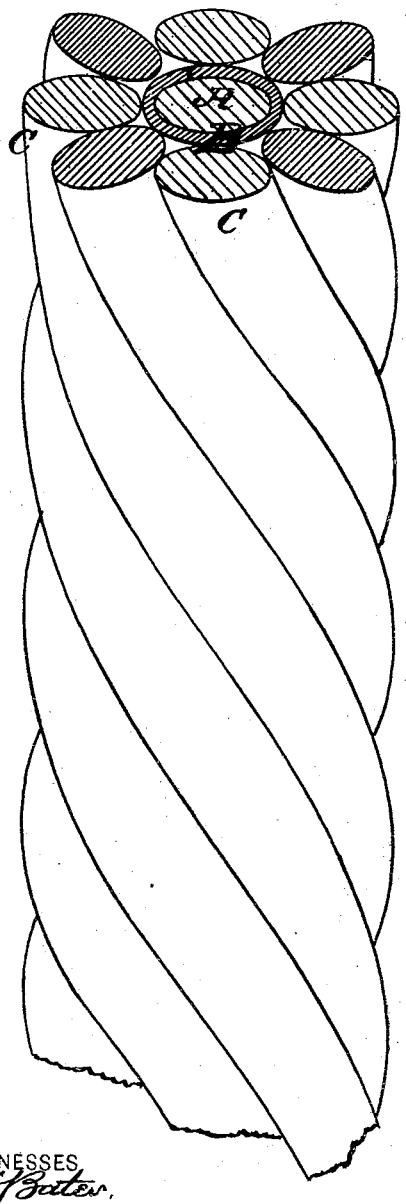
N. VAN LOON.

LIGHTNING ROD.

No. 188,444. Patented March 13, 1877.

Fig. 1.



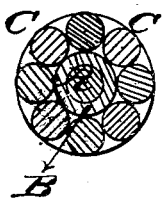


Fig. 2.

WITNESSES.

E. H. Bates.

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NICHOLAS VAN LOON, OF ST. CLOUD, MINNESOTA.

IMPROVEMENT IN LIGHTNING-RODS.

Specification forming part of Letters Patent No. **188,444**, dated March 13, 1877; application filed January 20, 1877.

To all whom it may concern:

Be it known that I, NICHOLAS VAN LOON, of St. Cloud, in the county of Stearns and State of Minnesota, have invented a new and valuable Improvement in Lightning-Rods; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of my lightning-rod, and Fig. 2 is a transverse sectional view of the same.

This invention relates to that class of lightning-rods in which a straight central core is surrounded by twisted wires.

The nature of said invention consists in combining with said wires and core, which are iron, a copper sheath or tube, enveloping said core, and made concentric therewith in cross-section.

In the accompanying drawings, A designates the central iron core of my lightning-rod. B designates a copper cylindrical sheath or envelope, concentric with said core in cross-section, and fitted closely thereon. C designates a number of iron wires, which are tightly wound about said sheath, as shown in Fig. 1.

This construction has all the advantages of the ordinary cable lightning-rods, and some additional ones, which arise from the use of said cylindrical sheath B. Said sheath increases the conducting capacity of the rod nearly as much as if both it and core A were made of copper in one piece, since electricity prefers the surface, while its expense is much less than that of such a core.

Said sheath is protected, by twisted iron wires C, from the weather, and from accidental or unintentional injury, and thus remains bright and whole, forming an excellent conductor. In like manner it protects the core A, so that in order to destroy the efficacy of my compound lightning-rod it becomes necessary to cut through several successive layers of heterogeneous conducting material.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of copper sheath B with iron core A and twisted iron inclosing-wires C, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

NICHOLAS VAN LOON.

Witnesses:
L. A. EVANS,
THOS. U. MCCLURE.