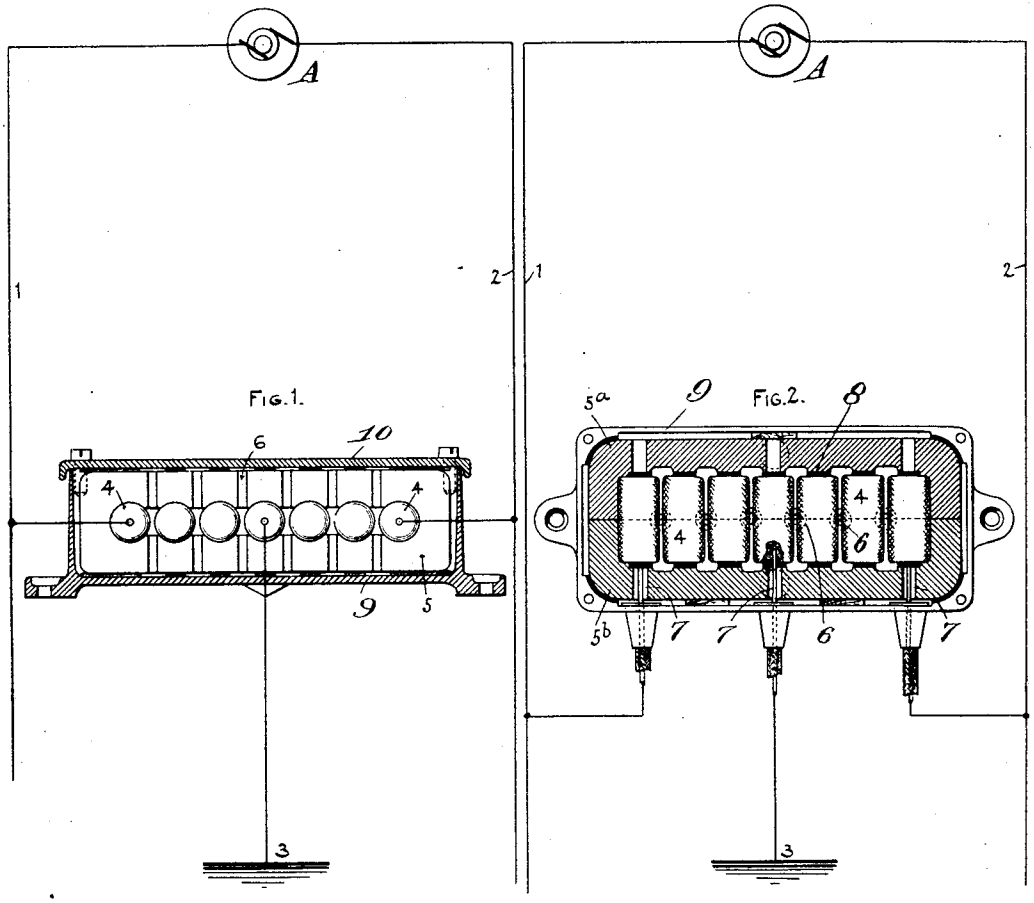
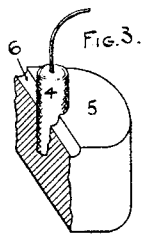
(No Model.)

A. WURTS.

LIGHTNING ARRESTER.

No. 535,086. Patented Mar. 5, 1895.





WITNESSES:
George Brown Jr
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALEXANDER WURTS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, OF SAME PLACE.

LIGHTNING-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 535,086, dated March 5, 1895.

Application filed February 28, 1894. Serial No. 501,782. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER WURTS, a citizen of the United States, residing in Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Lightning-Arresters, (Case No. 584,) of which the following is a specification.

My invention relates to non-arcing metal lightning arresters and particularly to that class of arresters wherein a number of non-arcing parts, usually cylinders, are arranged in a series for the production of a number of gaps in the path of the discharge.

The object of my invention is to provide a means whereby lightning arresters of this class may be cheaply made and easily repaired and in a form particularly suitable for convenient and easy transportation and safe handling.

In the accompanying drawings, Figure 1 is a side elevation of one form of my invention, the inclosing box being shown in section. Fig. 2 is a horizontal section of another form of my invention, the non-arcing cylinders being shown in plan, and a portion of one cylinder being broken away to show the connection of the ground conductor therewith. Fig. 3 is a perspective view of one of the non-arcing cylinders and a portion of the holder in which it is seated.

Referring to the drawings and the reference characters marked thereon, A is a generator of any desired construction, and 1, 2, a circuit leading therefrom to the translating devices, not shown. Interposed in this circuit is the lightning arrester, from which a path to the ground 3 is provided for the static charges upon the line.

In the practice of my invention I employ a series of devices, 4, preferably in the form of cylinders, and constructed of non-arcing metal, and in the form shown in Fig. 1 of the drawings these cylinders are supported by a holder, 5, which may be made of glass, plaster of paris, porcelain, or other insulating material not likely to be destroyed or impaired when used in this connection, and in order to properly support the cylinders, such holder is provided with sockets formed in the body thereof, the adjacent sockets being sufficiently near each other, so that the gaps between the cylinders will be small. I also form in the holder passages, 6, extending outward from between the sockets, these passages being intended to co-operate with the cylinders in suppressing any arc which may tend to form between the latter.

It is well known that when a static discharge occurs between adjacent conductors or when the terminals of conductors carrying dynamo currents are separated, the spark formed vaporizes a portion of such adjacent conducting parts, and thus affords, or tends to afford, a conducting path for the arc. This formation and maintenance of the arc is substantially prevented by the use of non-arcing metal; but by the use of the passages 6 I am enabled to facilitate the escape of any vapors that may be formed, and thus supplement the action of the cylinders and increase the efficiency of the device.

The cylinder and holder are preferably inclosed in a metal box, 9, having a cover, 10, fastened thereto by screws, as shown, or any other convenient means.

In the modification shown in Fig. 2, the insulating holder is made in two parts, 5^a and 5^b, one half of the socket for each cylinder being formed in each of these parts, so that when assembled, the half sockets in one part of the holder shall be in alignment with the corresponding half sockets in the other portion. In this form of the device, the passages 6 extending outward from between the cylinders are also provided, and in one half of the holder are provided apertures 7 for the branch conductors from the circuit and that leading to the ground. Cushions 8, of asbestos, or other non-combustible material, are preferably provided for the ends of the non-arcing cylinders.

I prefer the form of holder illustrated in Fig. 2 and last described, but I do not desire to limit myself to that form, since the other form, illustrated is well adapted for practical use and may be employed if desired. The cylinders used in this form of lightning arrester are preferably knurled, as shown in Figs. 2 and 3, and connection of the cylinders with the line and earth conductors may be made in any desired manner; but I have found

it convenient to insert such conductors in holes bored in the ends of the cylinders, as indicated in Fig. 2.

I have illustrated the lightning arrester in the drawings as located between the two legs of the circuit, connection being made with the end cylinders, and the connection from the middle cylinder being made to the ground. It is obvious that where one leg only of the circuit is to be protected, one end cylinder will be connected therewith, and that the other end cylinder will be connected to the ground.

I claim as my invention—

1. An insulating holder having a plurality of substantially parallel sockets located side by side in the body thereof, combined with a plurality of non-arcing metal parts seated in said sockets, substantially as described.

2. An insulating holder having a series of substantially parallel communicating sockets formed therein, combined with a series of non-arcing metal parts seated in said sockets, substantially as described.

3. An insulating holder having a plurality of sockets formed therein and passages extending outward from between said sockets, combined with non-arcing metal parts seated in said sockets, substantially as described.

4. The combination with a plurality of non-arcing metal parts, of a two-part insulating holder therefor having oppositely arranged aligned sockets in which said non-arcing metal parts are seated, and passages leading outward from between said sockets, substantially as described.

In testimony whereof I have hereunto subscribed my name this 26th day of February, A. D. 1894.

ALEXANDER WURTS.

Witnesses:
JAMES W. SMITH,
HUBERT C. TENER.