O. PRESTON.

LIGHTNING-CONDUCTOR, ROD OR CABLE.

No. 7,063. Reissued April 18, 1876.

Fig. 1

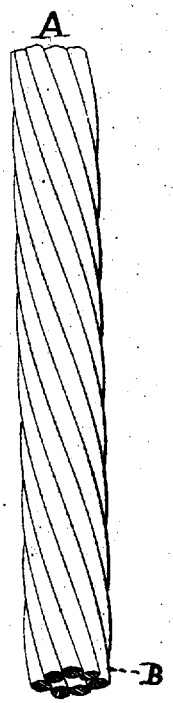
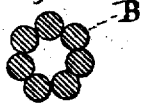


Fig. 2.



Witnesses:

R. A. Turner

L. A. Luce

Inventor

O. Preston

by [illegible]

atty

UNITED STATES PATENT OFFICE.

OTHNIEL PRESTON, OF HORNELLSVILLE, NEW YORK.

IMPROVEMENT IN LIGHTNING CONDUCTORS, RODS, OR CABLES.

Specification forming part of Letters Patent No. 120,457, dated October 31, 1871; reissue No. 7,063, dated April 18, 1876; application filed December 16, 1875.

To all whom it may concern:

Be it known that I, OTHNIEL PRESTON, of Hornellsville, in the county of Steuben and State of New York, have invented a new and useful Improvement in Lightning Conductors, Rods, or Cables, to be used as lightning-conductors, and for other purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to new and useful improvements in rods or cables to be used as lightning-conductors, clothes-lines, or for other purposes, whereby they are made more effective than they have hitherto been; and it consists in making the rod or cable tubular composed of a series of wires twisted together, and either with or without an inclosed metallic tube, the construction being as hereinafter more fully described.

In the accompanying drawing, Figure 1 represents a section of my rod or cable forming a conductor constructed of wires twisted together forming a tube. Fig. 2 is a cross-section of Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the conductor; B, the wires; C, the interior metallic tube. The wires B are twisted together either around a solid core, which is removed, or a metallic tube, C, which latter is allowed to remain; in either case a tubular conductor is formed, which greatly increases the extent of surface of the conductor.

I am aware that it is contended that the conductivity of a lightning-rod is according to the area of its cross-section. My own experience, which has not been very limited in the business of manufacturing and putting up lightning-conductors, leads me to doubt the entire correctness of that theory. In practice I have found that surface has much to do with the conductivity of lightning-rods. Conductors composed of broad straps of metal having great superficial area, and but slight cross-sectional area, have been employed with good results. I am aware that, with a view of increasing the superficial area, conductors have been made of woven wire, and also of braided or plaited wire in the tubular form.

I disclaim all conductors constructed by either weaving, braiding, or plaiting the wire.

My lightning-conductor is made of wires twisted together around a core or tube, and is in form a hollow wire rope, and continuous from end to end, and may be of any required length. In twisting the wires around a solid core, the core is withdrawn, which leaves the conductor tubular. If twisted around a metallic tube, the tube is allowed to remain, which also leaves the conductor tubular. In either case the conductor is a tube composed of wires twisted together, and having the strength and flexibility of a wire rope when made without the interior tube, but which is, of course, more stiff and rigid when made with the tube.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The tubular rod or cable A, composed of wires B, twisted together, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of December, 1875.

OTHNIEL PRESTON.

Witnesses:

L. A. LUCE,

P. S. BURDITT.