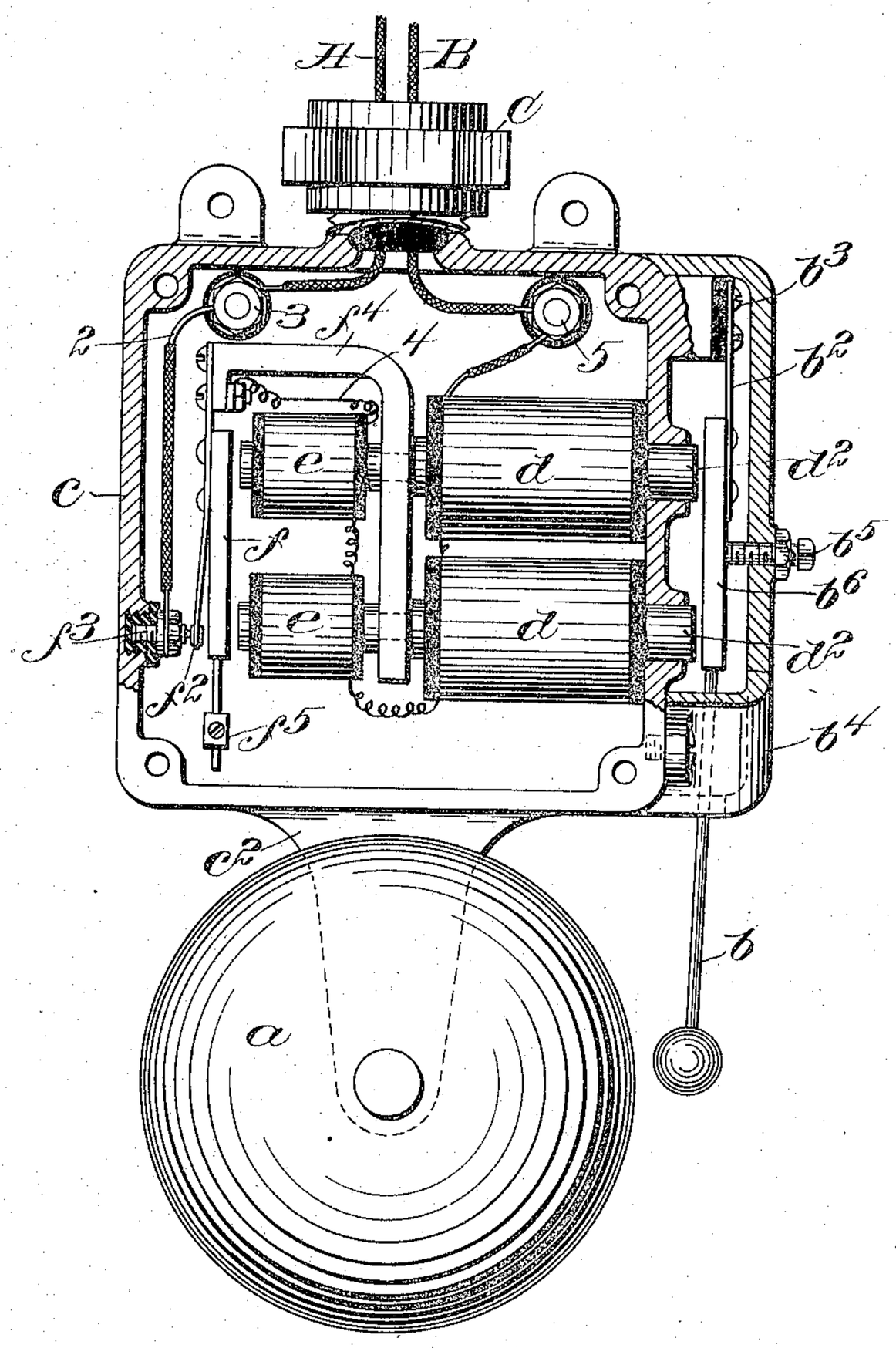
No. 881,539. PATENTED MAR. 10, 1908.

D. M. BLISS.

ELECTRIC BELL.

APPLICATION FILED MAR. 1, 1906.



Witnesses:
Jas. J. Maloney.
[illegible]

Inventor:
Donald M. Bliss,
by Jas. H. Churchill Atty

UNITED STATES PATENT OFFICE.

DONALD M. BLISS, OF NEW YORK, N. Y.

ELECTRIC BELL.

No. 881,539. Specification of Letters Patent. Patented March 10, 1908.

Application filed March 1, 1906. Serial No. 303,620.

To all whom it may concern:

Be it known that I, DONALD M. BLISS, a subject of the King of Great Britain, residing in New York, county and State of New York, have invented an Improvement in Electric Bells, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to an electric bell and is embodied in a bell for outdoor use, the purpose being to inclose the windings, contacts, &c., which are liable to be injured by exposure to weather, in a water-tight case. This is accomplished in accordance with the invention without inclosing the striker, so that the latter can come into direct contact with the bell, the action not being interfered with by any inclosing member interposed between the striker and the bell, there being, at the same time, no opening for the striker through the case to admit moisture.

In accordance with the invention, the striker and bell are mounted entirely outside of the casing, the striker being connected with an armature which is in the magnetic field of an electro-magnet contained within the casing, while the polar extremities of said electro magnet project through the wall of the casing to the outside thereof, this part of the wall being of non-magnetic substance.

In order to make and break the circuit to produce the vibration of the striker armature, the instrument is provided in the interior of the casing with a supplemental electro-magnet controlling a circuit interrupter, the contacts of which are within the casing.

The drawing is a vertical section, partly in elevation, through the walls of the casing, showing the operating parts mainly in elevation.

The bell *a* is shown as supported on a projection c^2 from one wall of the casing *c*, the bell being operated upon by the striker *b* which is also mounted outside the casing, being herein shown as supported upon the spring member b^2 secured at b^3 to the outer wall of the facing *c*.

In order to cover and protect, to a certain extent, the striker *b* and the parts where it is connected to the casing, a supplemental hood b^4 may be secured to the outer wall of the casing, this hood also being shown as affording a support for the armature adjusting stop b^5. The striker *b* has connected therewith an armature b^6 which stands in the magnetic field of an electro magnet *d*, the coils and windings of which are inclosed in the casing *c*, while the pole pieces d^2 project through the wall of the casing, being tightly fitted in said wall so as to render the casing moisture-proof.

In order to produce the vibration of the striker *b* and consequent operation of the bell, it is necessary to provide the instrument with a circuit interrupter, and in order that said interrupter may be inclosed in the case and be fully protected, the instrument is provided with a supplemental electro magnet *e* to influence the armature *f* of the circuit interrupter, which consists of the movable contact f^2 and fixed contact f^3. The fixed contact f^3 is connected by means of a conductor 2 with the binding post 3 inside the casing, the said binding post having electrical connection with the conductor A of the main circuit.

The main circuit conductors A and B are shown as led into the casing *c* through a stuffing box C, and the conductor B is connected with the binding post 5.

The movable contact f^2 is shown as a spring electrically connected with a metallic supporting member f^4 which is connected with a conductor 4 which includes the coils of the magnet *e* and the coils of the magnet *d* in series, and is connected with the binding post 5 and conductor B of the main circuit. The armature *f* is provided with an adjustable weight f^5 which tends to hold it in such a position that the fixed and movable contacts f^2 and f^3 are in electrical engagement. If, therefore, the current is turned on, a circuit is closed through both electro magnets *d* and *e*, attracting the armature b^6 to strike the gong *a*, and the armature *f* to break the circuit. The circuit being thus broken, the armature *f* returns to its original position again closing the circuit, the instrument operating after the usual manner of a vibrating bell. By the employment of the adjusting weight f^5, the period of vibration of the armature *f* may be brought into unison with that of the armature b^6, so that the two armatures will vibrate together.

What I claim is:

An electric vibrator bell comprising a gong; a striker therefor; an armature connected with said striker; an electro-magnet

to coöperate with said armature; a water-tight inclosing case for the windings of said electro-magnet, the polar extremities of said electro-magnet projecting through the wall of said case; a circuit interrupter contained in said case and consisting of an electro-magnet and a circuit-controlling armature; leading-in wires to supply the circuit through the electro-magnets inside the case; and a stuffing box for said leading-in wires to render the case completely water-tight.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

DONALD M. BLISS.

Witnesses:
W. E. COVENEY,
H. J. LIVERMORE.