No. 738,988. PATENTED SEPT. 15, 1903.

J. DAVIS.

LIGHTNING ARRESTER AND PROTECTOR.

APPLICATION FILED OCT. 20, 1902.

NO MODEL.

Fig. 1.

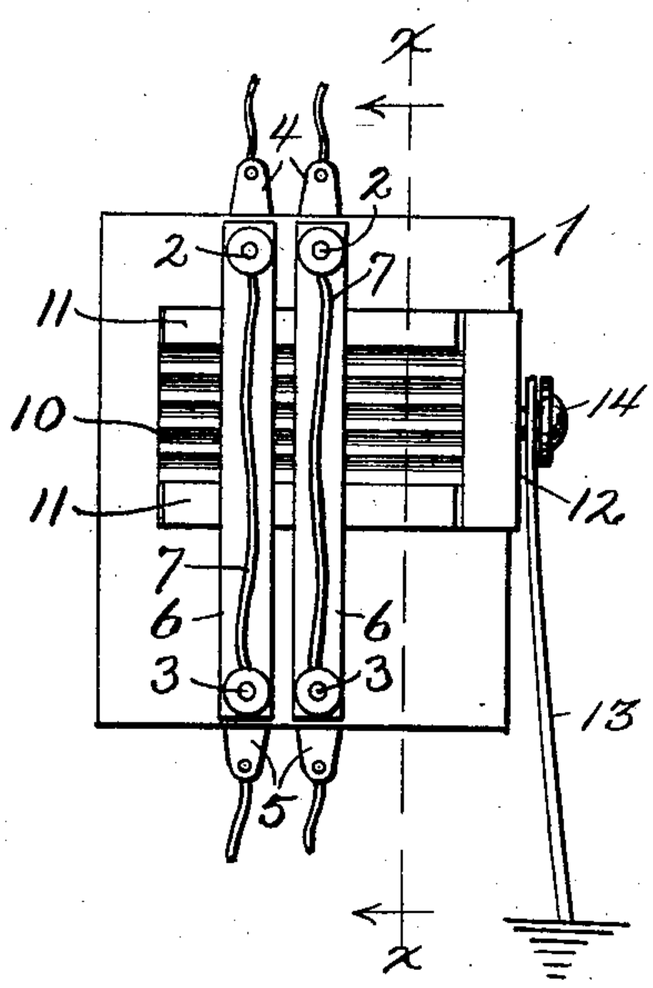


Fig. 2.

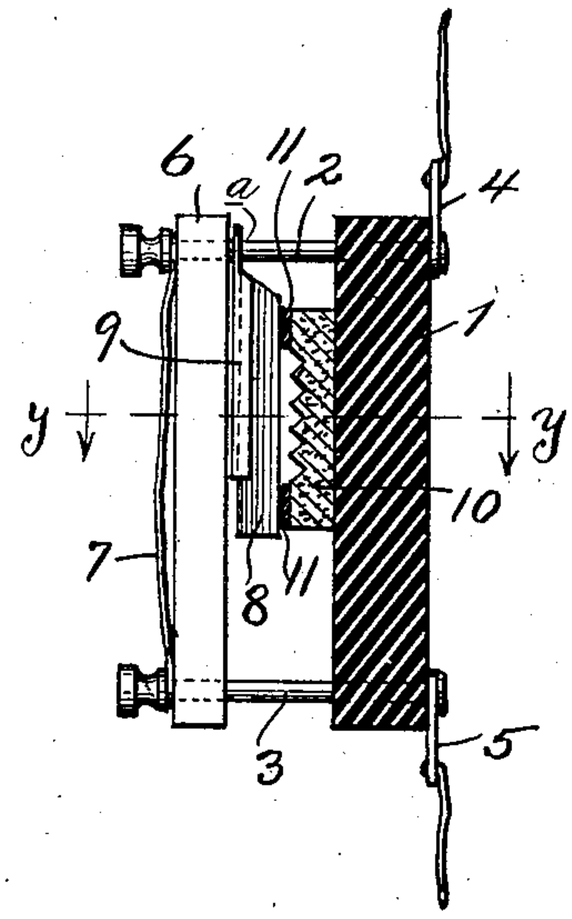
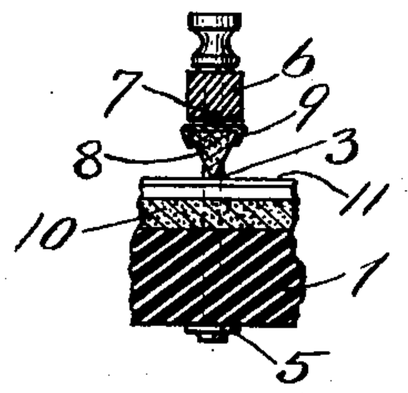


Fig. 3.



Witnesses:
R. J. Jacker
D. L. Weaver

Inventor:
John Davis,
By Walter N. Haskell,
Atty.

No. 738,988. Patented September 15, 1903.

UNITED STATES PATENT OFFICE.

JOHN DAVIS, OF STERLING, ILLINOIS.

LIGHTNING ARRESTER AND PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 738,988, dated September 15, 1903.

Application filed October 20, 1902. Serial No. 127,979. (No model.)

To all whom it may concern:

Be it known that I, JOHN DAVIS, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Lightning Arresters and Protectors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention has reference to lightning-arresters for electric wires, and is an improvement on devices of that class now in use. As at present made most instruments of that kind comprise in their construction a pair of carbon strips separated by a slight interval the width of which is determined by a thin strip of insulating material. In case of an unusually heavy flow of the electric fluid such fluid passes from one carbon to the other and from thence to the ground. Each passage of a heavy current of electricity through such carbons causes some disintegration of the carbons upon their adjacent faces, leaving a powder or dust which spans the interval between the carbons, resulting in a continuous grounding of the wire.

One of the purposes of my device is to do away with all possibility of any accumulation of carbon dust between the carbons, making the system at all times serviceable.

My invention possesses other advantages, among which are simplicity, durability, and cheapness of manufacture.

In the drawings, Figure 1 is a front elevation of my device. Fig. 2 is a vertical section in the line *x x* of Fig. 1. Fig. 3 is a detail section in the line *y y* of Fig. 2.

In the drawings some of the parts are shown in duplicate, being the usual construction of this class of devices when used in connection with a metallic circuit; but in referring to such duplicated parts one only thereof will be designated.

1 is the usual non-conducting base, supporting two posts 2 and 3, the inner ends of such posts connecting, respectively, with connectors 4 and 5, to which the usual wires are attached.

Supported on the posts 2 and 3 is a cross-piece 6 of non-conducting material, the upper face of such cross-piece supporting a wire fuse 7, connected at its ends with the posts 2 and 3.

On the under side of the cross-piece 6 is a triangular strip 8 of carbon, supported in a holder 9, which is pivotally secured at one end to the post 2, as at *a*.

Secured in the block 1, below the carbon 8, is a corrugated carbon block 10, the corrugations thereof having angular edges. Interposed between the carbon 8 and carbon block 10 are two thin strips 11 of non-conducting material, by the thickness of which the carbons 8 and 10 are separated.

Under the block 10, at one end thereof, is secured a strip 12 of conducting material, through which connection is made from said carbon to the earth by means of a ground-wire 13, secured between the strip 12 and a screw-clamp 14.

In case of lightning passing from the carbon 8 to the carbon block 10, resulting in the disintegration of a portion of either thereof, such carbons are practically self-cleaning, there being no place for any sediment to accumulate.

In case one of the edges of the carbon strip 8 becomes worn such carbon can be turned, bringing one of the other edges thereof into use. The carbon is changed by sliding it out of the holder, the holder being turned slightly on its pivot, so as to permit the carbon to pass the post 3.

The operation of my device is the same as in other instruments of this class, an unusual charge of electricity being carried through the carbons to the earth. In case the charge is too heavy for the carbons the fuse is burned off, preventing the further passage of the current along the wire.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a lightning-arrester for electric wires, a carbon block having connection with the earth, and provided with corrugations on its outer surface; a carbon strip, having connection with the electric wire, and supported

transversely of the corrugations in said carbon block, one edge of such carbon strip being held in close proximity to said corrugations, substantially as described.

2. In a lightning-arrester for electric wires, the combination of a carbon block, having corrugations on its outer surface; means for connecting such block with the earth, so as to permit the passage of an electric current from said carbon thereto; a changeable carbon strip, triangular in cross-section; means for holding such strip transversely of said corrugations, so that one of the edges of the carbon strip is in close proximity to said corrugations; and means for connecting such strip with the main electric wire, substantially as shown and set forth.

3. In a lightning-arrester for electric wires, the combination of a carbon block, having corrugations on its outer surface; means for connecting such block with the earth, so as to permit the passage of an electric current from said carbon thereto; a carbon strip, triangular in cross-section; means for holding such strip transversely of said corrugations, so that one of the edges of the carbon strip is in close proximity to said corrugations; means for connecting such strip with the main electric wire; and means for separating said carbon strip and carbon block, so as to prevent a contact between them, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN DAVIS.

Witnesses:
D. H. LINGEL,
HIRAM MYERS.