(No Model.)

L. T. YOUNG.

LIGHTNING ARRESTER.

No. 248,825. Patented Oct. 25, 1881.

FIG. 1.

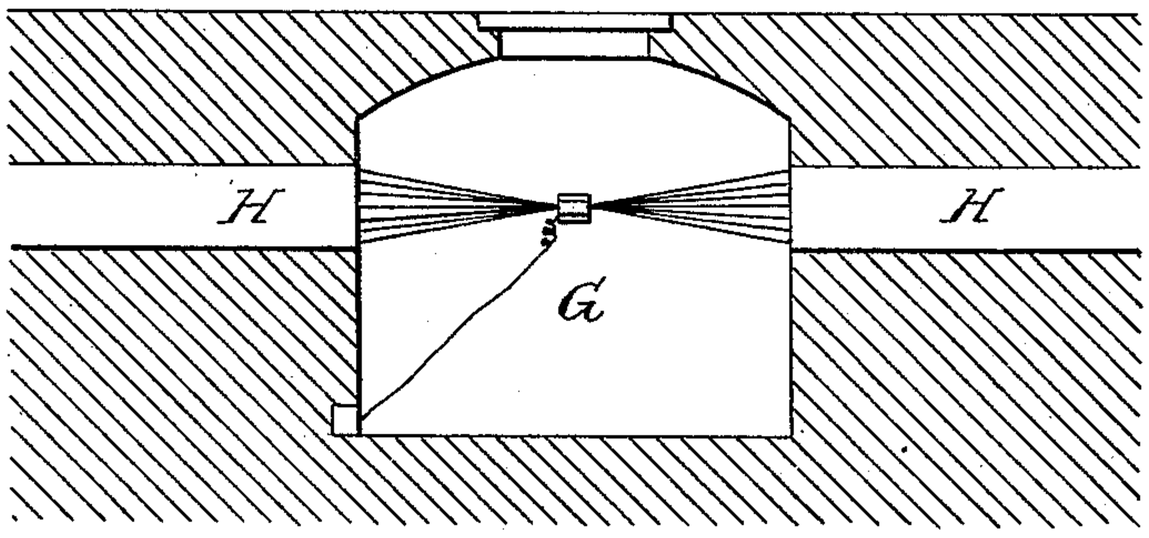


FIG. 3.

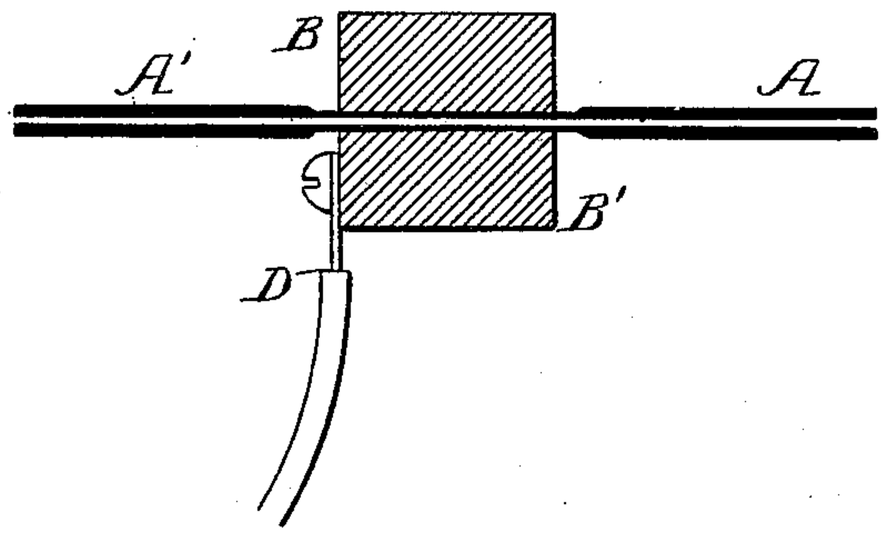
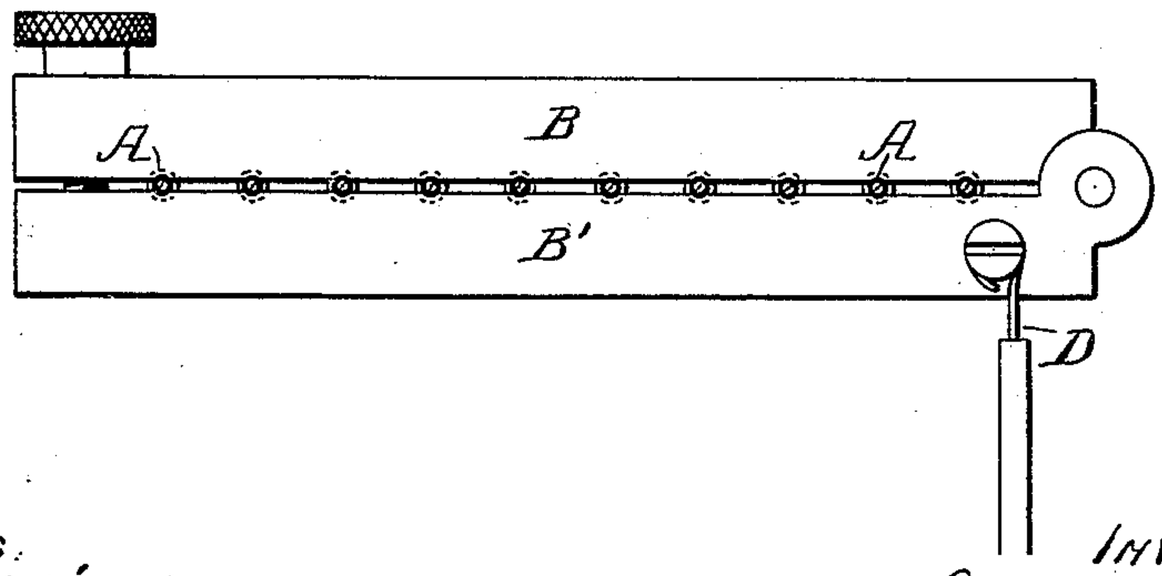


FIG. 2.



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UNITED STATES PATENT OFFICE.

LEWIS T. YOUNG, OF PHILADELPHIA, PENNSYLVANIA.

LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 248,825, dated October 25, 1881.

Application filed August 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, LEWIS T. YOUNG, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Lightning-Arresters for Electrical Conductors, of which the following is a specification.

My invention consists of a mode of and apparatus for intercepting and disposing of the electricity with which insulated telegraph-conductors may be charged by lightning, thereby preventing accidents in localities traversed by such conductors, my invention being especially applicable to underground-telegraph lines.

In the accompanying drawings, Figure 1 illustrates the application of my invention to underground-telegraph conductors, and Figs. 2 and 3 views of the device by which my invention is, by preference, carried into effect.

In Fig. 2, A A′ is an insulated telegraph-wire confined at a suitable point between two blocks, B B′, of metal, or the lower block only may be of metal, and from this a conductor, D, extends to the ground. At the point where the conductor A A′ passes between the blocks of metal the insulating clothing of the wire is reduced in thickness, and as an excessive charge of electricity will always endeavor to escape where the insulation presents the least resistance, a violent charge imparted by lightning to the portion A of the conductor will pass through the thinnest portion of the insulating clothing and will be directed to the ground, so that there can be no transmission of the atmospheric electricity to or through the portion A′ of the conductor.

It will be understood that after reducing the insulating clothing of the conductor there is enough left to prevent the passage to the ground-wire of the electric or induced currents used in the transmission of messages through the conductor.

Where there are a number of wires I prefer to make the blocks as shown in Fig. 3—that is, to hinge the blocks or bars at one end and confine them by a set-screw at the opposite end, the bars being grooved for receiving the conductors, which are thus clamped between the blocks, from one of which a conductor, D, extends to the ground. This plan may be adopted in applying my invention to underground-conductors, as shown in Fig. 1, where G represents a vault across which extend a number of conductors passing through conduits H H, and the insulated wires being clamped between the bars at or near the center of the vault.

I claim as my invention—

1. The combination of an insulated conductor having its insulating clothing reduced at any desired point, a ground-wire, a metal block connected thereto, and a device for attaching the said block to the reduced portion of the conductor, all substantially as set forth.

2. The combination of a series of insulated conductors the insulated clothing of which is reduced, as set forth, with clamping-blocks B B′, for confining the conductors when they are reduced, and a conductor by which one or both of the said blocks is made to communicate with the ground, substantially as set forth.

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

LEWIS T. YOUNG.

Witnesses:

ALEX. RAMSEY,

EDWD. RAMSEY.