

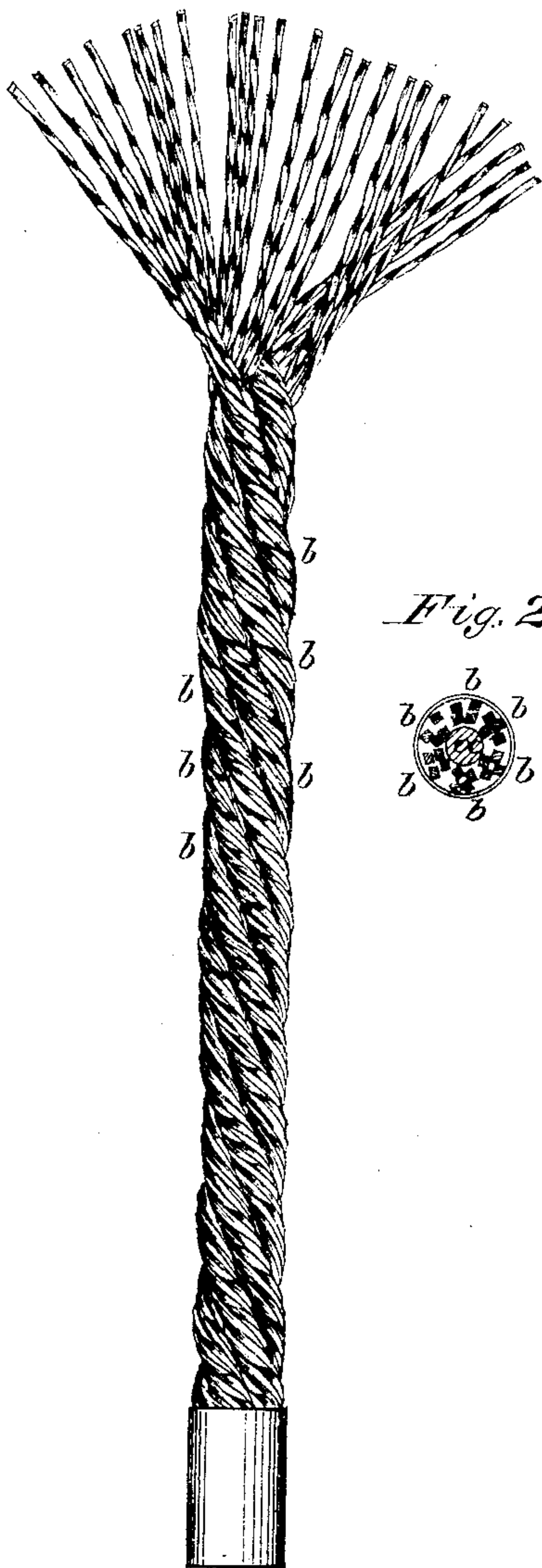
D. MUNSON.

Improvement in Lightning-Rods.

No. 129,676.

Patented July 23, 1872.

*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
J. C. Brecht.  
Wm. J. Peyton.

Inventor:  
David Munson  
by Johnson, Klemke & Co.  
his Attorneys

# UNITED STATES PATENT OFFICE.

DAVID MUNSON, OF INDIANAPOLIS, INDIANA.

## IMPROVEMENT IN LIGHTNING-RODS.

Specification forming part of Letters Patent No. **129,676**, 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 is a sectional view 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 of a lightning-rod formed of any suitable number of angular copper-wire ropes, each rope consisting of a plurality of angular copper wires, each of which angular wires is first twisted around its own axis and a number of them laid or twisted together to form such rope, when combined with an iron core by laying or twisting them around such core.

In carrying out my invention, I draw out or roll out a number of copper wires of any angular shape in contradistinction to a round or flat shape, so as to present three or more sharp edges and faces. Each one of these wires is then twisted around its own axis, and

a plurality of these wires laid or twisted into a rope, *b*. A suitable number of such ropes having thus been prepared, they are spirally laid or twisted around a core, *a*, so as to entirely cover and hide the core, and so that the complete rod presents on its entire surface an infinitesimal number of broken surfaces, sharp edges, and angles, which very materially increase the capacity of the rod to attract and conduct the electric fluid.

The use of an iron core, while it increases the galvanic activity of the rod, also gives it a larger bulk at a reduced expense, the entire outer surface being copper, while the strengthening core *a* is of the cheaper iron.

A rod formed according to my improvement presents a very handsome appearance, while it is a reliable and certain lightning-conductor.

Having described my invention, I claim—

A lightning-rod consisting of a plurality of angular copper-wire ropes, constructed essentially as described, when combined with and laid around an iron core, essentially in the manner set forth.

DAVID MUNSON.

Witnesses:

THOS. H. BOWLES,  
CHARLES W. TAYLOR.