(No Model.)

J. J. GEARY.

ELECTROMAGNETIC CALL BELL.

No. 525,145. Patented Aug. 28, 1894.

Fig: 1

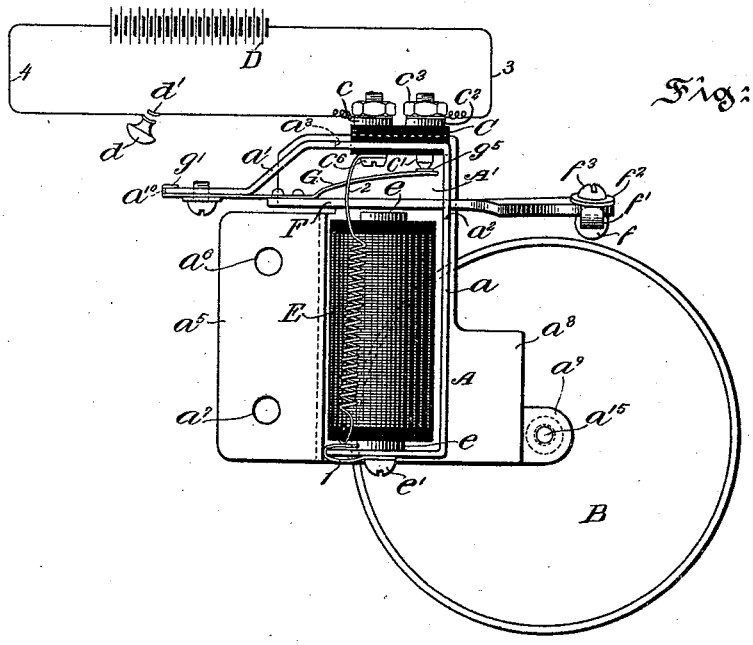


Fig: 2

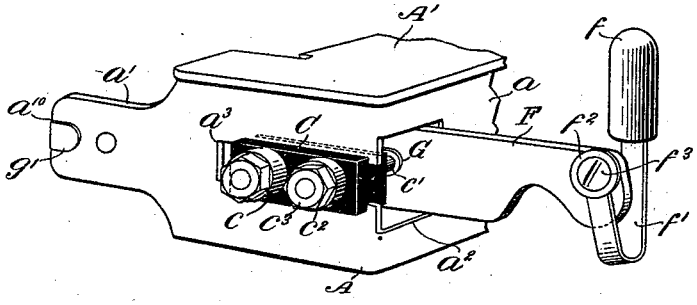
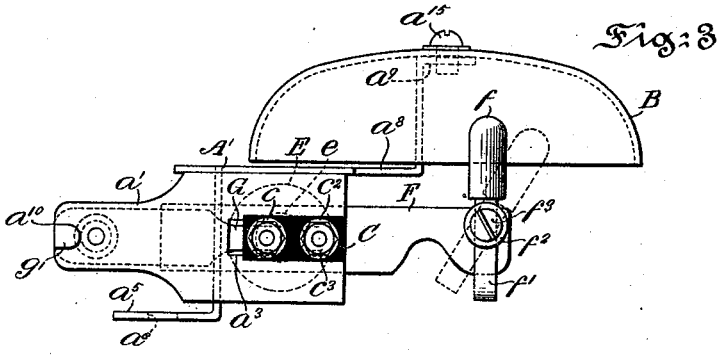


Fig: 3



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UNITED STATES PATENT OFFICE.

JOHN J. GEARY, OF CHESTER, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN J. MOSSOP, OF SAME PLACE.

ELECTROMAGNETIC CALL-BELL.

SPECIFICATION forming part of Letters Patent No. 525,145, dated August 28, 1894.

Application filed January 26, 1894. Serial No. 498,066. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. GEARY, a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Electromagnetic Call-Bells, of which the following is a specification.

My invention has relation in general to bells, audible signals or the like actuated by an electro-magnet or magnets; and it relates more particularly to the general construction and arrangement of such a device or appliance.

The principal objects of my invention are first, to provide a compact, durable, inexpensive and efficient electro-magnetic audible signal device or call bell; and second, to provide an electro-magnetic audible signaling device having the members thereof so arranged as that the signal thereby given is sharp or distinct.

My invention consists of the improvements hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof; and in which—

Figure 1, is a rear elevational view of an electro magnetic call bell embodying the particular features of my invention. Fig 2, is a perspective view through a portion of the housing adapted to contain the electro magnetic device and its accessories and the spring supported armature extending through the housing with an adjustable sounder or hammer connected therewith and showing also the insulating block detachably connected with the side wall of the housing with a binding post and fixed circuit breaker and post; and Fig. 3, is an end view showing the manner of supporting the bell, the projection of the side wall of the housing to which the contact spring is secured and clipped and provided with a platinum point and for contacting with a fixed circuit breaker and binding post secured to a detachable insulating block provided with a binding post connected with one of the side or end walls of the housing.

Referring to the drawings A, is a housing comprising a rectangular metal frame or strip, a, provided with a curved and reduced projection a'. In the top of the frame or strip a, near one end thereof is formed a square or other shaped slot a^2, and in the side or end adjacent thereto an oblong slot a^3, for purposes to be presently explained.

A′, is a cap riveted or screwed to the front edges of the frame or strip a, and with a rear projection a^5, having openings a^6 and a^7, therein for the insertion of screws or the like, in order to secure the device to the wall or to a fixture. Integral with the upper part of the cap A′, is a right angular projection a^8, formed at or beyond the middle of the same and having an upwardly projecting lug a^9, with an opening therein for the reception of a screw or the like a^{15}, connected with a bell B, and which latter is supported by means of said screw a^{15}, to the lug a^9, of the projection a^8, as clearly illustrated in Figs. 1 and 3. At the right hand side wall of the frame or strip a, in the slot a^3, is inserted a centrally grooved insulating block C, provided with a binding post c, and a fixed circuit-breaker c' with a post c^2, and a screw c^3, for attaching a wire 3, thereto from one pole of a battery D, and the other wire 4, being attached to the binding post c, from the other pole of the battery D.

d, is a push button and d', a contact point for establishing the circuit from the battery through the device.

E, is a magnet provided with a soft iron core e, which is held to position by means of a tightening screw e' secured into the left hand side or end wall of the frame or strip a, constituting the housing of the device and around which screw e', is attached one of the wires 1, from the magnet E, and the other wire 2, is connected with the screw c^6, of the binding post c, secured into the inner side of the insulating block C.

F, is a soft iron armature secured to a metal contact spring G, which at the right hand side or end wall of the frame or strip a, is attached to the curved projection a', and is provided with an integral clip g', which is bent around the same and engages a recess a^{10}, in the end of the strip a', and so as to prevent sidewise movement or displacement of the spring, while in position. The forward portion of the spring G, is bent so as to project

upward and forward and provided with a platinum or other suitable contact point g^5, which is adapted to contact with the fixed circuit breaker c'. The armature F, secured to and supported to position from the spring G, extends through the slot a^2, of the strip a, and has the upper part recessed and made to flare slightly and to which upper part of the armature F, is adjustably supported a hammer or sounder f, provided with a V or similar shaped arm f', and a washer f^2 and tightening screw f^3, for securing the hammer or sounder to required position in connection with the armature F. This armature is so arranged as to vibrate between the core e, of the magnet E, and the spring contact G, with its circuit breaker c', when the circuit is established. It may be here remarked that the arrangement of the bell free from the housing and the movement of the hammer or sounder is such that the same strikes the bell laterally with a distinct blow each time the armature is pulled up by the energizing of the magnet to cause the core thereof to attract the same and thereby to cause an audible and distinct blow to be given to the bell and a sharp sound to be derived therefrom.

To operate the device hereinbefore described with reference to Fig. 1, of the drawings, it will be understood that by causing the push button d, to contact with the point d', the circuit from the battery D, will be established to effect a continuous actuation of the hammer or sounder f, against the bell B, to produce a sharp or distinct sound therefrom.

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

1. An electro magnetic signaling device, comprising a housing or frame having a bell supported free thereof, an electro-magnet, a spring supported armature projecting through said housing and provided with an adjustable hammer or sounder, a detachable insulated block having binding posts and a circuit breaking point adapted to contact with the free end of the spring of said armature, and a battery circuit connected with the binding posts of said insulating block, substantially as and for the purposes set forth.

2. A casing for an electro magnetic bell, comprising a rectangular frame provided with a square or similar slot in the top and an oblong slot in one side and having a recessed and reduced projection with a recessed end, a cap fitting the front edge of said frame with a rear projection having openings therein, and with a front right angular extension having a vertical lug provided with an opening, substantially as and for the purposes set forth.

3. An electro magnetic signal device, comprising a frame having a bell supported free thereof, a magnet, an armature projecting through a slot in said frame and having an adjustable hammer or sounder secured to and supported from a spring provided with a contact point, an insulating block detachably engaging the side wall of said frame and provided with a binding-post and a circuit-breaker and a battery-circuit connected respectively with said binding-post and circuit-breaker, substantially as and for the purposes set forth.

4. An electro-magnetic bell having a magnet with a soft iron core held to position by a binding screw secured to a frame, a wire connected therewith from said magnet, an armature extending beyond said frame and carrying a laterally movable and oppositely adjustable sounder or hammer, a bell supported free from said frame, a binding-post and a circuit-breaker held in an insulating block detachably engaging said frame, a spring connected with said armature and adapted to contact with said fixed circuit breaker, and a battery circuit connected respectively with said binding-post and circuit-breaker, substantially as and for the purposes set forth.

5. An electro-magnetic bell, comprising a slotted frame, a magnet mounted in said frame and having a cap with a flanged projecting plate and a right angular arm supporting a bell free therefrom, said magnet provided with an armature-lever supported beyond said frame by a contact spring and provided with a laterally movable and adjustable hammer or sounder, a binding-post and a fixed circuit-breaker connected with a detachable insulated block and a battery-circuit connected respectively with said binding-post and circuit-breaker, substantially as and for the purposes set forth.

6. An electro-magnetic call-bell provided with a grooved insulating block having a binding-post and a fixed circuit-breaker, a supported bell, a magnet, an armature supported from a spring adapted to contact with said circuit breaker and said armature laterally movable and provided with an adjustable hammer or sounder and a battery circuit connected respectively with said binding-post and circuit-breaker, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN J. GEARY.

Witnesses:
THOMAS M. SMITH,
RICHARD C. MAXWELL.