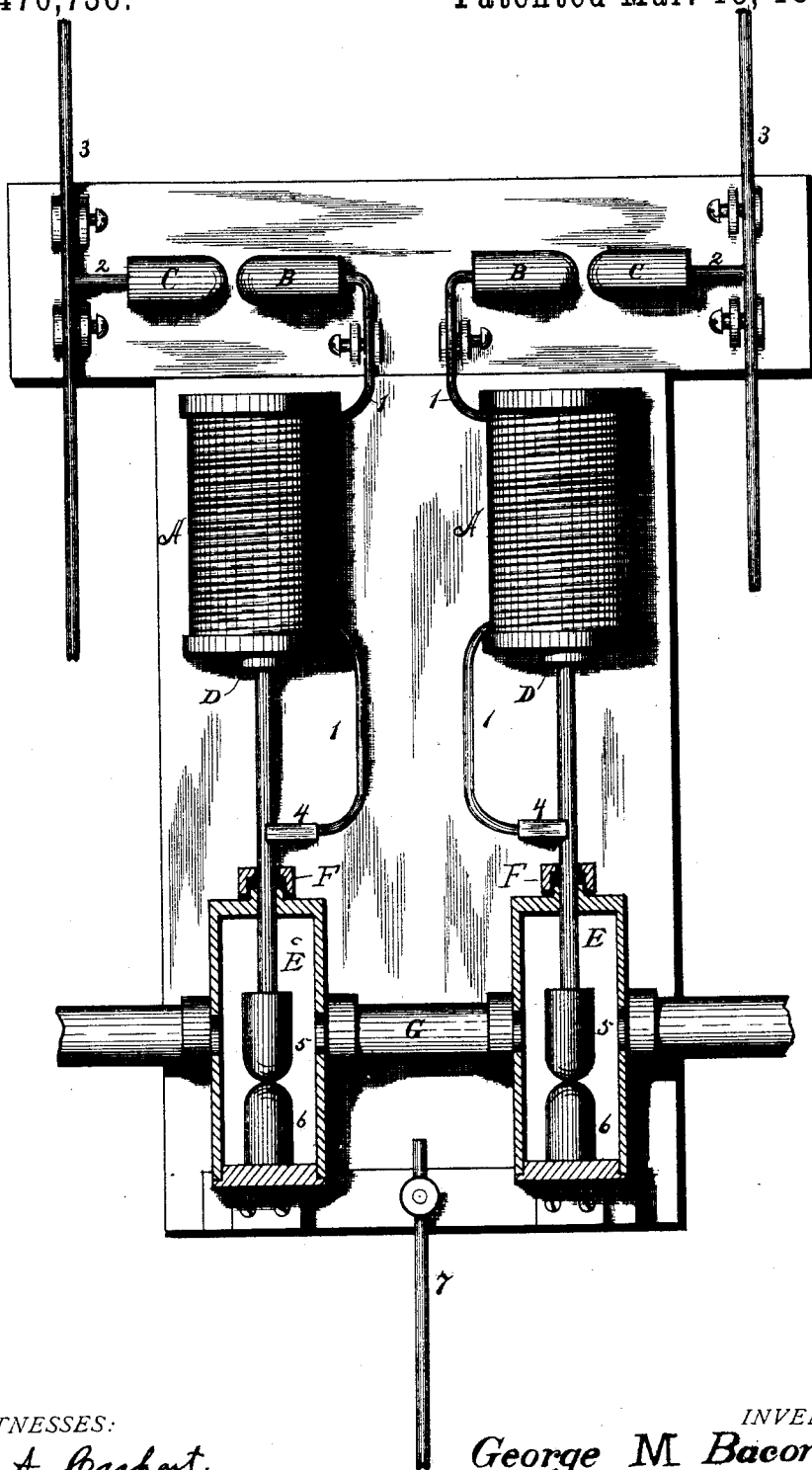


(No Model.)

G. M. BACON.
LIGHTNING ARRESTER.

No. 470,736.

Patented Mar. 15, 1892.



WITNESSES:

H. A. Caskant.

Etta Solomon.

INVENTOR

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BY

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UNITED STATES PATENT OFFICE.

GEORGE M. BACON, OF SCRANTON, PENNSYLVANIA.

LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 470,736, dated March 15, 1892.

Application filed August 10, 1891. Serial No. 402,219. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. BACON, of Scranton, in the county of Lackawanna, in the State of Pennsylvania, have invented new and useful Improvements in Lightning-Arresters, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to lightning-arresters, and particularly to that class in which a series of carbon points are so arranged as to be automatically thrown in and out of circuit by the discharge.

It is a well-known fact that there is danger in electric systems employing currents, and that the line-current will always follow the arc established by the lightning-discharge; and my particular object is to construct a resistance-circuit, in order to protect the dynamo-electric generator, motor, or other apparatus included in an electric current from lightning or other high-potential discharges; and to that end I have devised a new apparatus for the above-named purposes, which consists, briefly, in causing the lightning-discharge to arc across carbon points through the magnets to secondary carbon points, where the discharge is partially neutralized by passing into a chamber of water, and thence to ground.

My invention consists in the several other novel features of construction and operation hereinafter described, and specifically set forth in the claims hereunto annexed. It is constructed as follows, reference being had to the accompanying drawings, in which I show a plan view of the arrester complete, the casing removed from the lower carbon points, and showing the water-chamber in vertical section.

Similar letters and figures of reference indicate corresponding parts.

A A are the magnets or solenoids and supported in any suitable manner and having a wire 1 running to the carbon point B.

2 is a wire connecting the carbon point C with the line 3, which line 3 is in circuit with the dynamo.

D is an armature erected in a vertical position within the lower port of the magnet, to which armature is attached the contact 4 and which is connected to the magnet by the wire.

5 and 6, respectively, are carbon points always in contact with each other.

E is a receptacle in which the carbon points 5 and 6 are located, having a stuffing-box F at the upper ends, through which the rod passes, connecting the point 5 with the armature in the magnet.

G is a pipe carrying a stream of water when the arrester is in use to the water-receptacle E for the purpose of breaking the arc and neutralizing the discharge.

7 is a wire in circuit with the point 6 to ground.

My invention is operated as follows: When a discharge takes place, the current from the dynamo arcs across the carbon points C and B passes through the magnet A and lifts the armature D, breaking the arc of the carbon points 5 and 6, where it is neutralized by the stream of water passing into the receptacle E. The armature then drops back and allows the points 5 and 6 to again come in contact, ready for the next discharge. It will thus be seen that the arrester operates automatically at all times and can under no circumstances get out of order.

Having described my invention, what I desire to claim by Letters Patent is—

1. A lightning-arrester consisting of discharge-points C and B, the former in circuit with the line, the latter with the solenoid, the core D, connected with solenoid, the discharge-point 5, connected with the core, the point 6, connected to ground, said points 5 and 6 located within the receptacle E, and the receptacle E, in combination, as set forth.

2. A lightning-arrester consisting of magnets, carbon points C and B, the former in circuit with the line and the latter with magnet, the armature D being connected with magnets and having carbon points 5 connected therewith, carbon points 6 in circuit with the point 5 and connected to ground, the carbon points 5 and 6 located within the receptacle E, the receptacle E, and water-ways introducing water into said receptacle, in combination, as set forth.

In witness whereof I have hereunto set my hand this 31st day of July, 1891.

GEORGE M. BACON.

In presence of—

WM. S. KROTOSKY,
EZRA K. FERN.