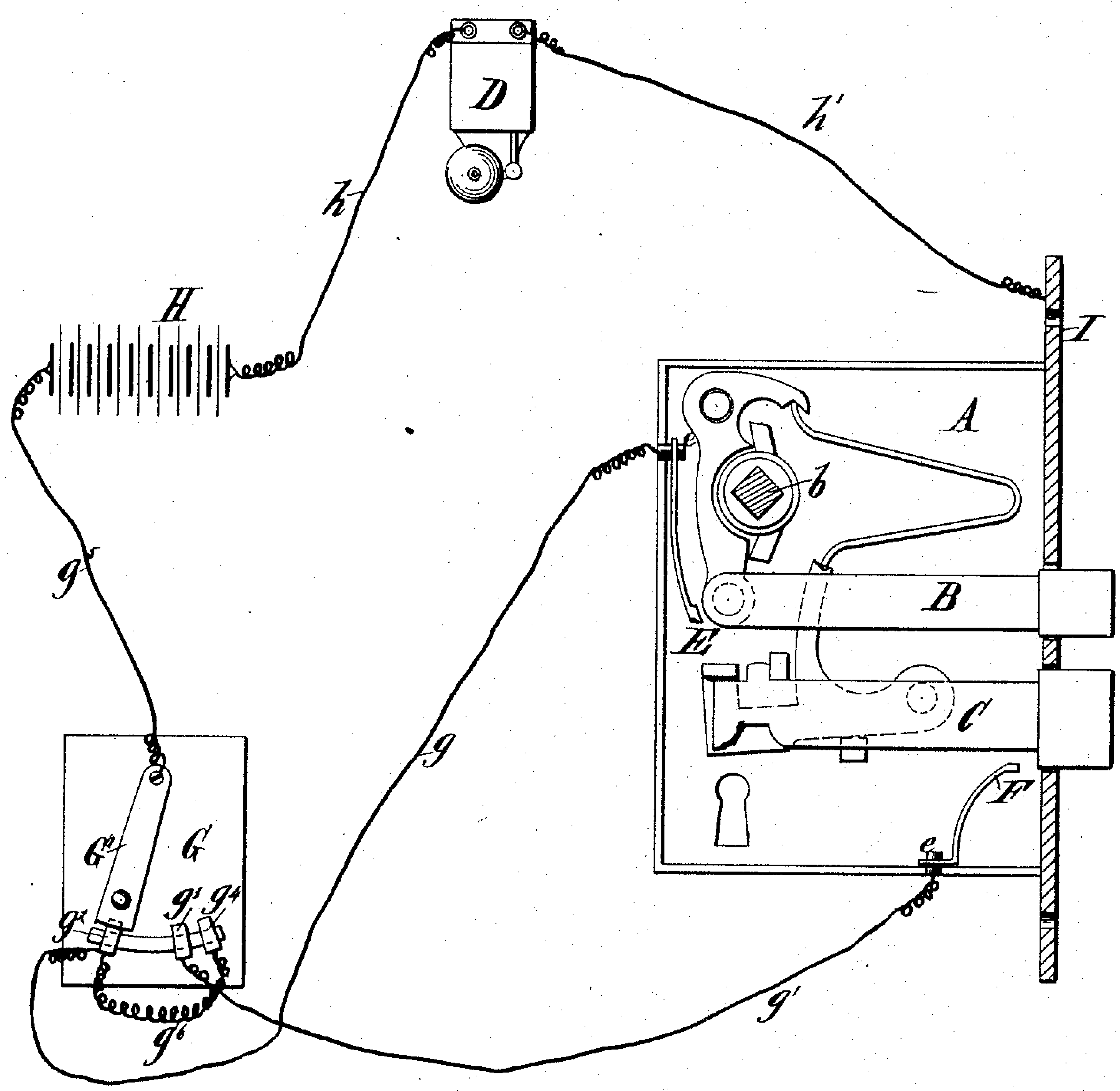
(No Model.)

E. HAYWARD & E. S. SIMS.

BURGLAR ALARM.

No. 428,774. Patented May 27, 1890.



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UNITED STATES PATENT OFFICE.

EDWIN HAYWARD, OF BROOKLYN, AND EDWARD S. SIMS, OF NEW YORK, N. Y.

BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 428,774, dated May 27, 1890.

Application filed August 9, 1889. Serial No. 320,204. (No model.)

To all whom it may concern:

Be it known that we, EDWIN HAYWARD, of Brooklyn, in the county of Kings and State of New York, and EDWARD S. SIMS, of the city, county, and State of New York, have invented a certain new and useful Improvement in Burglar-Alarms, of which the following is a specification.

Our improvement is intended to sound an alarm electrically upon an attempt being made to withdraw the bolt of a lock, and is adapted to be applied directly to locks which are in use upon doors or other structures.

The accompanying drawing is a partly diagrammatic view showing a lock embodying our improvement, together with an electric circuit, a switch, and an alarm, one of the sides of the lock case or shell being removed to disclose the parts within.

We have shown a lock of very ordinary construction; but of course we wish it to be understood that our improvement may be applied to various kinds of locks.

In the lock shown, A designates the case or shell, made of metal, and within which the operative parts of the lock are contained,

B designates a bolt, which is operated by turning a handle upon the spindle *b* in a well-known manner.

C designates a bolt operated by a key also in a well-known manner. Both of these bolts are of course capable of longitudinal movement. When either of them is moved rearwardly, circuit is closed on an alarm D.

As previously stated, our invention may be readily applied to old locks or those already in use, as well as to new locks. To accomplish this we secure metallic contact-pieces E F to the case or shell upon the inner side thereof. This we do by merely making an aperture in the case or shell and passing suitably-insulated metallic pieces *e* through said apertures, to which metallic pieces the contact-pieces E F are connected. Line-wires *g g'* connect with the metallic pieces E F through the metallic pieces *e*. These line-wires lead in this instance to a switch-board G, provided with a switch or circuit-closer G' and suitable contact-pieces g^2 g^3 g^4. The wires *g g'* extend to the contact-pieces g^2 g^3, respectively. The wire g^5 leads to the battery H, and a wire *h* from the battery H to the alarm D. From the alarm D a wire *h'* leads to and is directly connected with the case or shell A of the lock. As shown it is connected to the face-plate I of the lock.

The switch-board is so constructed that when the circuit-closer G' is moved upon the contact-piece g^2 the contact-piece E will be in the circuit. When the circuit-closer is moved upon the contact-piece g^3, the contact F will be in the circuit, and when the circuit-closer G' is moved so as to contact with both the contact-pieces g^3 g^4 both of the contact-pieces E F will be in circuit, because the contact-piece g^2 is in circuit with the contact-piece g^4 by means of the loop g^6. As shown the contact-piece E only is in circuit. If, now, the bolt B be withdrawn, it will contact with the contact-piece E, and circuit will thus be closed through the metallic lock and upon the alarm, whereupon an alarm will be sounded.

Of course it is not essential that both of the bolts of the lock should be adapted to be placed in circuit, as one will in many instances suffice.

It will be seen that our improvement is exceedingly simple and is adapted to be readily applied to any lock having a longitudinally-movable bolt without interfering with any of the mechanism of the lock.

By extending suitably-insulated metallic pieces through the case and securing to their inner ends the contact-pieces and to their outer ends, or those ends which extend to the exterior of the case, the circuit-wires we provide means whereby circuit-wires may be attached to and detached from the lock without being obliged to open the shell or case of the lock in order to reach the interior. This is advantageous when for any cause it may be desirable to disconnect the lock from the circuit and after having been so disconnected to connect it again.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, with a lock adapted to be mounted upon a door and comprising a metallic case and a bolt adapted to be thrown

when the door is closed, of a battery, an electric signal, circuit-wires including said battery and signal, a contact-piece upon the interior of said case, and an insulated metallic piece extending through said case, to the inner end of which said contact-piece is secured and to the outer end of which one of said circuit-wires is secured, the other of said circuit-wires being connected directly to said metallic case, substantially as and for the purpose specified.

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