J. F. CALLAWAY.

Circuit Closer for Alarms.

No. 201,991. Patented April 2, 1878.

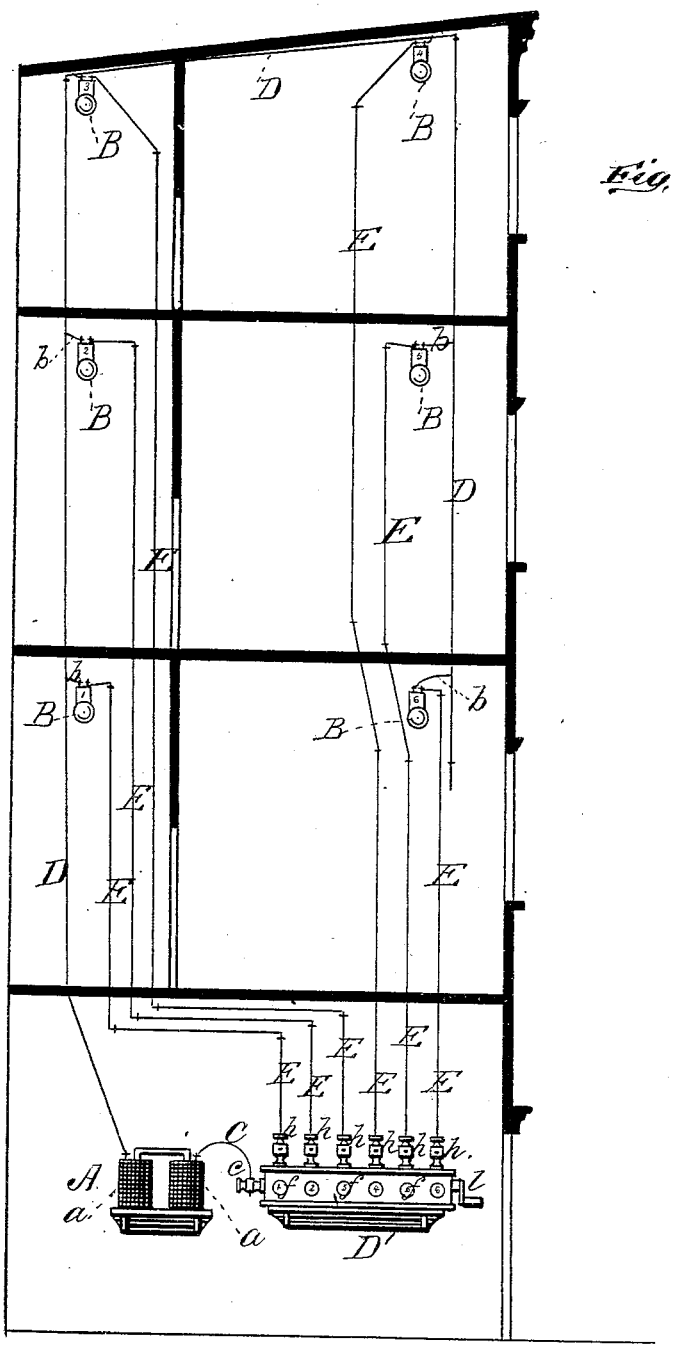

Fig. 1.

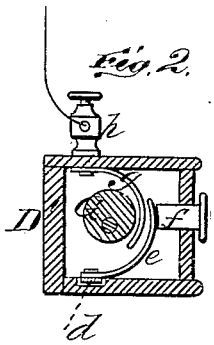

Fig. 2.

WITNESSES

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JAMES F. CALLAWAY, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN CIRCUIT-CLOSERS FOR ALARMS.

Specification forming part of Letters Patent No. **201,991**, dated April 2, 1878; application filed March 2, 1878.

To all whom it may concern:

Be it known that I, JAMES F. CALLAWAY, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and valuable Improvement in Electric Fire and Call Alarms for Hotels, Steam-Vessels, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of a house, showing my alarm applied; and Fig. 2 is a cross-sectional view of the key-board, showing the flexible circuit-closers, the eccentric-shaft, and the press-buttons.

This invention has relation to improvements in electric call or fire alarms for hotels, steamers, and the like.

The object of the invention is to form an alarm which may be made general throughout all the rooms of a hotel or cabins of a passenger-vessel in case of fire, and which may be limited to a single room, as when a guest is to be awakened at an early hour.

The nature of the invention will be fully set forth hereinafter.

In the annexed drawings, the letter A designates an electric battery, composed of a sufficient number of cells, *a*, and located in any convenient part of a building or vessel. In each chamber or bed-room is placed an electric bell, B; or a large gong may be set up in the corridors into which the chambers open, connected, by means of short wires *b*, to the circuit-wire D, that is secured to one of the poles of the battery A.

C represents the circuit-wire leading from the other pole of the battery to a post, *c*, upon the end of the key-board D′ in the office. The post *c* is connected by a metal strip, *d*, to the arms *e*, that extend up to the front, and are in contact with the keys *f*, that are numbered to correspond to the numbers of the rooms in which the alarm-bells are placed. *g* represents similar curved arms, springing from the back of the key-board to the front, with their free ends overlapping, but not in contact with, the arms *e*. The arms *e* are each connected to a post, *h*, upon the key-board, to which is coupled, in the usual manner, a wire, E, leading to the alarm-bell and completing the circuit.

By pressing upon a button the arm *e* is thrust into contact with the arm *g*, the circuit is closed, and the bell corresponding to the said button sounded. The arm *e* is of sufficient springiness to cause it to retract itself automatically from the circuit-closer *g* when the button is relieved from pressure; consequently the alarm may be repeated as often as required.

Each bell may have a circuit-breaking attachment, if I so elect, though it is not indispensable.

G represents an eccentric-shaft, mounted in suitable bearings in the key-board under the arms *g*, and provided with a crank-arm, *l*, by means of which it is rotated. When this shaft is rotated the arms *g* are thrust into contact with the arms *e*, all the circuits closed, and alarms sounded simultaneously in all the rooms. These alarms may be rapidly repeated by rapidly opening and closing the circuits, which may be done by imparting an oscillating motion to the eccentric-shaft.

It is evident that the circuit-wires should be properly insulated, and that the eccentric-shaft must be of some non-conducting material, as glass, india-rubber, silk, resin, and the like. The core of the shaft may be of wood or metal, covered with glass or india-rubber, or other non-conductor of electricity.

It is evident from the above description that the general and special alarm mechanism may be used independent of each other.

The circuit-closers and eccentric-shaft are designed to be shut in a casing, N, so as to be protected from dust and moisture.

I claim as new, and desire to secure by Letters Patent—

1. In an electric alarm, the key-board D′, with the eccentric-shaft G, in combination

with the flexible circuit-closers *e g*, the press-buttons *f*, the circuit-wires, and the electric bells B, as and for the purpose set forth.

2. The combination, with the battery A, of the electric bells B′, the circuit-wires D C E *b*, the key-board D′, the flexible circuit-closers *e g*, and the press-buttons *f*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES FLEMING CALLAWAY.

Witnesses:
L. P. HUGHES,
E. A. BARBER.