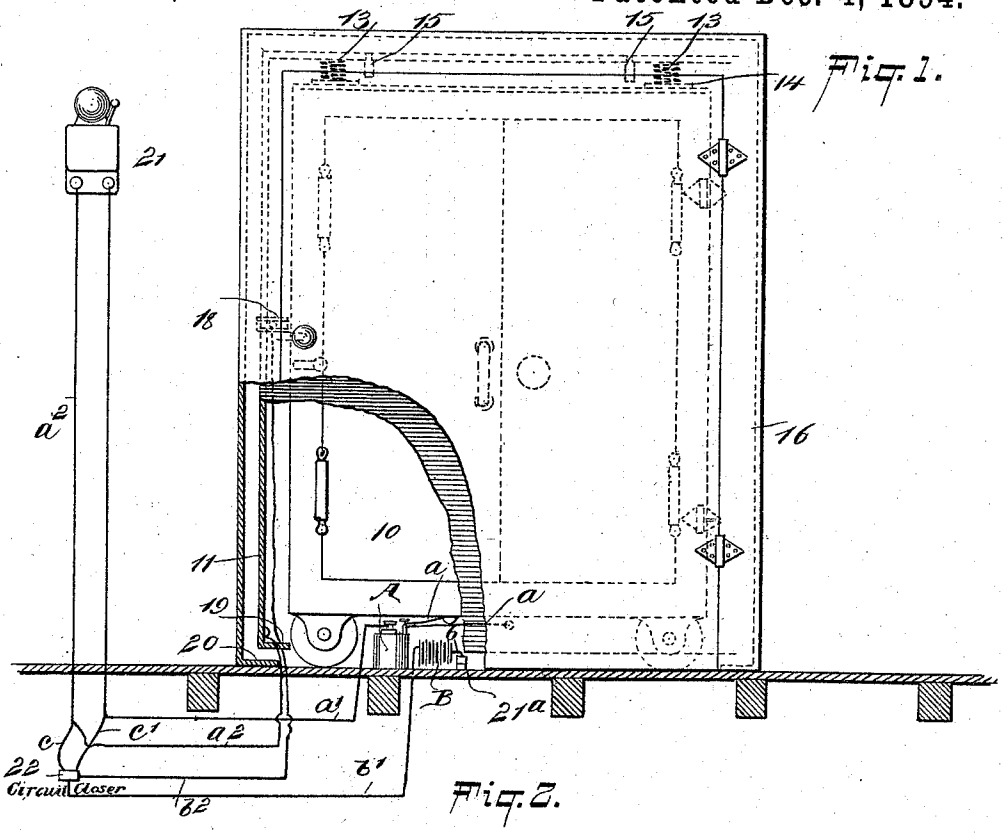



Fig. 1.

Fig. 2.

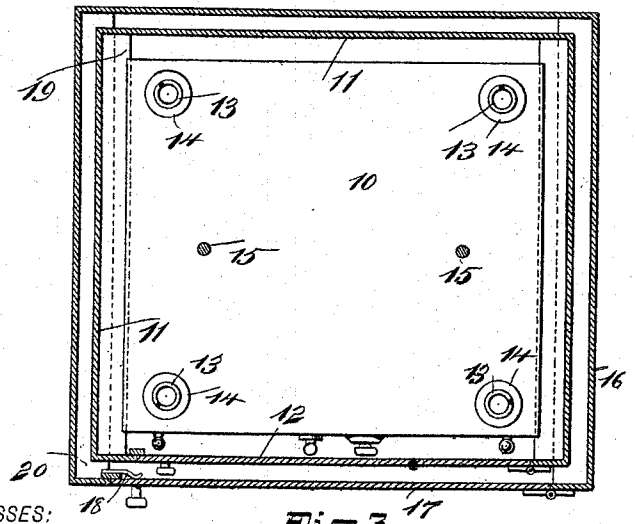
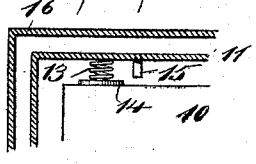



Fig. 3.




WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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## BURGLAR ALARM FOR SAFES.

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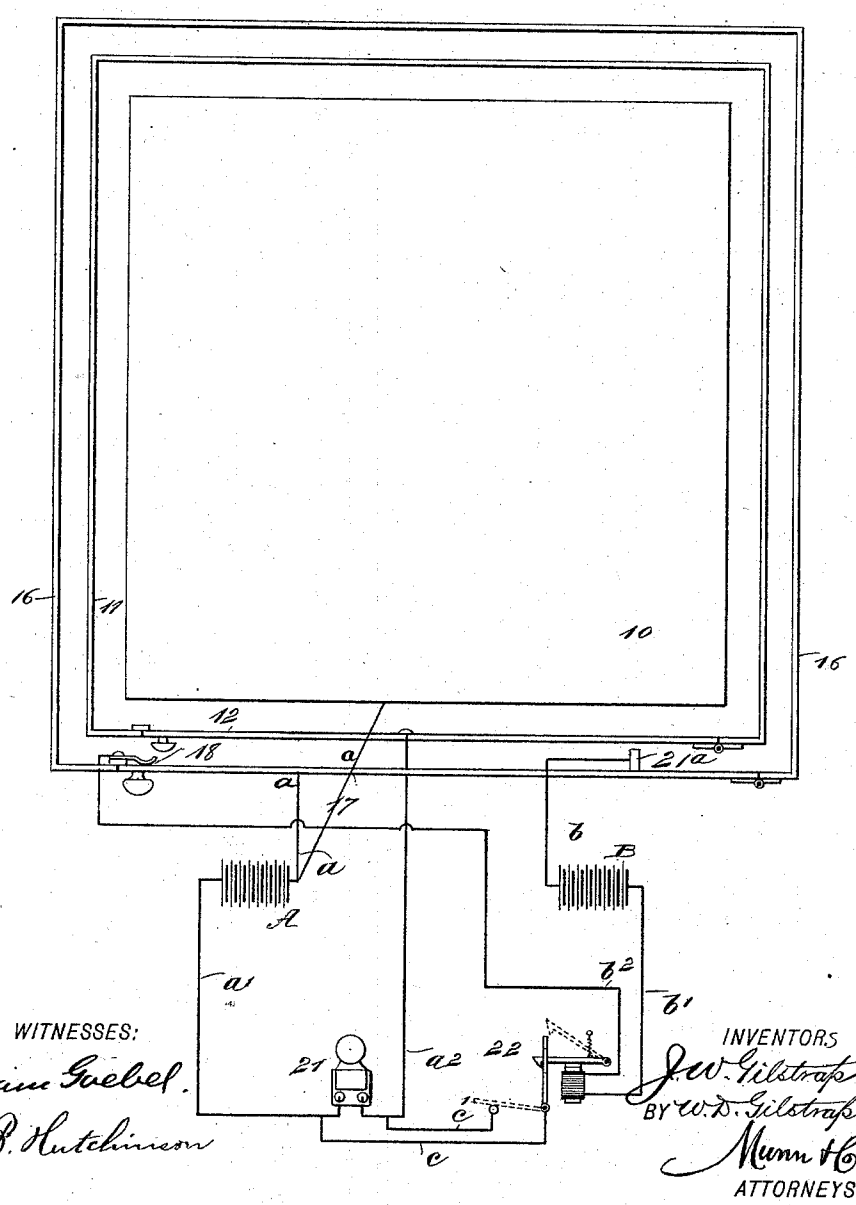
Fig. 4.



# UNITED STATES PATENT OFFICE.

JAMES W. GILSTRAP, OF ROLLA, AND WILLIAM D. GILSTRAP, OF RACINE, ASSIGNORS OF ONE-THIRD TO AUSTIN L. McRAE, OF ROLLA, MISSOURI.

## BURGLAR-ALARM FOR SAFES.

SPECIFICATION forming part of Letters Patent No. 530,411, dated December 4, 1894.

Application filed April 24, 1894. Serial No. 508,797. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES W. GILSTRAP, of Rolla, in the county of Phelps, and WILLIAM D. GILSTRAP, of Racine, in the county of Newton, State of Missouri, have invented a new and Improved Burglar-Alarm for Safes, of which the following is a full, clear and exact description.

Our invention relates to that class of burglar alarms which are adapted for use in connection with safes and similar things, and which are adapted to sound an alarm in case the safe is tampered with.

The object of our invention is to produce a simple apparatus of this kind, adapted to envelop a safe or similar thing and arranged in such a way that if any attempt is made to reach or tamper with the safe an alarm will be sounded.

To this end our invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a broken front elevation of our improved apparatus as applied to a safe. Fig. 2 is a sectional plan of the same; and Fig. 3 is an enlarged detail view, showing how the two inclosing envelopes are arranged on the safe. Fig. 4 is a diagram illustrating the circuits.

The safe 10 may be of any usual make, or any other metallic article may be protected as the safe is protected, which manner of protection will appear below. The safe 10 is inclosed by a metallic envelope 11, which does not touch the safe and is insulated from it, the envelope having a door 12 opposite the safe door to enable the latter door to be easily reached. The envelope 11 rests on springs 13 which are mounted on insulating blocks 14 on the safe top, although the envelope may be insulated from the safe in any other manner. The envelope has depending from its top contact blocks 15, and if pressure is applied to the top of the envelope the springs are compressed and the contact blocks, striking the safe closes the circuit through an alarm, as hereinafter described.

The envelope 11 is inclosed by another envelope 16 which does not touch the envelope 11, but is in electrical circuit with the safe, as will appear below, this envelope resting on the floor and having in front a door 17 opposite the doors of the safe and inner envelope. A spring 18 is insulated on the envelope, near the free edge of the door, so as to touch the door when the latter is closed, and when the door is opened the spring acts as a circuit breaker, as will appear in following out the circuits.

The envelopes 11 and 16 have in-turned flanges 19 and 20, so that in case either envelope is raised it will strike either the safe or the other envelope, thus closing the circuit and sounding an alarm.

A battery A is arranged beneath the safe or in some other convenient place, and one pole of the battery connects by two wires *a* with the safe and with the outer envelope 16, while the other pole of the battery connects by means of a wire *a'* with an electric bell 21 or other electric alarm which may be arranged in any desired locality, and the return wire $a^2$ extends from the bell to the inner envelope 11. It will thus be seen that if the envelopes are moved so as to cause the inner one to contact with the safe, the circuit will be closed through the alarm and the attempts of the burglars frustrated. A closed circuit battery B is also arranged beneath the safe or in some other convenient place, and a wire *b* connects the battery with contact lugs $21^a$ which are secured to the floor and connect with the outer envelope 16, and another wire *b'* leads from the other pole of the battery to a circuit closer 22 which may be of any usual kind and a wire $b^2$ leads from the circuit closer to the circuit breaking spring 18. The circuit closer is operated by the breaking of the circuit of the battery B and it connects, when operated, the wires *c* and *c'* with the bell 21, or other equivalent alarm.

The circuit-closer, 22, here shown is composed of an electro-magnet (in circuit with the wires *b'* $b^2$ of battery B), and a hinged armature, which normally rests on said magnet, but is raised by a spring when the cir-

cuit through the magnet is broken. The said armature normally holds a hinged drop bar in elevated position. The wires, $c$, $c'$, are branches of the open circuit wires $a'$, $a^2$, respectively, and their free ends are arranged in such proximity and relation to the drop of the circuit-closer, 22, that, when the circuit through battery, B, is broken, the drop falls (see dotted lines in Fig. 4,) and strikes upon both such free ends of the wires, $c$ $c'$, thereby closing a circuit through the bell, 21, and sounding an alarm.

It will be seen that the circuit from the battery B will be normally through the wire $b$, the contacts $21^a$, the outer envelope 16, the spring 18, the wire $b^2$, the circuit closer 22, and the wire $b'$ back to the battery. If the door 17 is opened, it will be seen that the circuit will be broken, thus permitting the circuit closer to close the circuit through the alarm, or if the envelope 16 is lifted, the circuit will be broken with the same result. The several wires are preferably twisted into a single cable, and then the wires of the bell circuit cannot be cut without a liability of cutting the relay wires and ringing an alarm.

We do not confine ourselves to the precise arrangement of the parts specified, nor to the particular connections shown, as it is obvious that these may be changed considerably without affecting the principle of our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination with the safe, of an inclosing, movable, rigid, metallic envelope, insulating media which separate them, means for making contact between them, and an electrical circuit, a circuit-closer, and alarm, as shown and described, whereby the movement of the envelope, bodily, in any direction, closes said circuit and sounds the alarm, as specified.

2. The combination with the safe, of an inclosing, rigid, metallic envelope, a second envelope inclosing the first, both being movable bodily, means for insulating the inner envelope and making contact, an electrical circuit and connections between the safe and two envelopes, and an alarm included in said circuit, as shown and described.

3. The combination, with the safe, of the inner envelope inclosing the safe and provided with a door, the inner envelope being insulated from the safe, an outer envelope electrically connected with the safe and insulated from the inner envelope, in-turned flanges or contacts on the two envelopes, and electrical connections between a source of electricity and the safe and outer envelope and between such source and the inner envelope, substantially as described.

4. The combination, with the safe and the inner envelope, of insulated springs supporting the envelope on the safe, contacts carried by the envelope to touch the safe an electric alarm, and an electric circuit including the safe, the envelope and the alarm, substantially as described.

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Witnesses:
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