

S. E. MARK.
LIGHTNING ARRESTER.
APPLICATION FILED OCT. 21, 1909.

1,004,286.

Patented Sept. 26, 1911.

Fig - 1 -

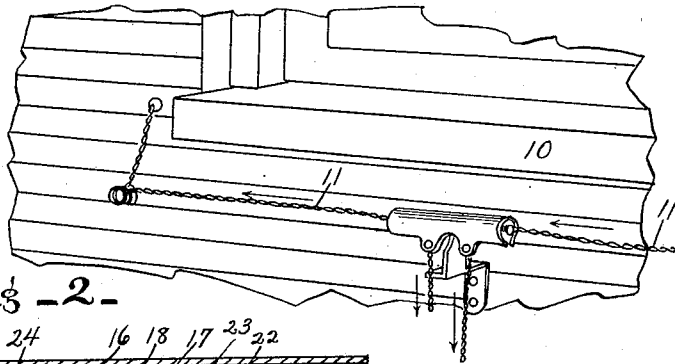


Fig - 2 -

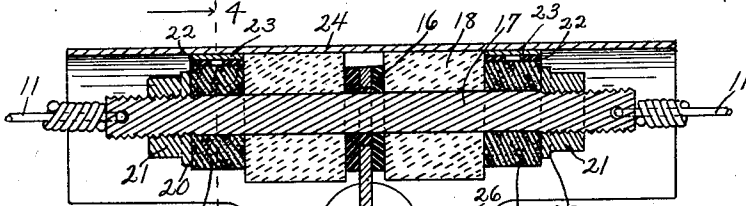


Fig - 4 -

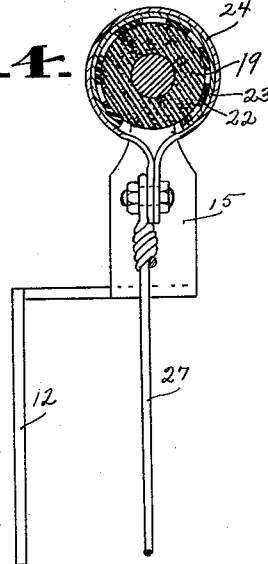


Fig - 3 -

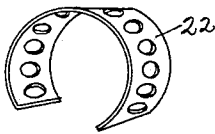
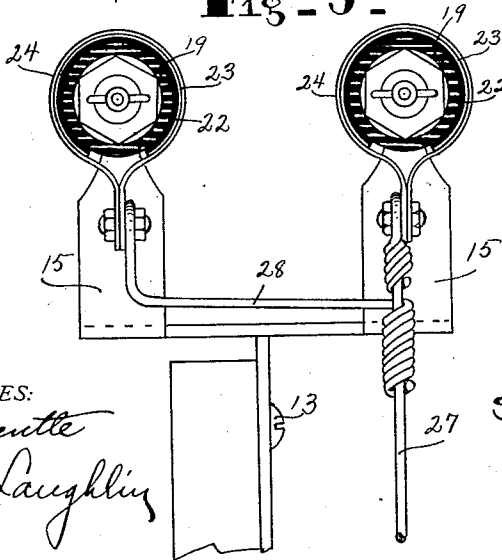


Fig - 5 -



WITNESSES:

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LIGHTNING-ARRESTER.

1,004,286.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed October 21, 1909. Serial No. 523,761.

To all whom it may concern:

Be it known that I, SAMUEL E. MARK, of Coatesville, county of Hendricks, and State of Indiana, have invented a certain new and useful Lightning-Arrester; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of this invention is to provide a practical lightning arrester adapted for use in connection with residence telephone lines and the like, and which is very simple and easy to mount and manipulate.

The nature of the invention will be understood from the accompanying drawings and the following description and claim.

In the drawings Figure 1 is a side elevation of a portion of a residence showing a telephone line with my lightning arrester in position. Fig. 2 is a central longitudinal vertical section through the lightning arrester. Fig. 3 is a perspective view of a mica plate. Fig. 4 is a transverse section on the line 4-4 of Fig. 2. Fig. 5 is an end elevation of a modified form for a metallic circuit.

There is shown in the drawings herein a side 10 of a residence having a main wire 11 for a telephone line secured thereto.

The lightning arrester is provided with a bracket having a vertical portion 12 adapted to be secured to the side of a house by screws 13, a horizontal portion 14 and a vertical arm 15 extending upwardly therefrom. Said arm has a hole in the upper end thereof containing a ring 16 of insulation, through which a metal rod 17 extends. This rod is centrally mounted in said ring 16 and carries porcelain cylinders 18, one at each side of the insulation 16, a carbon block 19 adjacent each porcelain cylinder 18, a metal washer 20 adjacent each carbon 19, and a nut 21 that screws on each threaded end of the carbon 19 for securing all these parts together on said rod. Near each end of said rod there is a hole through which one end of the main line wire 11 extends and whereby it is secured, so that the rod 17 constitutes part of the main line wire conductor through which the current goes to the telephone in the residence.

A perforated mica plate 22 partially surrounds and envelops each carbon cylinder 19 excepting the lower surface thereof, and a metal plate 23 surrounds the perforated mica plate 22, being cut away on the lower side

also, as shown in Fig. 4, so that the diameter of the carbon cylinder and the plates 22 and 23 will be substantially the same as the porcelain cylinders. A cover or casing 24 partially surrounds and envelops the porcelain cylinders and the other parts, as shown in Fig. 2, excepting on the lower side where the two sides of the casing fail to meet, so as to leave a considerable gap substantially the same as the gap between the two ends of the mica plates, but there are ears 25 projecting down from each side of the casing, which are brought together by the bolt 26, with which the ground wire 27 is connected. There may be two ground wires, one connected with each pair of ears 25. The length of the casing is preferably somewhat greater than the length of the rod 17. The purpose of this casing construction is to prevent rain and water resulting from rain from coming in contact with the parts within the casing so as to short-circuit the main line wires with the ground wire. The rain will drip off each side edge of the casing so that the parts therein are thoroughly protected and there is no way for the line to become grounded by rain or water falling thereon.

The parts are very easily assembled, as they all slip on the rods 17 and the casing loosely surrounds the parts therein and is clamped thereon by the bolts 26.

When the current through the main lines is too strong it jumps from the carbon cylinders 19 through the perforations of the mica plates to the casing 24 and goes to ground through the wire 27.

The modified form shown in Fig. 5 is for use in metallic circuits, the casing 24 and contents being duplicated for each side of the circuit. One ground wire for both sides of the device will suffice, there being a connection 28 from one casing to the ground wire that leads from the other casing. There are two arms 15 instead of one in the single device.

What I claim as my invention and desire to secure by Letters Patent is:

A lightning arrester including a bracket, a rod secured therein and insulated therefrom that is adapted to be connected with the main line wire so that the current will pass normally therethrough, a porcelain cylinder on said rod on each side of said bracket, a carbon cylinder on said rod beside each porcelain cylinder, a perforated mica

plate surrounding all of each of the carbon
cylinders excepting the lower portion
thereof, a casing surrounding all of said
porcelain and carbon cylinders excepting
5 the lower part thereof projecting beyond the
end of said rod, and a wire leading from the
casing to the ground.

In witness whereof, I have hereunto
affixed my signature in the presence of the
witnesses herein named.

SAMUEL E. MARK.

Witnesses:

SARAH E. WALTON,
JOHN S. WALTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."