No. 652,861. Patented July 3, 1900.

J. A. POCHÉ.

OVERHEAD WIRE LIGHTNING PROTECTOR.

(Application filed Dec. 26, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 3.

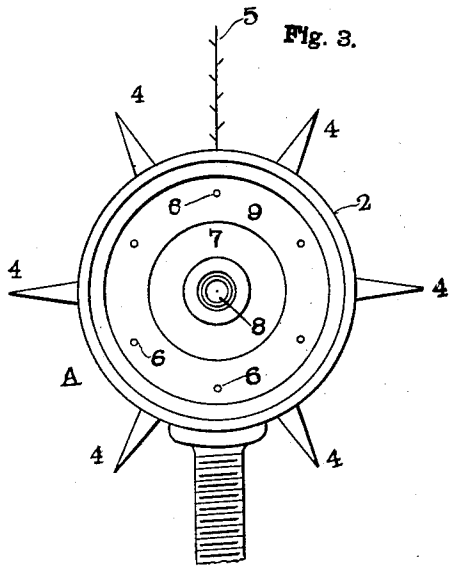


Fig. 4.

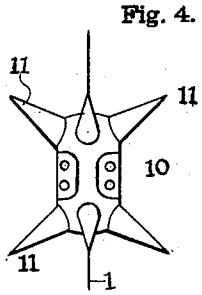


Fig. 5.

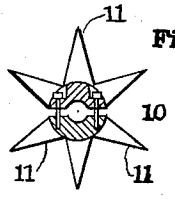


Fig. 2.

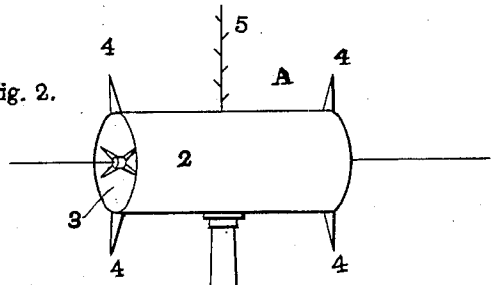
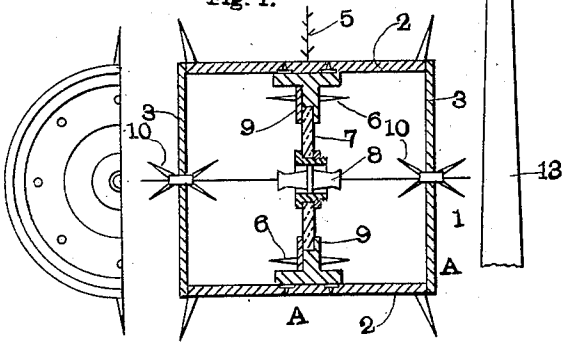


Fig. 1.



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Fig. 7.

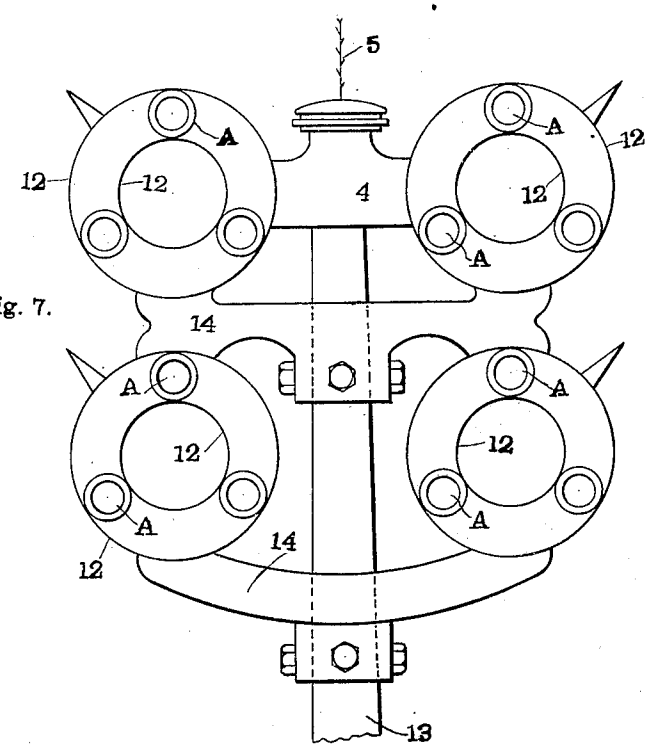
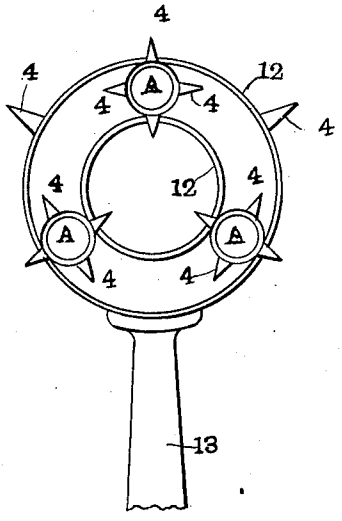


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH ARTHUR POCHÉ, OF NEW ORLEANS, LOUISIANA.

OVERHEAD-WIRE LIGHTNING-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 652,861, dated July 3, 1900.

Application filed December 26, 1899. Serial No. 741,550. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ARTHUR POCHÉ, a citizen of the United States of America, and a resident of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Overhead-Wire Lightning-Protectors, of which the following is a specification.

Heretofore a difficulty has been experienced in preventing injury to overhead conductors by lightning discharges.

The object of my invention is to so construct the system of distribution that the discharges do not injure the conductors, and therefore, as a natural consequence, do not damage the instruments and apparatus connected up in circuit with the conductors.

Figure 1 is a sectional view of the interior construction of a typical insulator of my invention forming the subject-matter of my United States Patent No. 637,282, of November 21, 1899. This insulator is in turn a modification and improvement of another invention of mine, originally patented August 9, 1898, and reissued July 11, 1899, No. 11,759. By my present invention this insulator is supported upon a pole and is provided with pointed projections at the corners or upper and lower edges and with a central lightning-rod, so that the combination of the construction set forth in said patents with means for attracting lightning constitutes a device which prevents discharges from going to the conductor and allows them to go to the earth through the metallic pole; but if the pole is of wood the lightning-rod may be extended along the pole into the earth.

Other phases of the invention are described hereinafter.

The construction is explained in all its details by reference to the accompanying drawings.

Figure 1 is a vertical sectional view to show the interior construction of the insulator, which is provided with means for protecting the conductor from lightning. Fig. 2 is an external side elevation of the same construction, shown mounted upon a pole. Fig. 3 is a vertical end elevation of substantially the same device provided with a screw-spindle for attaching it to any internally-threaded nut. Figs. 4 and 5 are respectively plan and central vertical sectional views of lightning-dissipators shown on a small scale in Figs. 1 and 2. Fig. 6 is an end elevation of means for supporting three or more devices like that shown in Figs. 1, 2, and 3. Fig. 7 is an end elevation of a construction for supporting several devices like that shown in Fig. 6, so that a great many wires may be supported upon a pole, and thereby supply a practical construction of the invention to be used on poles which are to carry many wires.

Without entering into a detailed explanation of the insulator as represented in Fig. 1, suffice it to say that the details may be learned from the patent referred to and that the essential features are the conductor 1, practically perfectly insulated from the metallic cylindrical shield or box 2, the conductor being supported at the center of this box, which is sometimes closed at the ends by disks 3. In combination with this box are projecting lightning attractors or points 4, extending from the ends of the box, and a lightning-rod 5, which may be of any desired length, extending upward from the same, the whole box 2 being supported upon a pole 13, adapted to conduct lightning discharges to the earth. The box 2 may conveniently and uniformly be called a "conduit," the conductor being supported centrally within the same in an insulated manner. The whole construction shown in Figs. 1 and 2 is lettered A, and the end view thereof is repeated as to practically all the essential parts in Fig. 3, certain other important details being discharge-points 6 within the conduit and extending from the ring-clamp which supports the conduit on the glass disk 7, that serves to separate the insulator-support 8 of the conductor 1 from said conduit, the clamp being numbered 9. These points of course are not used when the end disks 3 are applied. They serve to dissipate any lightning discharges that may be conducted to the interior of the conduit. The lightning-dissipators 10 are formed of two parts, are provided with points 11, and are clamped to the wire at about the ends of the conduit, so that lightning discharges received by the conductor between the poles are dissipated by these points, and yet no discharges from the clouds can be taken up by the conductor at these points

because such discharges would be attracted to one side in the main by the lightning-rod 5 and points 4.

In Fig. 6 the lightning protectors or conduits A, together with their adjuncts, are shown in outline as supported and attached to two concentric metallic rings 12. A circular row of conduits A may be supported between these concentric metallic rings 12, the number depending only upon the diameters of the rings and the sizes of the conduits. Three are shown simply as illustrating several.

In Fig. 7 several of the pairs of rings 12 are shown in outline as secured to a pole 13. The manner of support is immaterial, but they are shown as held on a bracket 14, which is fastened to the pole 13. The outer ring 12 should have points 4, so that, together with these points and the lightning-rod 5, the points 4 may, if desired, be omitted, as illustrated in Fig. 7.

The operation has substantially been made plain by the description heretofore given, and my meaning will be readily comprehended by those versed in the art, the device operating, therefore, to protect the conductors at the poles from lightning discharges in that neighborhood and to dissipate any discharges received by the conductors between the poles.

I claim as my invention—

1. The combination with a conducting-pole and a conducting-conduit secured thereto, of a conductor located centrally therein and passing therethrough, and lightning-discharge-receiving points extending from the outside of said conduit.

2. The combination with a conducting-pole, of a metallic conduit supported thereon and supporting an electric conductor which extends through the conduit and which is electrically insulated therefrom, lightning-discharge-dissipating points attached to the conductor at the ends of the conduits, lightning-discharge-receiving points extending from the outside of said conduit, and lightning-discharge-dissipating points electrically connected upon the inside of the conduit, and insulated from the conductor.

In testimony whereof I have hereunto subscribed my name this 19th day of December, 1899.

JOSEPH ARTHUR POCHÉ. [L. S.]

Witnesses:

JOHN PAUL BLANCA,

J. MAXIME QUEYROUZE.