

D. MUNSON.

Improvement in Lightning-Rods.

No. 129,677.

Patented July 23, 1872.



Fig. 2.

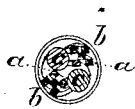


Fig. 3.

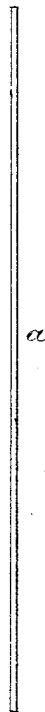


Fig. 4.



Witnesses:

T. C. Brecht.
Wm. J. Peyton.

Inventor:

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UNITED STATES PATENT OFFICE.

DAVID MUNSON, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN LIGHTNING-RODS.

Specification forming part of Letters Patent No. **129,677**, dated July 23, 1872.

To all whom it may concern:

Be it known that I, DAVID MUNSON, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Lightning-Rods, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a view of a piece of my improved lightning-rod, and Fig. 2 represents a cross-section of the same. Figs. 3 and 4 represent a single angular copper wire, straight, and twisted around its own axis, from the latter of which the rope is formed.

My invention consists in constructing a lightning-rod of two or more ropes, each consisting of any suitable number of angular wires first twisted around their own axis separately throughout their length, and then twisted together to form a rope of angles in connection with two or more iron-core rods twisted together, and within the twisted folds of which the twisted ropes are also twisted, whereby a cheap, strong, and very effective rod is produced; the ropes of angular copper wires thus formed being twisted with the iron-core wires in such a manner that a wire rope intervenes between each two iron-core wires.

In constructing this rod I draw or roll out copper wire, *a*, solid, angular, square, or other form, provided it has a plurality of faces and sharp edges, and provided it be not flat. Each one of these wires is twisted separately around its own axis, and any desired number of such twisted wires laid or twisted together into a rope, *b*. Two or more of these ropes are then

intertwisted with an equal number of iron-core rods, *c*, so that a core-rod and an angular copper-wire rope alternate. The iron-core rods may be, if desired, coated or galvanized.

Besides the galvanic action of such mixed rod, I gain the advantage of a large number of sharp edges and angles in each separate rope, whereby the attractive and conductive capacity of the rod is materially increased; and by furnishing such a large number of surfaces, angles, and sharp edges at every point of each separate rope I am enabled to use a greater quantity in bulk of the cheaper iron-core wire or rods, thus furnishing a cheap rod, which yet is equal in its conducting capacity to a much more expensive rod made of copper alone. I gain another advantage in the rigidity of the rod, as the iron-core wires add materially to its strength, while the copper ropes, by their peculiar construction, give all the required surface and attractive points for the passage of the electric fluid.

Having described my invention, I claim—

A lightning-rod constructed of two or more separate and distinct ropes, each consisting of a plurality of angular copper wires, twisted each separately around its own axis and then laid or twisted to form a rope, in combination with a like number of iron-core rods, both intertwined with each other, essentially as described.

DAVID MUNSON.

Witnesses:

THOS. H. BOWLES,
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