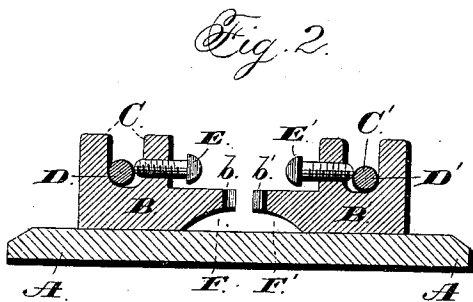
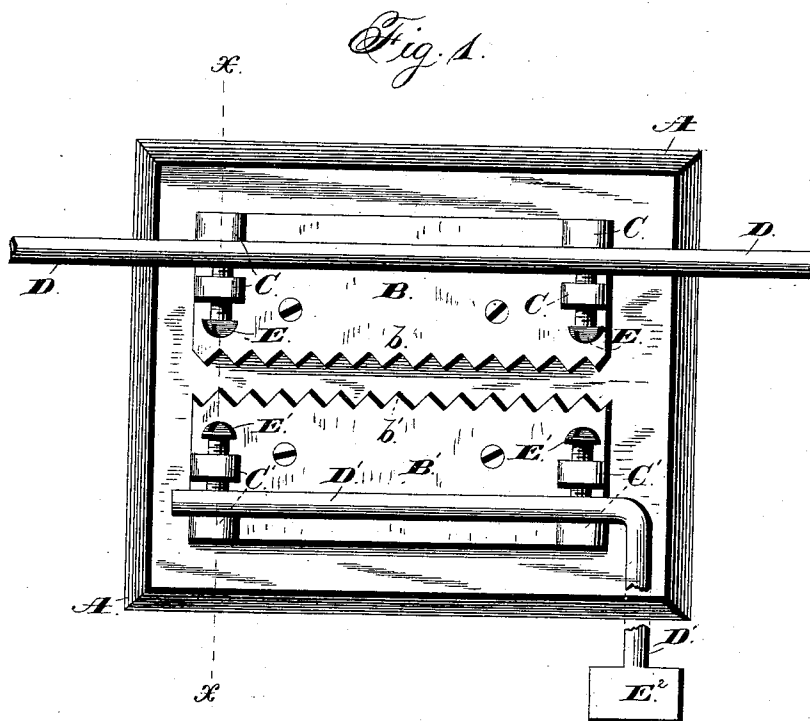


(No Model.)

A. J. HOLT.  
LIGHTNING ARRESTER.

No. 330,486.

Patented Nov. 17, 1885.



WITNESSES

*Just C. Hutchinson.*  
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# UNITED STATES PATENT OFFICE.

ARTHUR J. HOLT, OF CLEVELAND, OHIO.

## LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 330,486, dated November 17, 1885.

Application filed August 21, 1885. Serial No. 175,010. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR J. HOLT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Lightning-Arresters; 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 appertains to make and use the same.

My invention relates to an improvement in lightning-arresters, and more particularly to those adapted to be applied to electric lighting and other circuits using strong currents. The object is to provide a device which can be easily attached to the line-wire from which it is desired to draw off the charge of atmospheric electricity without cutting the line-wire. A further object is to provide an arrester of such construction that while the parts may be fastened to a wooden wall or other carbonizable support, the support will not become carbonized by the flashes of lightning or dynamo currents which may pass between the collecting and discharging points of the apparatus.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view, and Fig. 2 is a sectional view through the line *xx* of Fig. 1, of one form of arrester embodying the principles of my invention.

A represents a base or support of wood or other insulating material. It may be simply a portion of a wall or ceiling or other convenient support protected from the weather.

B B' represent two metal plates, attached to the base and so located that their adjacent edges *b b'* will lie parallel with and in near proximity to each other. The said adjacent edges are preferably serrated, as shown, to afford a more ready escape of the electricity from one plate to the other. Upon the plates are formed one or more bifurcated lugs, C C', between the branches of which the line and ground wires D D' are respectively secured by set-screws E E', or other suitable means.

D represents the line-wire, from which it is desired to conduct the atmospheric electricity when from any cause it becomes overcharged therewith.

D' represents the wire leading from the plates B' to the ground E'. The metal plates B B' are cut away beneath the edges *b b'*, as shown at F F', Fig. 2, thereby leaving the portions of the plates B B', which are in close proximity to the support A, a greater distance apart than the edges *b b'*.

From the above construction it will be seen that the two-branch lugs C admit of the arrester being electrically connected with the line-wire without cutting the latter. The two-branch lugs C' on the plate B' are not essential when a single apparatus is used, as the ground-wire might be connected therewith in many other convenient forms, but they are quite advantageous when several of the arresters are needed and a single ground-wire employed for all of them. The plates should be located at such a distance apart that any abnormal amount of electricity sufficient to interfere with the use of the line would leap the intervening space between the edges *b b'* and escape into the ground.

To adapt the arrester to lines of different resistances, it might be advantageous to attach the plates B B' to the support in such a manner that they could be adjusted toward and away from each other. When a discharge takes place across the space between the edges *b b'*, the accompanying flash is at a sufficient distance from the base or support, owing to the cut-away portions F F', to prevent any burning or carbonizing of the wood or other insulating material, which, aside from the possible destruction of the apparatus, would form a semiconductor, through which the dynamo-current would leak to the earth.

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

1. The combination, with a conducting-plate provided with means for electrically connecting it with a continuous line-wire, of a conducting-plate constructed to be electrically connected with the ground, the adjacent edges of said plates being located in such proximity to each other that an abnormal charge of electricity on the line-wire will effect a discharge to the ground-plate, substantially as set forth.

2. In a lightning-arrester, the combination, with an insulating base or support, of a conducting-plate adapted to be secured to the base

or support and provided with one or more two-branch lugs and means for clamping the line-wire thereto without cutting it, and a second conducting-plate located a short space  
5 away from the first-named plate and electrically connected with the ground, substantially as set forth.

3. In a lightning-arrester, the combination, with an insulating base or support, of a line-  
10 wire plate and a ground-plate adapted to be secured to the base or support at a short distance apart, the adjacent edges of the two plates being serrated, and the portions of the plates beneath the serrated edges being cut  
15 away, substantially as set forth.

4. In a lightning-arrester, the combination, with an insulating base or support and a con-

ducting-plate adapted to be secured to the base or support and provided with bifurcated lugs and clamp-screws for connecting the ar- 20  
rester electrically with the line-wire, of a second conducting-plate adapted to be secured to the base or support with its edge near the edge of the first-named plate, and provided with  
25 one or more bifurcated lugs and clamp-screws for connecting the ground-wire electrically therewith, substantially as set forth.

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

ARTHUR J. HOLT.

Witnesses:

L. B. LE VAKE,  
JOHN T. HUNTINGTON.