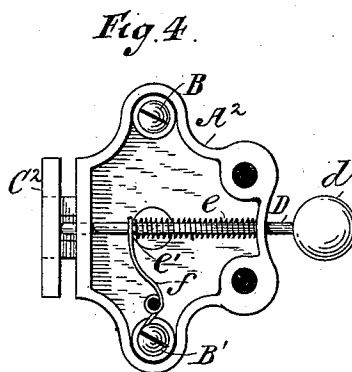
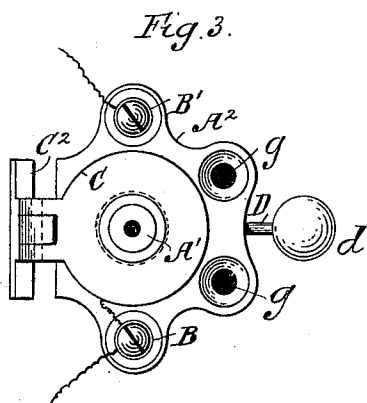
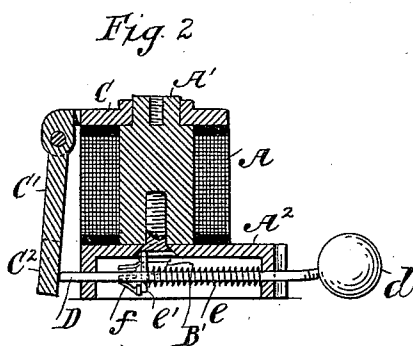
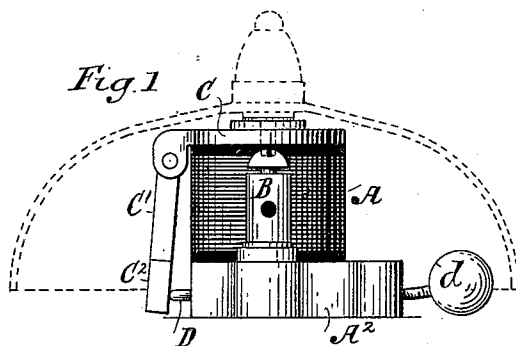


(No Model.)

R. R. MOFFATT.
ELECTRIC BELL.

No. 402,960.

Patented May 7, 1889.



Witnesses
Benjamin Tuska
Edith N. Day.

Inventor.
Richard R. Moffatt

UNITED STATES PATENT OFFICE.

RICHARD R. MOFFATT, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE MOFFATT ELECTRIC CONSTRUCTION COMPANY, OF NEW YORK.

ELECTRIC BELL.

SPECIFICATION forming part of Letters Patent No. 402,960, dated May 7, 1889.

Application filed August 9, 1888. Serial No. 282,368. (No model.)

To all whom it may concern:

Be it known that I, RICHARD R. MOFFATT, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Electric Bells, of which the following is a specification.

The object of my invention is to produce an electric call or signal bell having the electro-magnet, armature, hammer, circuit-breaker, actuating-springs, and binding-posts all located under and covered by the gong, so that the space occupied is reduced to a minimum; also, economy in construction, efficiency in operation, and perfect protection of the actuating-springs and circuit-breaking device from dust or accidental derangement.

In the drawings herewith, Figure 1 is an elevation of my invention, the gong being shown in dotted lines. Fig. 2 is a central section of the same. Fig. 3 is a plan of the same. Fig. 4 is an inverted plan showing the recessed or chambered base.

Similar letters of reference in the several figures indicate like parts.

Referring to the drawings, letter A is an electro-magnet with its core A' secured to or forming part of a chambered base, A². The other end of the core A' supports the gong, which is secured to it by means of a screw.

B and B', Fig. 3, are binding-posts insulated from the base A². The magnet-wire has one terminal connected with the binding-post B. The other terminal makes metallic contact with the core A'. A flange-piece, C, is secured to the core A', as shown, and is provided with a hinged or pivoted provision which connects with an oscillating arm-piece, C', the lower end of which forms an armature, C². The armature C², having magnetic contact (through the arm C' and flange C) with the end of the core A', acts as one pole of the electro-magnet A, while that part of the base A² which is presented to the armature C² acts as the other pole. A rod, D, extends through the chambered base A², as shown in Figs. 2 and 4, and is capable of a longitudinal movement. One end of this rod abuts against the armature C². The other end extends out from the base A², and is pro-

vided with a metallic hammer, d, arranged to strike the gong in the operation of the apparatus.

e is a spiral spring surrounding the rod D, located within the chambered base. One end of this spring presses against the base A². The other end presses against a pin, e', which projects from the rod D. This pin e' extends into a groove in the bottom of the base A², which prevents the rod D from turning. Preferably I utilize the slotted groove in the head of the screw which secures the base A² to the core A' for this purpose.

f is a spring connected with the binding-post B' within the chamber of the base A². This spring is arranged to extend into the chamber and to make contact with the pin e' when the armature C² is farthest from the base A², and to break contact therewith when the armature is at a position near to the base A². The line-wires are connected to the binding-posts B and B', as will be understood.

g g are screw-holes in the base A² for the purpose of securing the apparatus in any desired position.

The contact-points between the spring f and the pin e are of platinum, and operate as an automatic circuit-breaking device. The screw that secures the gong to the magnet-core A' is eccentrically located within the gong, which readily permits of an adjustment of the latter with the hammer by simply turning the gong to the desired position, when it is firmly secured by means of the screw. The magnet-core A', base A², flange C, arm C', and armature C² are made from iron, soft or cast, while the other metallic parts are of non-magnetic metal.

The actuating-springs and circuit-breaking device, being located within the chamber in the base, are sheltered and protected from dust or accidental derangement when the apparatus is secured in position.

The operation of my invention is as follows: The circuit being closed, the current energizing the magnet will cause the armature C² to be attracted toward the base A² when the rod D is forced forward and the hammer strikes the gong. This movement of the rod D will separate the metal contact between the

pin e' and the spring f , thus opening the circuit, and the magnet loses its attractive power. The spring e will then force the rod D and armature C^2 into their former position, which movement brings the spring f and pin e' into contact again, closing the circuit, when the magnet is again made active. Then the operation described is continued as in other electric bells.

10 Having thus fully described the nature, construction, and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electric bell, the combination of a single magnet-core, A' , one end of which is connected to the gong, the other end being connected with the chambered base A^2 , which serves as one pole of the magnet A , the armature C^2 having magnetic connection with the other end of the core A' , arranged to act as the other pole of the magnet A , the hammer-rod D, supported within the chambered base A^2 , the actuating-spring e , and a circuit opening and closing device, arranged substantially as herein specified.

2. In an electric bell, the combination of a single magnet-core, A' , one end of which supports the gong, the chambered base A^2 , the flange C, oscillating armature C^2 , rod D, spring e , and means for automatically open-

ing and closing the circuit, substantially as herein specified.

3. In an electric bell, a single magnet-core, one end of which is connected with a gong, the other end with a chambered base, in which chamber is located the actuating-springs, combined with the armature C^2 and the striker d , substantially as herein specified.

4. In an electric bell, the combination of a single magnet-core, one end of which supports the gong, the other end being attached to a chambered base of magnetic metal which serves as one pole of the magnet, the automatic circuit-breaking device located within said chambered base, the armature C^2 , and the striker d , arranged substantially as herein specified.

5. In an electric bell, the combination of a single magnet-core, one end of which supports the gong, the other end being attached to a chambered base of magnetic metal which serves as one pole of the magnet, the automatic circuit-breaking device, and the actuating-spring located within said chambered base, the armature C^2 , and the striker d , arranged substantially as herein specified.

RICHARD R. MOFFATT.

Witnesses:

JAMES H. MALLON,
BENJAMIN TUSKA.