

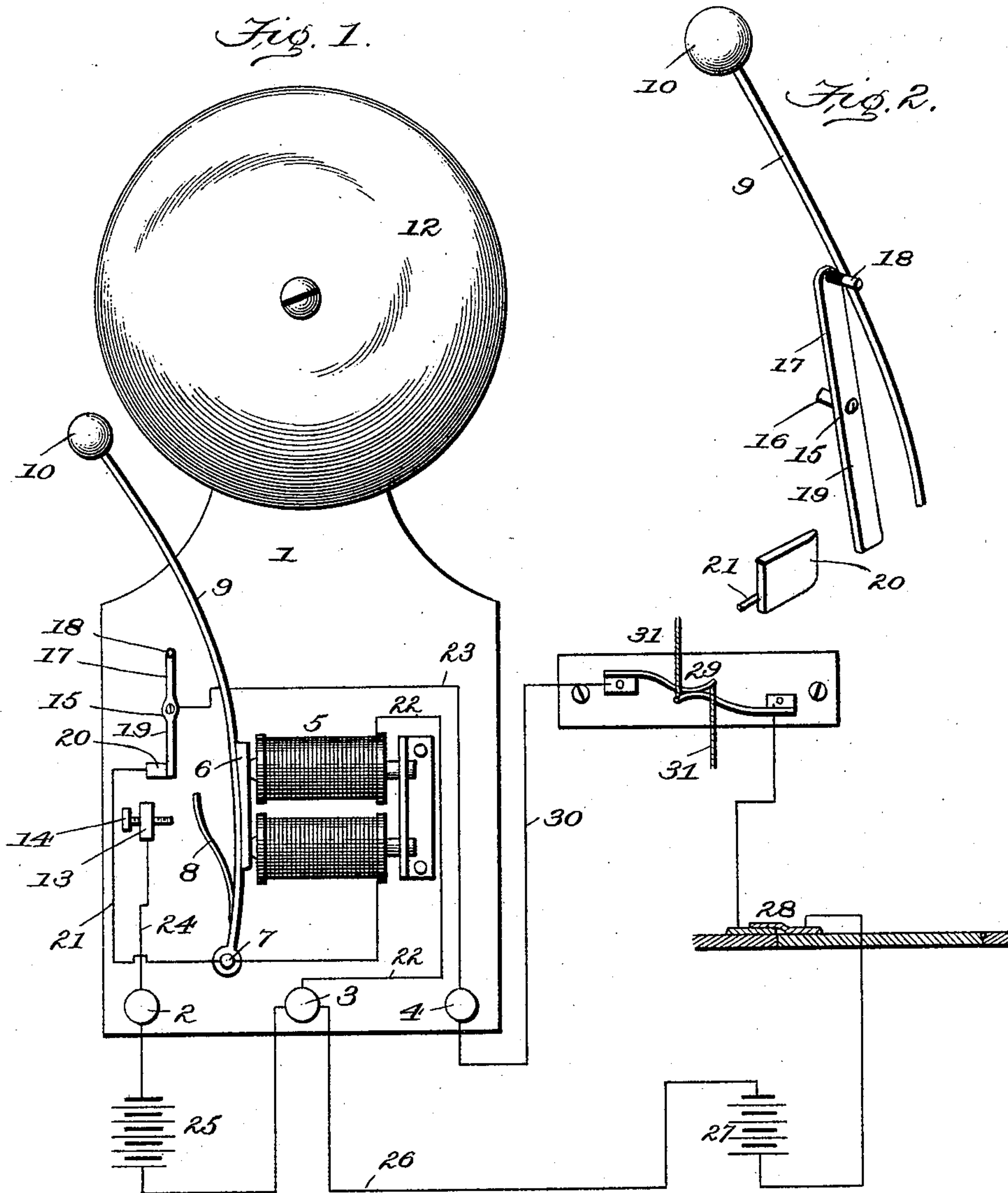
(No Model.)

2 Sheets—Sheet 1.

J. W. BAUGHMAN.
AUTOMATIC ELECTRIC BURGLAR ALARM.

No. 594,192.

Patented Nov. 23, 1897.



WITNESSES.

Edwin L. Bradford
R. M. Pherson, Jr.

INVENTOR

John W. Baughman,
BY
R. A. Racey
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

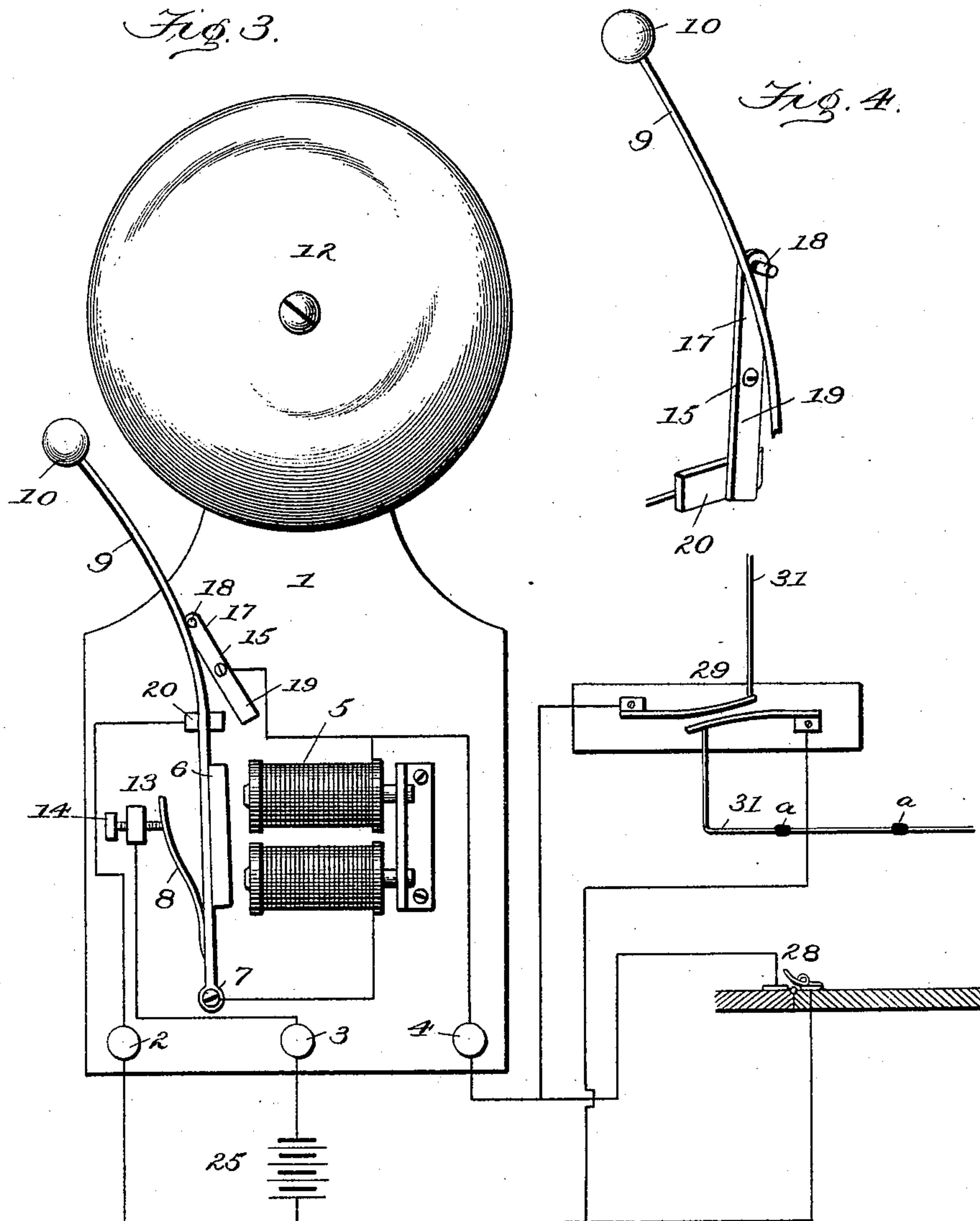


Fig. 4.

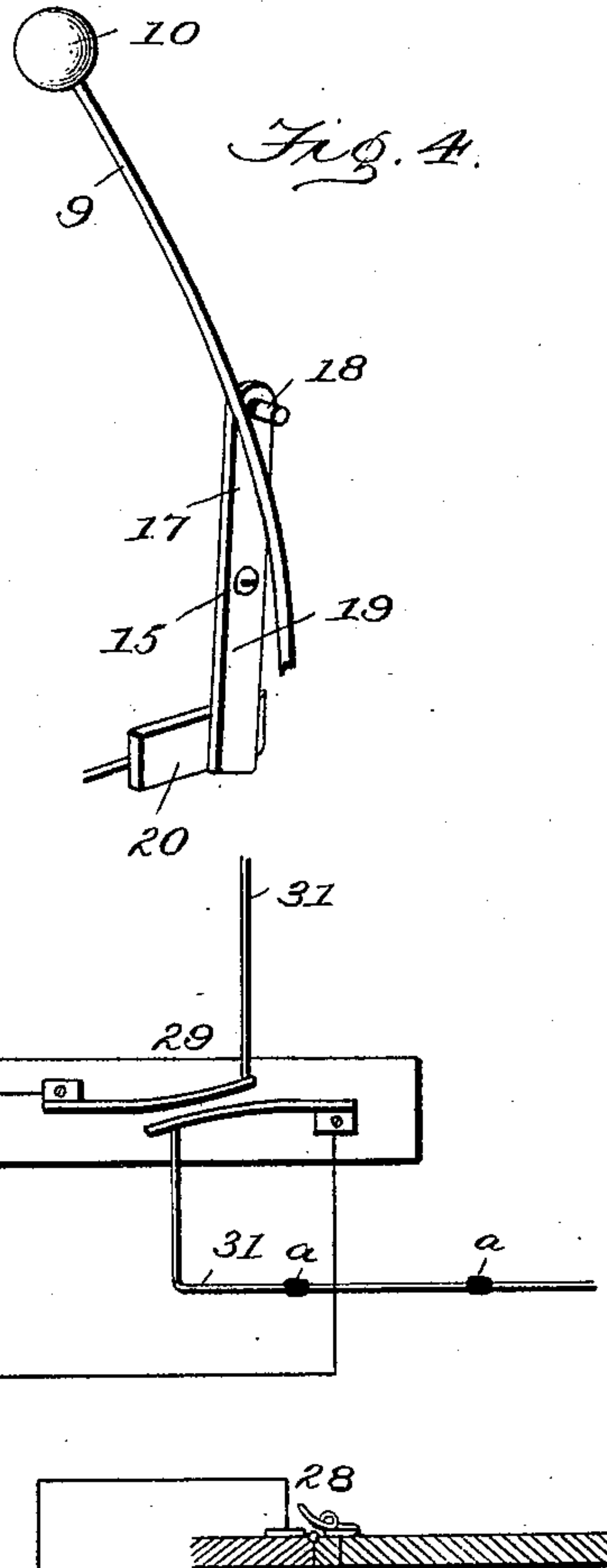
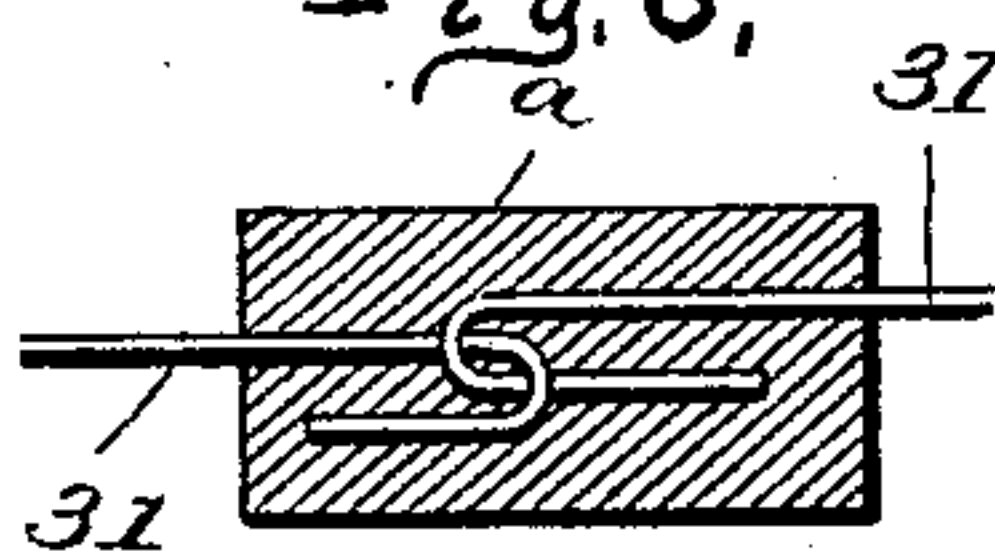


Fig. 6.

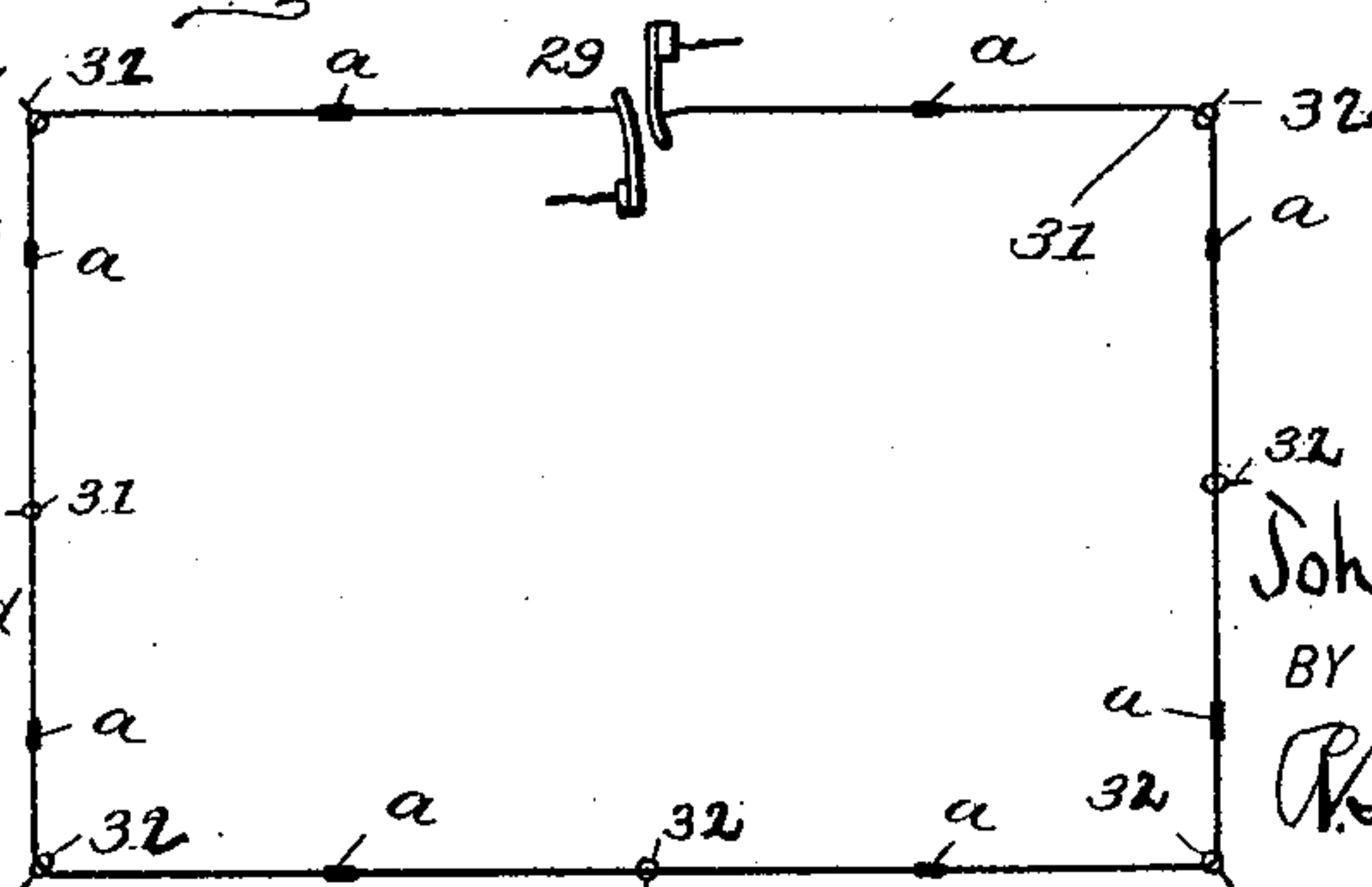


WITNESSES:

Edwin L. Bradford

R. M. Sherson Jr.

Fig. 5.



INVENTOR

John W. Baughman,

BY

R. A. P. Lacey,

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN WESLEY BAUGHMAN, OF DALTON, OHIO, ASSIGNOR OF ONE-HALF TO
MILLARD F. McDOWELL, OF SAME PLACE.

AUTOMATIC ELECTRIC BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 594,192, dated November 23, 1897.

Application filed March 25, 1897. Serial No. 629,200. (No model.)

To all whom it may concern:

Be it known that I, JOHN WESLEY BAUGHMAN, a citizen of the United States, residing at Dalton, in the county of Wayne and State of Ohio, have invented certain new and useful Improvements in Automatic Electric Burglar-Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in automatic electric fire and burglar alarm systems; and the object is to provide a simple and effective system of this kind; and to this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-characters indicate the same parts of the invention.

Figure 1 is a diagrammatic view of my improved electric fire and burglar alarm as connected with a closed circuit. Fig. 2 is a detail view of the switch connection shown in Fig. 1. Fig. 3 is a diagrammatic view of the alarm as connected with an open circuit. Fig. 4 is a perspective detail view of the switch connection shown in Fig. 3, and Fig. 5 is a detail view of the mechanical circuit for the fire-alarm system. Fig. 6 is a sectional view of cord-coupling.

1 represents a vibrating bell provided with three terminal connection-posts 2, 3, and 4.

5 represents the electromagnet; 6, its vibrating armature, mounted on the post 7 and provided with the contact-spring 8, and the hammer-arm 9, terminating in the hammer 10, arranged to sound an alarm on the gong 12 when the magnet is energized.

13 represents the usual contact, provided with an adjustable contact-screw 14, the inner end of which projects into the path of the free end of the contact-spring 8 on the armature.

15 represents a switch-lever fulcrumed on a connection-post 16, and its arm 17 is provided with an insulated pin 18, which projects into the path of the hammer-arm 9, while its opposite arm 19 is arranged to form a slid-

ing connection with the contact-point 20, and from this point a conductor 21 extends to the armature-post 7, thence through the magnet and a conductor 22 to the terminal post 3. From the terminal post 4 a conductor 23 connects with the lever 15. A conductor 24 extends from the terminal post 2 to the contact-post 13.

25 represents an ordinary open-circuit local battery, its conductors extending to the posts 2 and 3. The burglar and fire alarm circuit begins at the post 3 and extends over the conductor 26 to the gravity or other closed-circuit battery 27, thence through the burglar-alarm spring-contact 28 and the fire-alarm spring-contact point 29, and thence over the conductor 30 back to the screw-post 4.

As shown in Fig. 1, the local-battery circuit is open at the post 13, while the alarm-circuit, starting at the contact-point 20, (the circuit being closed through the magnet which attracts the armature and opens the local circuit at the post 13,) thence goes over the conductor 22 to the post 3, the conductor 26, battery 27, burglar-alarm connection 28, fire-alarm connection 29, and conductor 30 to the post 4, and from said post over the conductor 23 to the lever 15 and through its arm 19 to the starting-point at the contact 20. If now the alarm-circuit be interrupted or opened, the magnet releases the armature, which falls back, carrying with it the hammer-arm 9, which strikes the pin 18 and moves the switch-arm 17, which shifts the switch-lever 15 out of contact with the point 20, as shown in Fig. 2. In the meantime the armature on being released carries its spring 8 backward with it and into electrical contact with the post 13, which closes the local-battery circuit and causes a continuous alarm to be sounded until the alarm-circuit is again closed to energize the magnet and withdraw the armature-spring from the contact-post 13.

A series of the burglar-alarm connections 28 may be located in the alarm-circuit, one at each door, window, or other points to be protected, and of course if said circuit is interrupted at any point the alarm is automatically and continuously sounded until the circuit is again closed through the switch-lever.

In the burglar-alarm connection the tension

of the spring-arms is exerted to hold them in contact with each other and close the circuit between them, while in the fire-alarm connection 29 the reverse is the case. The tension of the spring-arms is exerted to hold them apart, they being held in contact with each other by the cord 31 being connected at one end to one spring-arm and thence through a series of screw-eyes 32, located at intervals throughout the premises to be protected, and back again to the opposite spring-arm, where it is secured with sufficient tension to hold the two springs in contact. Of course it is obvious that a rupture of the cord at any point will cause the springs to separate and open the alarm-circuit, with the result as heretofore described.

Referring to Fig. 3, which illustrates the manner of setting up my improved fire and burglar alarm system on an open circuit, it will be seen that the alarm-circuit battery is dispensed with and slight changes in the course of the conductors, as shown, the switch-lever being open, so that when the alarm-circuit is closed at either the fire or burglar alarm connections the switch is shifted by the first movement of the armature, which closes the local circuit at the switch and continuously operates the alarm.

In Fig. 6 I have shown a section of the cord comprising mechanical fire-alarm circuit.

31 31 represents the cord, the ends of which are brought together and temporarily joined by a wax pellet *a*, which holds said cord at the normal temperature, but will soften and allow the ends of the cord to pull apart at an abnormal temperature, say of about 110° or above, and separate the fire-alarm connections. This mechanical cord-circuit is preferably extended around a room, store, or other

apartment, contiguous to the ceiling, and an indefinite number of joints in the cord are covered by the wax pellets *a*, arranged in the circuit, so that when a fire occurs in an apartment the heated air will rise to the ceiling and fuse the pellets *a* and operate the alarm, as hereinbefore indicated.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

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

An electric-alarm system comprising the vibrating bell, having the terminal connecting-posts 2 3, and 4, the lever 15 provided with a pin 18 projecting into the path of the hammer-arm, a conductor 23 connecting said lever with the post 4, a contact 20 located in the path of one end of said lever and in electrical connection with the post 3, through the conductor 21, post 7, magnet 5 and conductor 22, the contact-post 13, connected to the terminal post 2 by the conductor 24, and the local battery 25, having its poles connected to the terminal posts 2 and 3, in combination with the alarm-circuit, its battery and spring connections 28 and 29, substantially as shown and described.

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

JOHN WESLEY BAUGHMAN.

Witnesses:

JNO. H. STOLL,

E. F. SCOTT.