

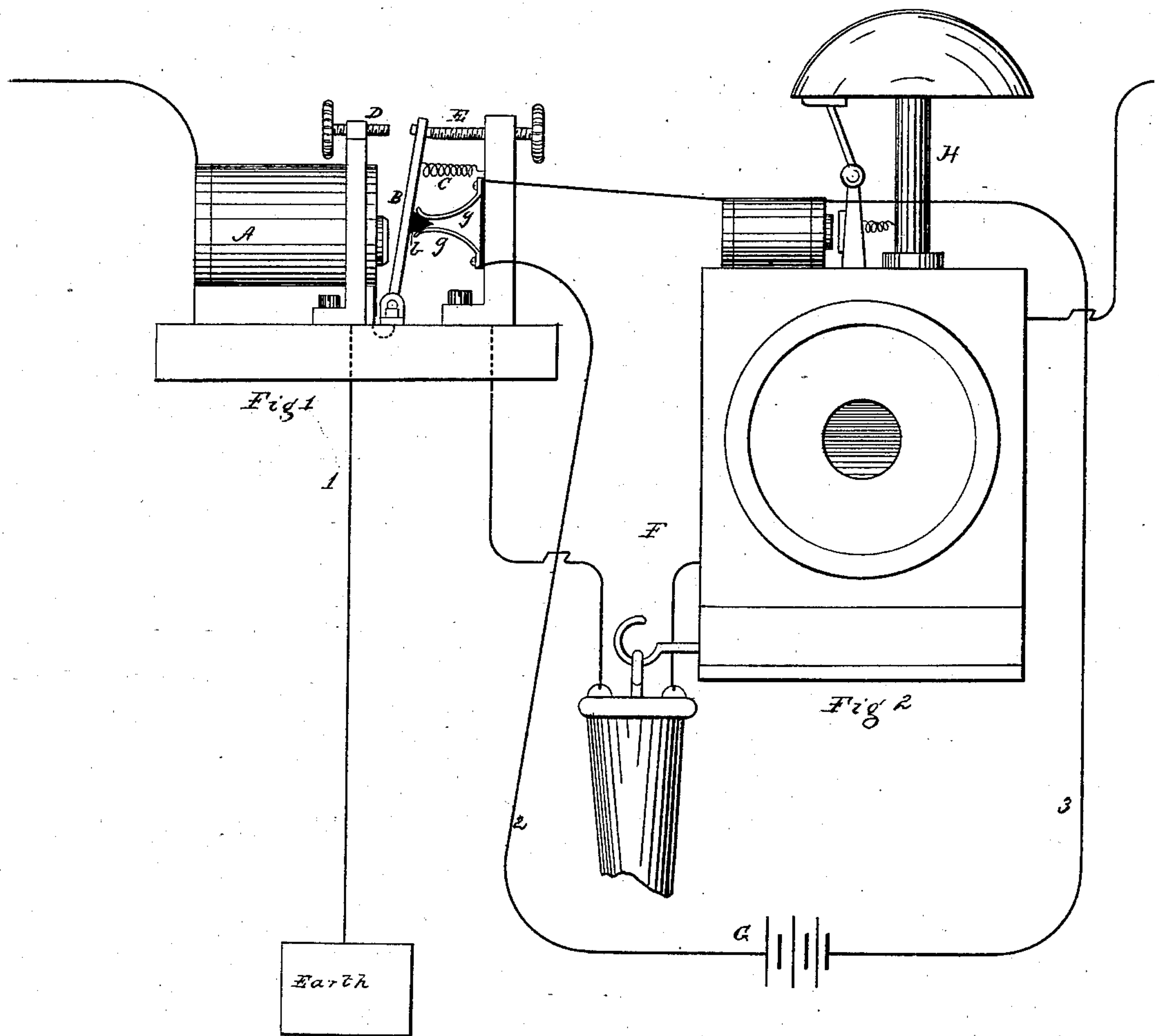
(No Model.)

M. D. CONNOLLY.

PROTECTOR FOR TELEGRAPHIC AND TELEPHONIC INSTRUMENTS.

No. 279,715.

Patented June 19, 1883.



WITNESSES

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PROTECTOR FOR TELEGRAPHIC AND TELEPHONIC INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 279,715, dated June 19, 1883.

Application filed February 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, M. DANL. CONNOLLY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Protectors for Telegraphic, Telephonic, and other Electrical Instruments; 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 pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification, in which the figure is an elevation exhibiting my improvements.

My invention has relation to that class of protectors or arresters for telegraphic, telephonic, and other electrical instruments in which are employed an electro-magnet and an armature with front and back stops for the latter, which have circuit to ground, or metallic circuit, and to line, respectively, and in which the circuit is normally to line, but becomes diverted to the ground when an abnormally-powerful current, or one forceful enough to energize the protector-magnet and attract its armature, gets on the line from accidental or other irregular causes.

My present improvements have for their object to provide means whereby, when such a diversion of current or change of circuit occurs, an alarm-bell will be rung without employing the abnormal current for the purpose, or without locating such bell in the ground-circuit or in a shunt thereof.

My improvements consist in the combination, with the protector-instrument, of a local battery having a circuit in which the alarm-bell is located, such circuit being kept open by the protector-armature while the latter is in its normal retracted position, but which closes when said armature is attracted by the influence of an abnormal current on main line.

Referring to the accompanying drawing, A designates a protector-magnet; B, its armature, with retracting-spring C, and D and E front and back stops. Line normally is through helix of A to B, thence by way of back stop, E, to the instrument, F, sought to be protected. From front stop, D, there is a line,

1, to ground or metallic circuit. This line is unaffected by normal or regular working currents. When, however, an abnormally-powerful current gets on line, armature B is attracted, diverting circuit from way by E to line 1, cutting out the instrument F.

G represents a battery, which may, if desired, be that provided for the transmitter of a telephone or the local of a sounder or other telegraph instrument. This battery has a circuit, 2 3, the terminals of which are shown at *g g*, and in this circuit is an alarm-bell, H, preferably a vibrator. The terminals *g g* are kept apart when the armature B is in its normal retracted position by an insulated stud, *b*, attached to the armature B, so that in this condition said circuit to bell is open. When, however, the armature is attracted, the terminals *g g*, which may be springs, or one of which may be a spring, come together, closing the circuit of battery G on bell and giving an alarm. If desired, the terminals *g g* may be rigid, and the stud *b* have a metallic piece which makes electrical connection between said terminals when the armature is attracted.

What I claim as my invention is as follows:

1. The combination, with a protector or arrester for telegraphic, telephonic, or other electrical instruments comprising a helix and armature with front and back stops, of a local battery whose circuit is kept open when said armature is in its retracted position and closed upon an alarm-bell when said armature is attracted, substantially as shown and described.

2. The combination, with bell H, and battery G, having terminals *g g*, of circuit-changing armature B, having an insulated piece or stud, *b*, which keeps the circuit of said battery open when said armature is in its normal retracted position, but closes it or permits it to close on the bell when said armature is attracted, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of February, 1883.

M. DANL. CONNOLLY.

Witnesses:

JOS. B. CONNOLLY,
WM. H. POWELL.