

(No Model.)

J. D. BISHOP.
LIGHTNING ARRESTER.

No. 425,061.

Patented Apr. 8, 1890.

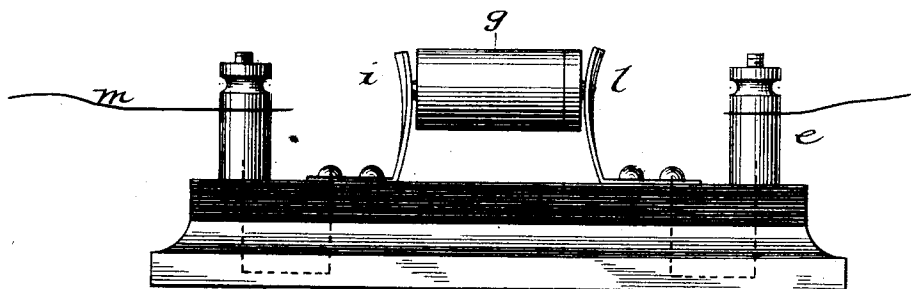
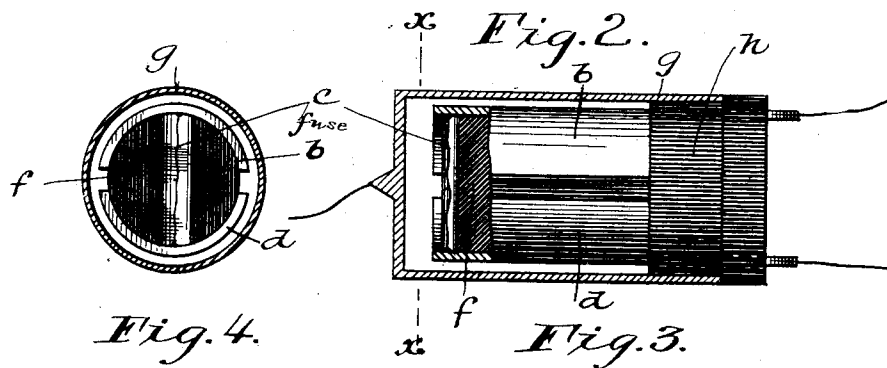
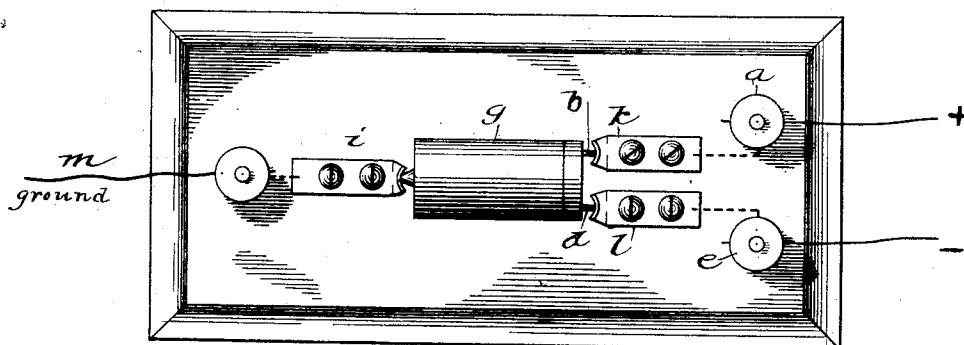


Fig. 1.



Witnesses:

Chas. G. Hawley.
Geo. R. Parker.

Inventor:

Fig. 5. James D. Bishop.
By Surge P. Barton
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UNITED STATES PATENT OFFICE.

JAMES D. BISHOP, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN
ELECTRIC COMPANY, OF SAME PLACE.

LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 425,061, dated April 8, 1890.

Application filed February 3, 1890. Serial No. 339,048. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. BISHOP, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Lightning-Arresters, (Case 2,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to lightning-arresters; and its object is to provide, first, for interrupting the circuit, and in case the current is very strong to provide a ground path for carrying it out. In case the accidental strong current persists, the plates of the lightning-arrester are fused together so as to afford a permanent ground-connection.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a plan of the same. Fig. 3 is a detail sectional view showing the two plates connected by a fusible wire and the cylinder which is connected with the earth surrounding the same. Fig. 4 is a longitudinal sectional view showing the manner of assembling the parts. Fig. 5 is a detail perspective view of one of the plates.

Like parts are indicated by similar letters of reference throughout the different figures.

As shown in Figs. 2 and 4, the circuit to be protected is connected from binding-post *a* to plate *b*, and thence through small platinum wire *c* to plate *d*, and thence with the binding-post *e*. These plates *b d* are mounted upon the rubber piece *f*, which is turned out preferably of the form shown. This rubber support is of different diameters at different sections in its length. The plates *b d* are secured to different sides of the portion of the less diameter. The ground-cylinder *g* is insulated from these plates and held in position a short distance therefrom, the portion *h* of the cylinder *f* being of the proper diameter and serving as a support for the ground-cylinder, as shown.

The platinum wire may be soldered to the different plates, as shown. The lightning-

arrester proper is supported between springs *50 i k l*.

It is evident that one lightning-arrester may be removed from the springs and another substituted therefor with the greatest facility.

In case the disturbing current were continuous—as, for example, an arc-light current—an arc would be formed between the cylinder and one or the other of the plates, or both. This would soon fuse the metal, which, falling down in the annular space, would form solid metallic contact with the earth through the ground-connection *m*.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A lightning-arrester consisting of two insulated plates connected by a fusible wire, a curved metallic ground-plate placed over said insulated plates and at a short distance therefrom to form an annular space between said insulated plates and the ground-plate, whereby when an arc is formed the metal fused will be received in the annular space, substantially as described.

2. The combination, with the insulating support, of metallic plates included in an electric circuit placed on opposite sides thereof, said plates being connected by a fusible wire, and a grounded metallic cylinder placed over said plates and secured at a suitable distance therefrom, substantially as and for the purpose specified.

3. A lightning-arrester mounted between three springs, one forming the ground-terminal on one side of the lightning-arrester and the other two being included in the circuit and normally connected with the different plates *b d* of the lightning-arrester, whereby said lightning-arrester may be readily removed, substantially as and for the purpose specified.

In witness whereof I hereunto subscribe my name this 11th day of January, A. D. 1889.

JAMES D. BISHOP.

Witnesses:

GEORGE P. BARTON,
ELLA EDLER.