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E. A. EVERETT

1,939,679

LIGHTNING ARRESTER

Filed Nov. 3, 1930

Fig. 1.

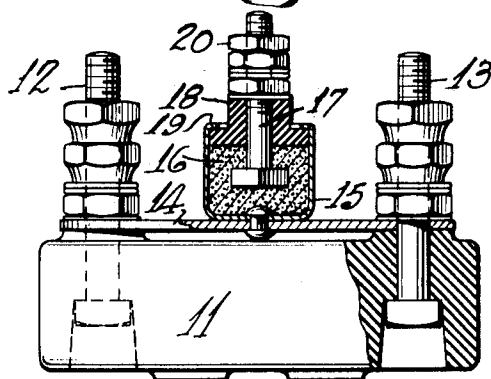


Fig. 2.

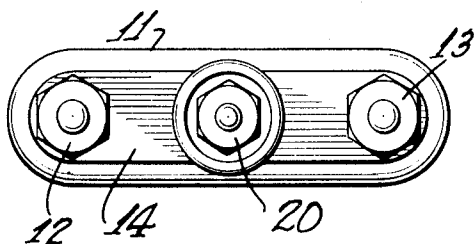
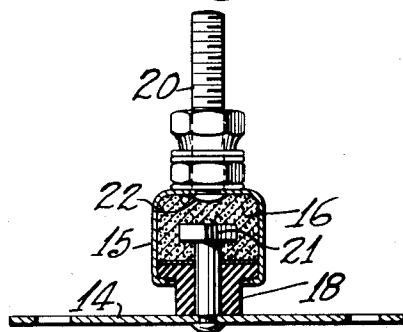


Fig. 3.



INVENTOR
Edward A. Everett
BY *M. H. Loughridge*
ATTORNEY

UNITED STATES PATENT OFFICE

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LIGHTNING ARRESTER

Edward A. Everett, Long Island City, N. Y.

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5 Claims. (Cl. 175—30)

This invention relates to lightning arresters, to the materials used in, and to mountings for, lightning arresters. The invention is shown and described in connection with arresters of the resistor type in which lightning is discharged through a resistor medium having a high resistance to the normal circuit which the device protects. The resistor material is made from a moulded compound and is adaptable in various shapes for the purpose intended. This permits of a variety of mountings which can be moulded into the resistor compound. An object of the invention is to provide a resistor material having characteristics adapted for discharging lightning and a mounting therefor. Other objects of the invention will be more particularly understood from the following specification and the accompanying drawing, in which,

Fig. 1, is a popular type of terminal block with the arrester mounted thereon; Fig. 2, is a top plan view corresponding to Fig. 1 and Fig. 3 is a modification, partly sectioned, of the construction shown in Fig. 1.

The resistor used in this invention is preferably made from a finely pulverized conducting material held together by a binder such as portland cement which can be reduced to a plastic state and moulded under pressure without the application of heat. Such a resistor compound, made from mineral black, is described in U. S. Patent 1,818,184, issued August 11, 1931. The moulding of this material in a cold state does not injure the finish of the mounting parts associated therewith and the compound itself helps to hold the parts of the mounting together.

In the drawings, 11 is a terminal base of suitable insulating material supporting the binding posts 12 and 13. The circuit between these binding posts is maintained by the connector strip 14 and upon this connector strip the arrester is mounted thereby providing a shunt path to ground for lightning discharges. As shown in Fig. 1, a metallic receptacle 15 is riveted to the connector 14 and contains the resistor material 16 which has the terminal post 17 moulded therein. The insulated collar 18 is preferably provided on the stem 17 and is secured in place by spinning over the edges of the container 15 as indicated at 19. This effectively protects the resistor compound 16 and insulates the wires secured by the nuts 20 from the container 15.

A lightning discharge entering by either terminals 12 or 13 is conducted by the surface of the metal container 15 to the surface of the resistor compound 16 and is conducted through this compound to the terminal 17 and to the ground wire connected to this terminal. The voltage at which the resistor 16 will discharge lightning is regulated by the elements of the compound and by the effective area through which the

lightning travels to reach the ground post 17. The capacity of the arrester to discharge lightning is also determined by the effective cross-section of the resistor compound through which the lightning travels. The arrester can thus be adjusted for different conditions by varying the content of the resistor compound or by varying the shape of the resistor or by both of these conditions combined.

The construction in Fig. 3 is modified by inverting the container 15 and placing the insulation 18 against the connector strip 14 with the terminal post 20 riveted to the container 15 at 22.

Having thus described my invention, I claim:

1. A lightning arrester comprising a resistor having a terminal with a stem embedded therein, a container for said resistor, an insulating collar on said stem forming a closure for said container and means for securing said collar in place by said container.

2. A lightning arrester comprising a resistor having a terminal with a stem embedded therein, a metallic container enclosing said resistor on three sides, an insulated collar on said stem forming a closure for said container and means for securing said collar in place by spinning over the edges of said container.

3. In a lightning arrester, a conducting strip, a cup-shaped receptacle mounted on said strip and secured by its bottom to said strip, a resistant material in said receptacle, a terminal connecting with said resistant material and an insulating bushing closing said receptacle and through which said terminal projects said conducting strip and said terminal forming the terminals of the arrester.

4. In a lightning arrester, a hollow receptacle, a resistant material located in said receptacle, a bushing entering said receptacle and secured in place by spinning over the edge of said receptacle closing said receptacle and a conductor connecting with said resistant material and projecting through said bushing.

5. In a lightning arrester, a conducting strip, a hollow receptacle secured to said strip intermediate its ends, a resistant material located in said receptacle, an insulating bushing closing said receptacle and a conductor connecting with said resistant material, and passing through said bushing and a base of insulating material securing said strip by the ends.

EDWARD A. EVERETT.

115

120