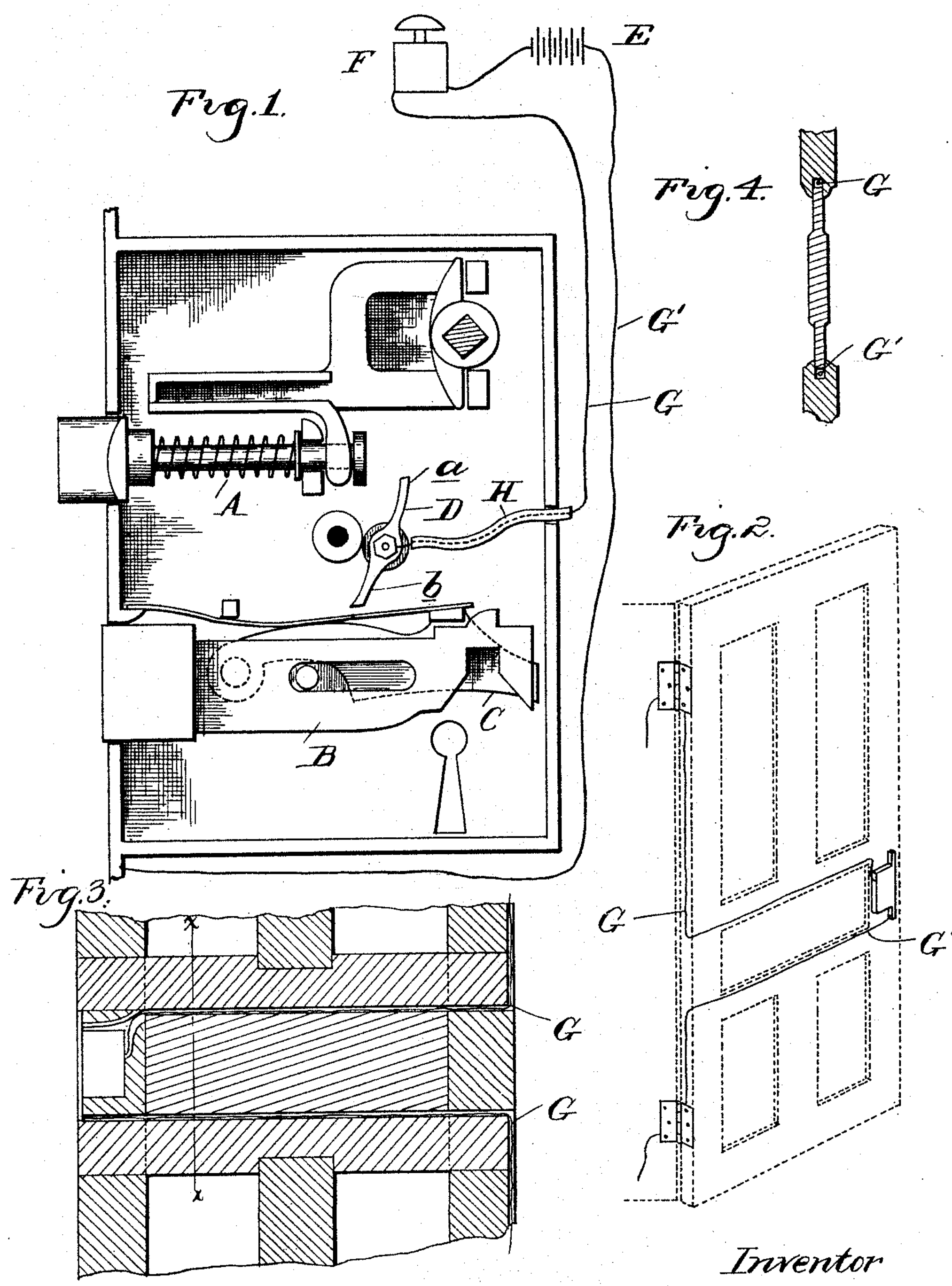
(No Model.)

J. A. NADEAU.

ELECTRIC ALARM LOCK.

No. 490,161. Patented Jan. 17, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH A. NADEAU, OF DETROIT, MICHIGAN.

ELECTRIC ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 490,161, dated January 17, 1893.

Application filed September 2, 1892. Serial No. 444,913. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. NADEAU, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Electric Alarm-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in electric alarm locks, and the invention consists in the peculiar arrangement of the circuit closing contacts all as more fully hereinafter described and shown.

In the drawings, Figure 1 is an elevation of a lock of known construction, to which my invention is applied. Fig. 2 is a perspective view of a door to which my invention is applied. Fig. 3 is a vertical central longitudinal section through the center panel of the door. Fig. 4 is a cross section on line *x*—*x* Fig. 3.

A represents the latch bolt and B the bolt of the lock, the latter being controlled by the tumbler C operated in the usual manner by the key.

My invention consists in the arrangement of the metallic contact D, which is secured within the casing of the lock, suitable insulating material being used to insulate said contact D from all metallic connection with the lock. This contact D has two horns *a* and *b*, the former of which projects into the path of the latch A, in such a manner that when the latch is thrown back the rear end of the latch will come in metallic contact therewith. The other horn *b* projects in proximity to the tumbler C in such a manner that when the lock is lifted up by the operation of the key in the act of unlocking the door it will come in contact with said horn *b*.

E is a battery.

F is the electric alarm in circuit with the battery, and G G′ are the circuit wires of the battery. One of these circuit wires G passes through an aperture in the casing of the lock into the interior of the lock and has its free end secured in any suitable manner to the contact D, and that portion of the wire inclosed within the lock and to a certain distance thereof is covered with an insulating material H, whereby it is protected from all possible metallic contact with any portion of the lock except the contact D, the other wire G′ is connected to the casing of the lock.

In practice, my invention is designed to ring an alarm by the closing of a circuit in the act of operating the door lock, either by throwing the latch, or by applying the key. In the former instance it will be seen that the circuit is closed as soon as the rear end of the latch touches the horn *a* of the contact, while in the latter case the lifting of the tumbler closes the circuit as soon as it touches the horn *b* of the contact.

In the application of my invention I contemplate having the wires leading to the lock entirely concealed, and to this end, I bore with a fine gimlet suitable channels transversely through the body of the door, or utilize the mortise of the adjacent panel to string the wire through said mortise, which generally affords sufficient room for concealing such wires, as all doors in time shrink sufficient for the purpose. From the rear side of the door I then lead these circuit wires through the movable part of the door hinges. The circuit wires G G′ then extend farther from the stationary part of the door and hinges to the place where the battery and alarm are disposed, which in general will be the bedroom of the occupant of the house. I also preferably provide a switch at any suitable place in the circuit.

I am aware that electric alarms have been applied to the doors for closing the circuit by the throwing of the latch or bolt, but I am not aware that a fixed contact has ever been arranged in such a way as to be at once in the path of both, and I consider it also new to have that contact in such relation that it will close a circuit by the operation of the tumbler instead of the bolt. This saves the use of a switch to prevent the constant ringing of the alarm bell when the bolt is thrown back, and therefore the switch in my construction may be omitted without any inconvenience.

A further advantage of my construction is the manner of concealing the wires whereby the presence of the device is entirely concealed from everybody and increases the value of the device.

What I claim as my invention is:

1. The combination with a lock adapted to

be mounted upon a door and comprising a metallic case, a latch and a bolt controlled by a tumbler, of a battery, and electric signal circuit wires including said battery and signal, a contact piece upon the interior of said casing insulated therefrom and having two horns, one of which is adapted to contact with the latch and the other adapted to contact with the tumbler of the lock when the door is opened and circuit wires having one terminal secured to said contact and the other to the case of the lock, substantially as described.

2. In a burglar alarm, the combination with a door lock provided with a latch and a bolt controlled by a tumbler and a battery, an electric signal, a contact piece within the casing of the lock and povided with two horns with which the latch and tumbler of the bolt are adapted to contact respectively upon the operation of said latch and bolt, circuit wires closing the battery and electric signal, and respectively connected to the contact piece in the lock and to the casing of the lock, said circuit wires being concealed within the door and electrically connected through the hinges of the door, substantially as described.

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

JOSEPH A. NADEAU.

Witnesses:
M. B. O'DOGHERTY,
N. L. LINDOP.