

(No Model.)

W. A. GUTHRIE.
AUTOMATIC ELECTRIC FIRE ALARM.

No. 598,508.

Patented Feb. 8, 1898.

Fig. 1.

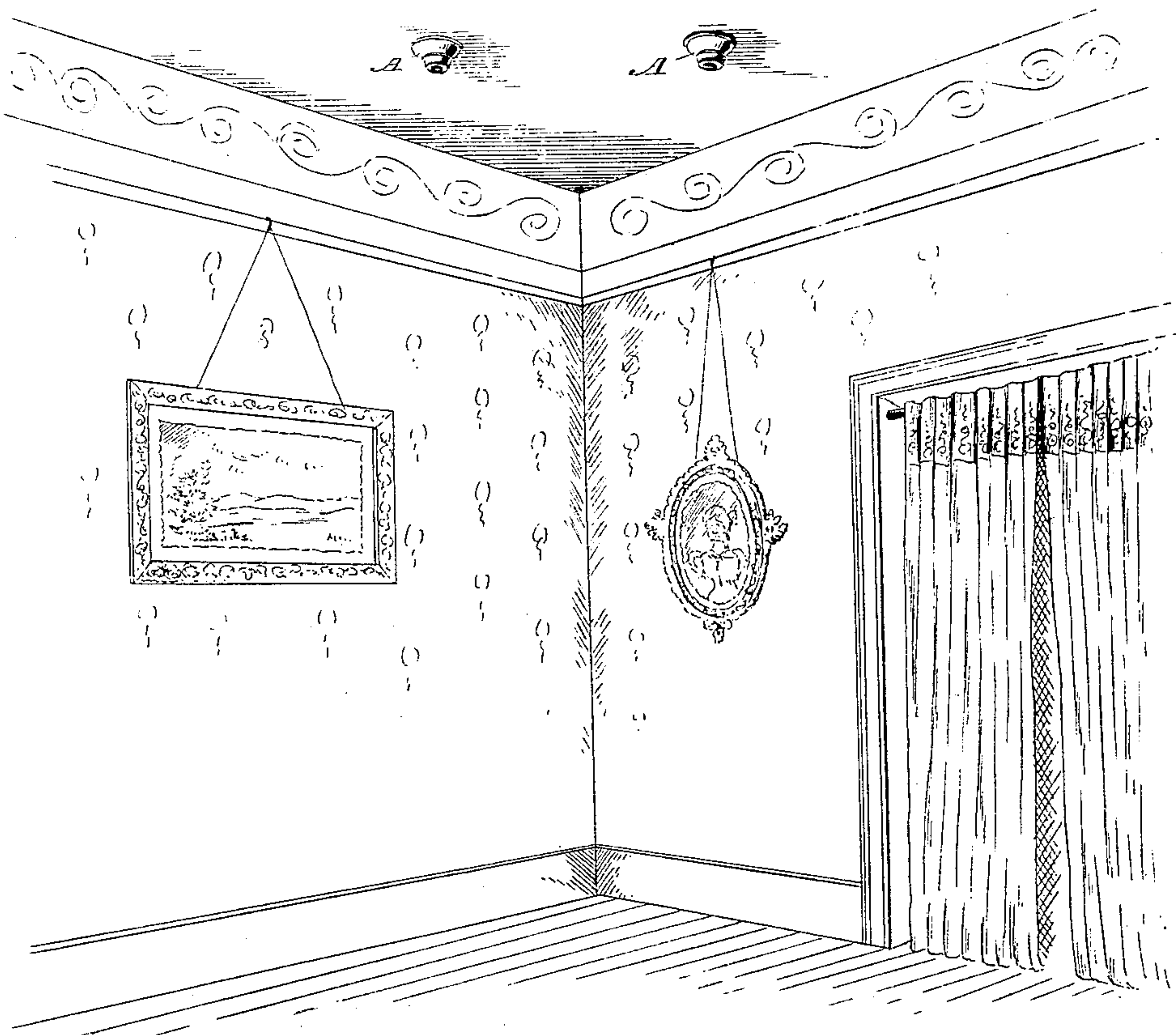


Fig. 2.

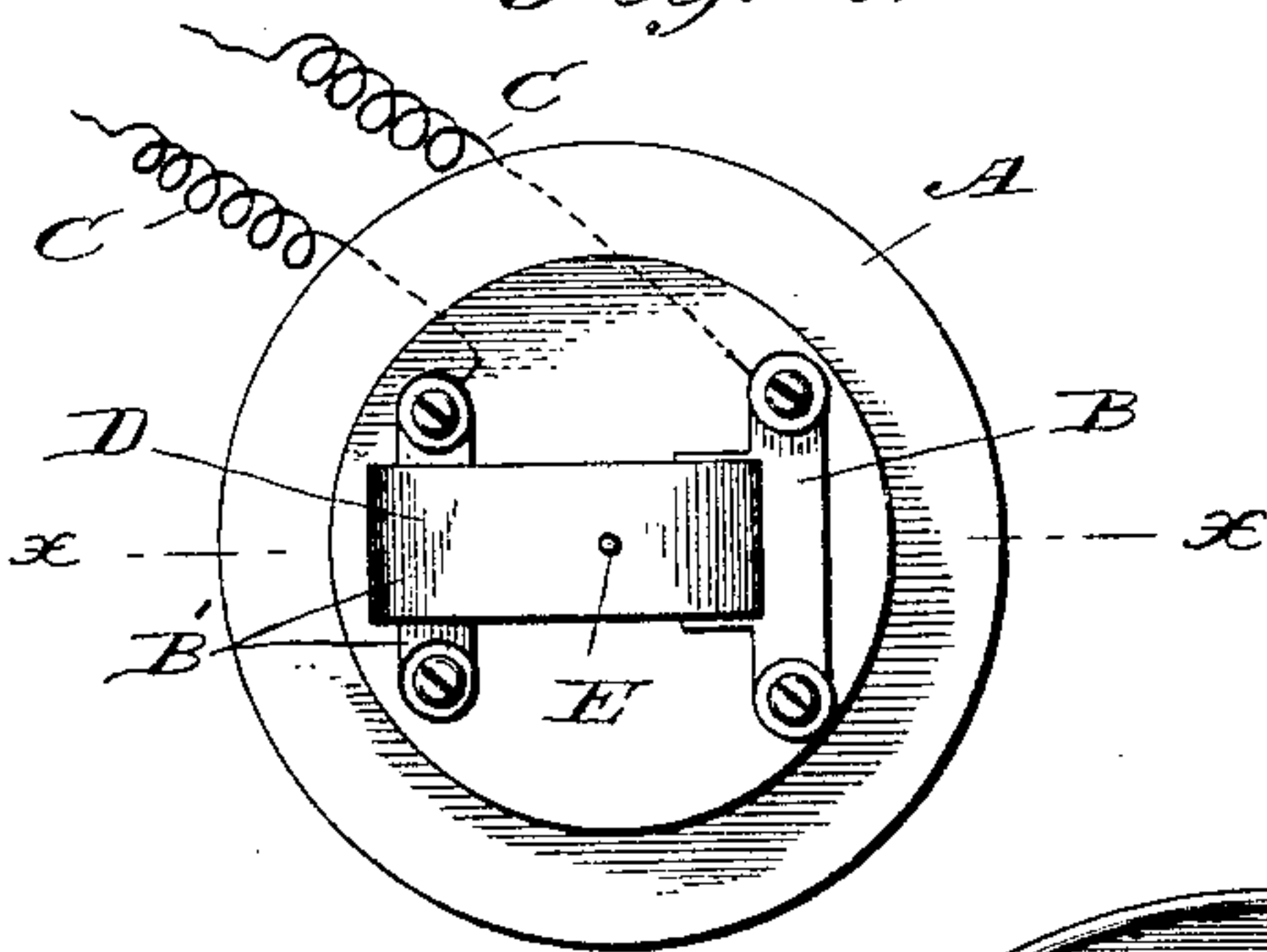


Fig. 3.

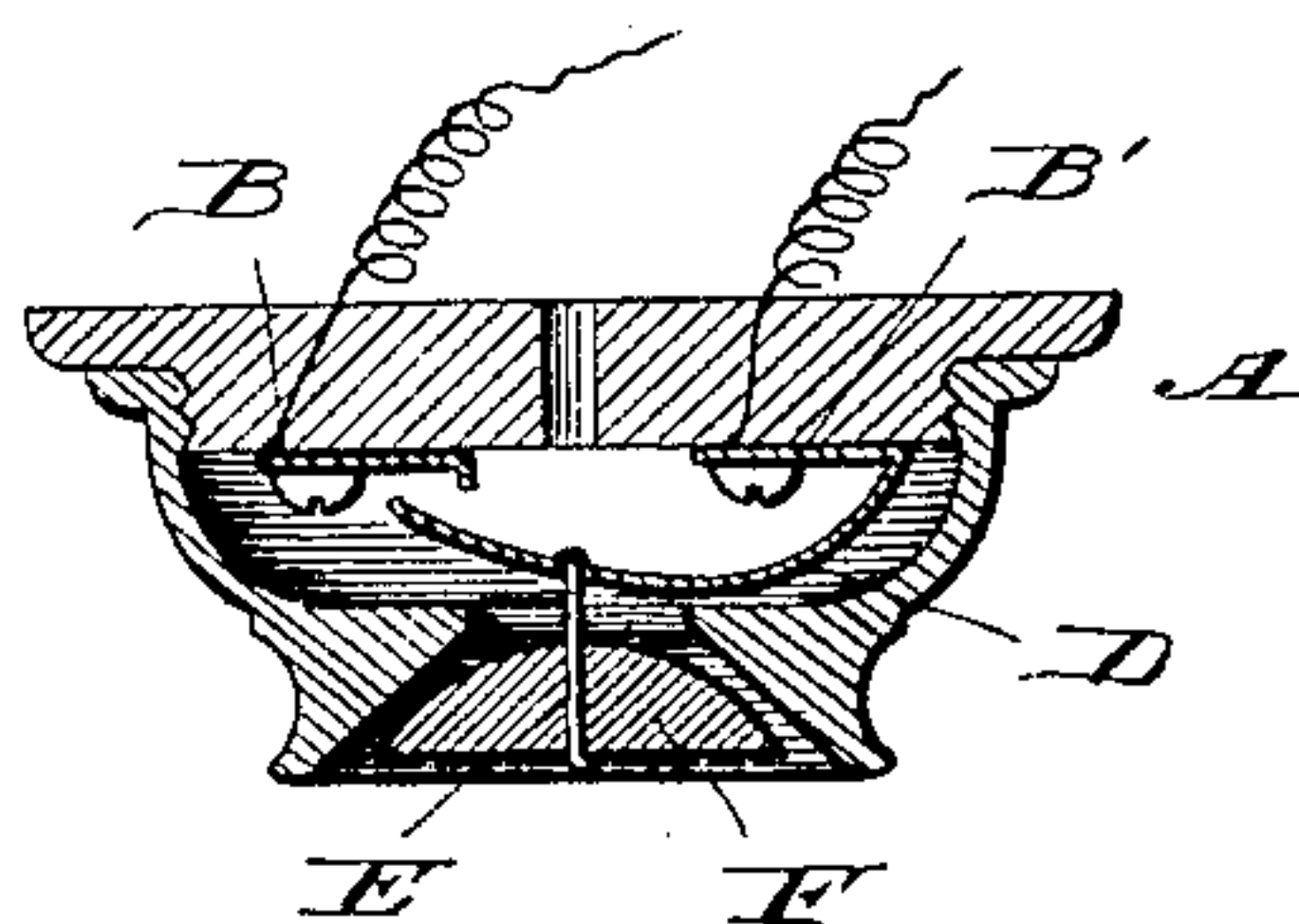
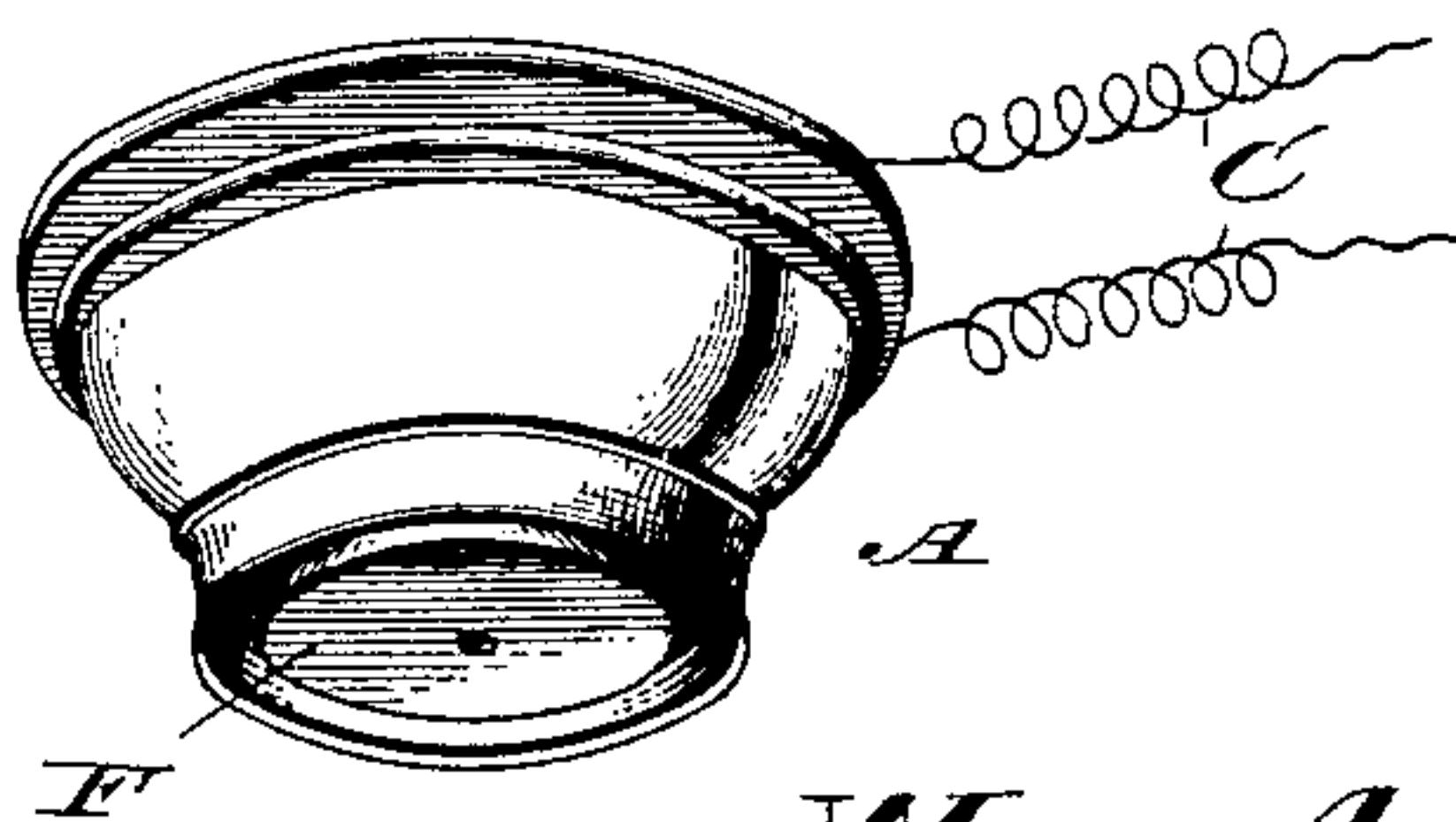


Fig. 4.



Witnesses

J. S. Cross
Chas. E. Brock

Inventor

Wm. A. Guthrie,

by J. M. A. Co.
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM A. GUTHRIE, OF DURHAM, NORTH CAROLINA.

AUTOMATIC ELECTRIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 598,508, dated February 8, 1898.

Application filed July 7, 1897. Serial No. 643,729. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. GUTHRIE, residing at Durham, in the county of Durham and State of North Carolina, have invented certain new and useful Improvements in a Combined Push-Button and Electric Fire-Alarm; and I do declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view showing my invention in use. Fig. 2 is a front elevation with the cap removed. Fig. 3 is a cross-sectional view. Fig. 4 is a perspective view.

This invention relates to certain new and useful improvements in combined push-buttons and electrical fire-alarms, the particular object being to provide a device of this character of simple construction, which can be put into use at a small cost and with little labor, and which can be relied upon in its action.

Another object of my present invention is to construct a fire-alarm which shall be cheaper and more suitable for sale than my former patent for an automatic electric fire-alarm, No. 514,361, patented February 6, 1894, over which this is a decided improvement.

My invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claim.

Referring to the accompanying drawings, the letter A designates the base of a frame of the ordinary push-button variety, which may be secured by means of screws to the ceiling of the room or other overhead support at any point desired.

B B' are metal plates secured to the base A by binding-screws, which fasten the wires C C thereto. These wires are connected with a battery and alarm of the ordinary variety used in such cases.

D represents a spring, preferably constructed of thin flexible sheet metal, which is secured at one end to the plate B' and bent in semicircular shape, so that its outer end is designed to contact with the plate B, and

thereby the circuit is completed and the alarm is sounded.

E is a fine wire, preferably of fusible metal, though it may be of the ordinary non-fusible variety, which is secured to the thin spring D and extends outward through the hole in the cap of the frame usually occupied by the push-button. Hung loosely by its center upon the bent outer end of this wire and fitting around the hollowed face of the frame is a piece of fusible metal F in the shape of a button. This piece of metal is of sufficient weight to keep the spring D away from the plate B and thereby prevent the circuit from being closed and the alarm from being sounded.

Now the operation of my invention is simple and sure. When the fire occurs, the metal button F fuses and the spring D instantly being released automatically makes the contact with the plate B, completes the circuit, and sounds the alarm. If the wire E is also fusible metal, then the fusion of either this wire or the weight F operates to automatically release the spring, complete the circuit, and sound the alarm.

The weight F or the wire E may be made of any of the well-known alloys which fuse at a very low temperature—such as alloys of tin, lead, and bismuth, or tin, lead, bismuth, and cadmium, whose fusing-point is considerably below the temperature of boiling water. Owing to the readiness with which the weight F and wire E fuse, contact with the flame is not necessary for their release, as this will take place upon the increase of temperature to the fusing-point, though the fire may be at some other portion of the apartment.

The bell may be located at any part of the building, and in cases where the different apartments of a large building, such as a hotel, are each supplied with one of the alarms proper communications may be made with an annunciator in the office.

When it is desired, the button may be pressed in the usual manner to make the contact and sound the alarm.

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

A combination push-button and automatic electric fire-alarm comprising the base adapted to be secured to the ceiling or other over-

head support, a pair of plates and binding-
screws on the under face thereof, one of said
plates having a downwardly-curved exten-
sion normally in contact with the other, a
5 push-button of easily-fusible metal below
said curved extension, and a wire passed
through openings in the curved extension and
the button and having bent ends, whereby

the button is suspended from the curved ex-
tension and holds it out of contact with the 10
other plate, substantially as described.

WILLIAM A. GUTHRIE.

Witnesses:

THOS. L. PEAY,

WM. B. GUTHRIE.