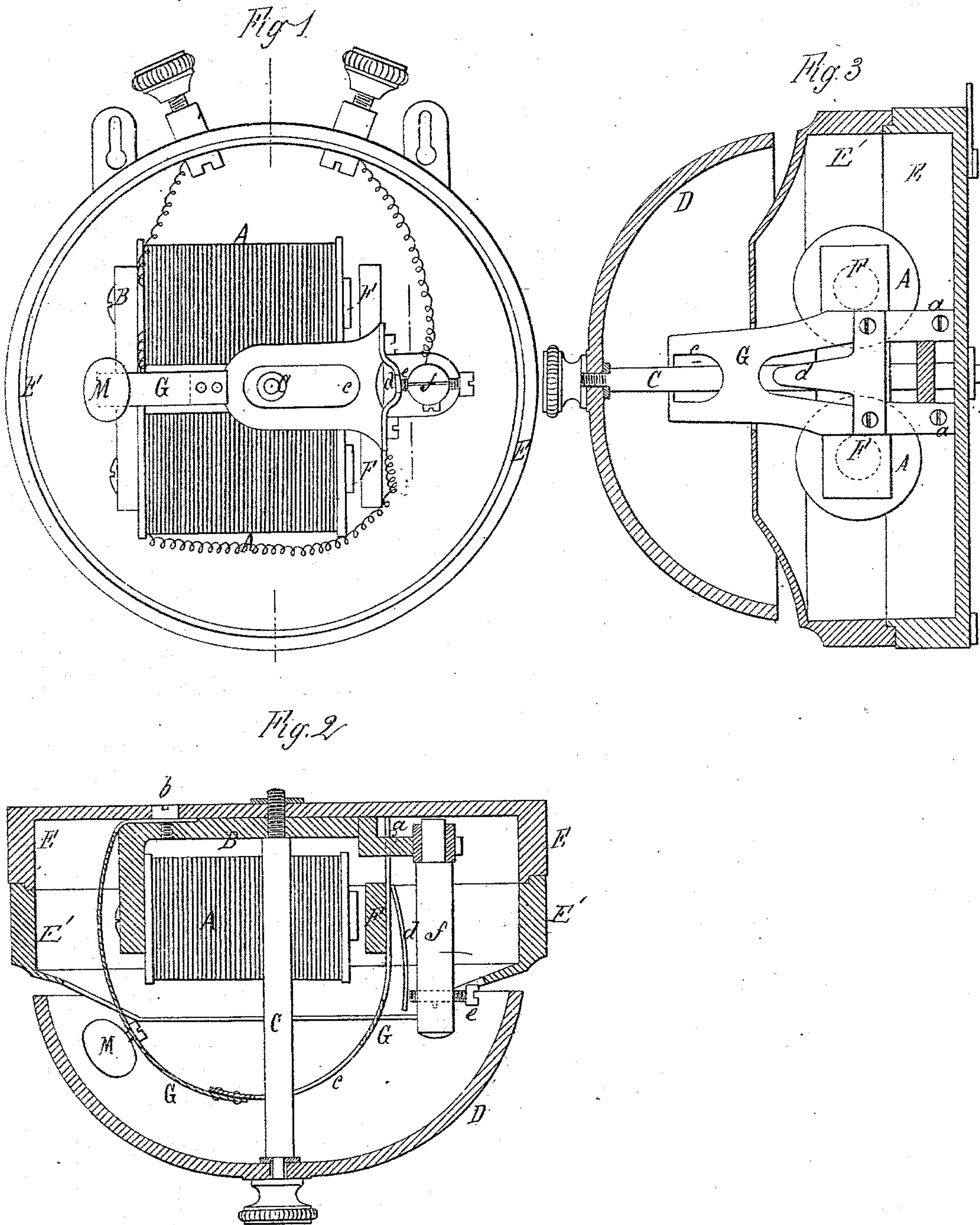


(No Model.)

C. F. DE REDON.
ELECTRIC BELL.

No. 274,573.

Patented Mar. 27, 1883.



WITNESSES:

Geo. Bainton

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INVENTOR:

Constant Francois de Redon

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UNITED STATES PATENT OFFICE.

CONSTANT FRANÇOIS DE REDON, OF PARIS, FRANCE, ASSIGNOR TO
CHARLES MOREAU, OF SAME PLACE.

ELECTRIC BELL.

SPECIFICATION forming part of Letters Patent No. 274,573, dated March 27, 1883.

Application filed January 13, 1883. (No model.) Patented in France December 5, 1881, No. 146,196.

To all whom it may concern:

Be it known that I, CONSTANT FRANÇOIS DE REDON, a citizen of the French Republic, and a resident of Paris, France, have invented certain Improvements in Electric Bells, of which the following is a specification.

My invention relates to that class of electric bells in which the bell has a vibratory hammer actuated by the alternate breaking and closing of an electric circuit, of which many are employed in telephone and telegraph offices and by private persons. These, as usually made, are quite complicated and costly to keep in order, especially if not well taken care of.

My invention seeks to provide a bell that shall be simple, durable, non-expensive, compact, and not easily deranged.

In my improved bell the part which bears the armature, the retracting-spring for the armature, and the stem or handle of the bell-hammer are all one in substance, and the hammer, the armature, and the contact-tongue are rigidly affixed thereto, and thus the whole becomes practically one piece. This part which forms the vibrating armature-bearer, retracting-spring, and hammer-stem is a very flexible curved spring which is bent in the form of an arch over the electro-magnet, and is attached at its ends to the base-piece which supports the magnet.

The several parts which constitute the bell mechanism, exclusive of the gong, are mounted in a circular box, and the gong, which is about equal in diameter to the box, is mounted on a central post over the mechanism, so as to house or inclose it in the manner of a roof.

In the drawings which serve to illustrate my invention, Figure 1 is a front elevation of the bell mechanism, the gong and the upper section of the box being removed to avoid hiding the interior mechanism. Fig. 2 is a horizontal mid-section; and Fig. 3 is a vertical mid-section as to the gong and box, the interior parts being in elevation.

A is the electro-magnet such as is usually employed for bells, which is mounted on a base, B, secured by screws to the box E.

C is a post secured at its base in the center

of the box, and bearing at its top the gong D, which may also be of the usual kind.

In front of the poles of the electro-magnet A is arranged the armature F, which is fixed to a flexible curved spring, G, which arches over the magnet and is secured at both ends, as clearly shown in Fig. 2, one end being attached at *a* and the other at *b*. This spring has an aperture, *c*, in its arched part for the post C to pass through, and it is provided with a tongue, *d*, arranged to contact with the screw *e* in a post, *f*. The breaking and closing of the circuit are produced by the intermittent contact of the tongue *d* with the screw *e* in a well-known way. When a current is passed through the coils the armature F and spring G undergo a series of rapid oscillations or vibrations, which, while slight as to movement at the point where the armature is mounted, are considerable at a point at the back of the arch of spring G, where is mounted the bell-hammer M. Thus the hammer is set in rapid vibration by the intermittent current, and it strikes the gong a series of blows so closely following one another as to seem continuous. The slight movement of the armature in its vibration is augmented as to the hammer to some degree by reason of the momentum acquired by the hammer in its rapid movement.

For convenience in constructing the spring G, I prefer to form it in two pieces and rivet these pieces together, as shown in the drawings; but it may as well be made in one piece. The manner of connecting the wires is clearly shown in Fig. 1.

I make the box which contains the mechanism in two sections, E and E', as clearly shown, the upper section, E', being constructed to roof over the inclosed mechanism.

Having thus described my invention, I claim—

1. The armature-support, the retracting-spring, and the hammer-stem of an electric bell, comprised in one piece, G, of elastic metal, arranged substantially as shown, and secured at both ends, substantially as and for the purposes set forth.

2. The combination, with the curved spring

G, secured at both of its ends and arranged to form the vibrating armature-support, the retracting-spring, and the stem for the hammers, of the hammer secured to the arch of the
5 oscillating spring, the armature, and the contact-tongue, attached rigidly thereto, the electro-magnet, the gong and its support, and the contact-screw e and its support, all arranged to operate substantially as set forth.

In witness whereof I have hereunto signed in my name in the presence of two subscribing witnesses.

CONSTANT FRANÇOIS DE REDON.

Witnesses:

ROBT. M. HOOPER,
AMAND RITTER.