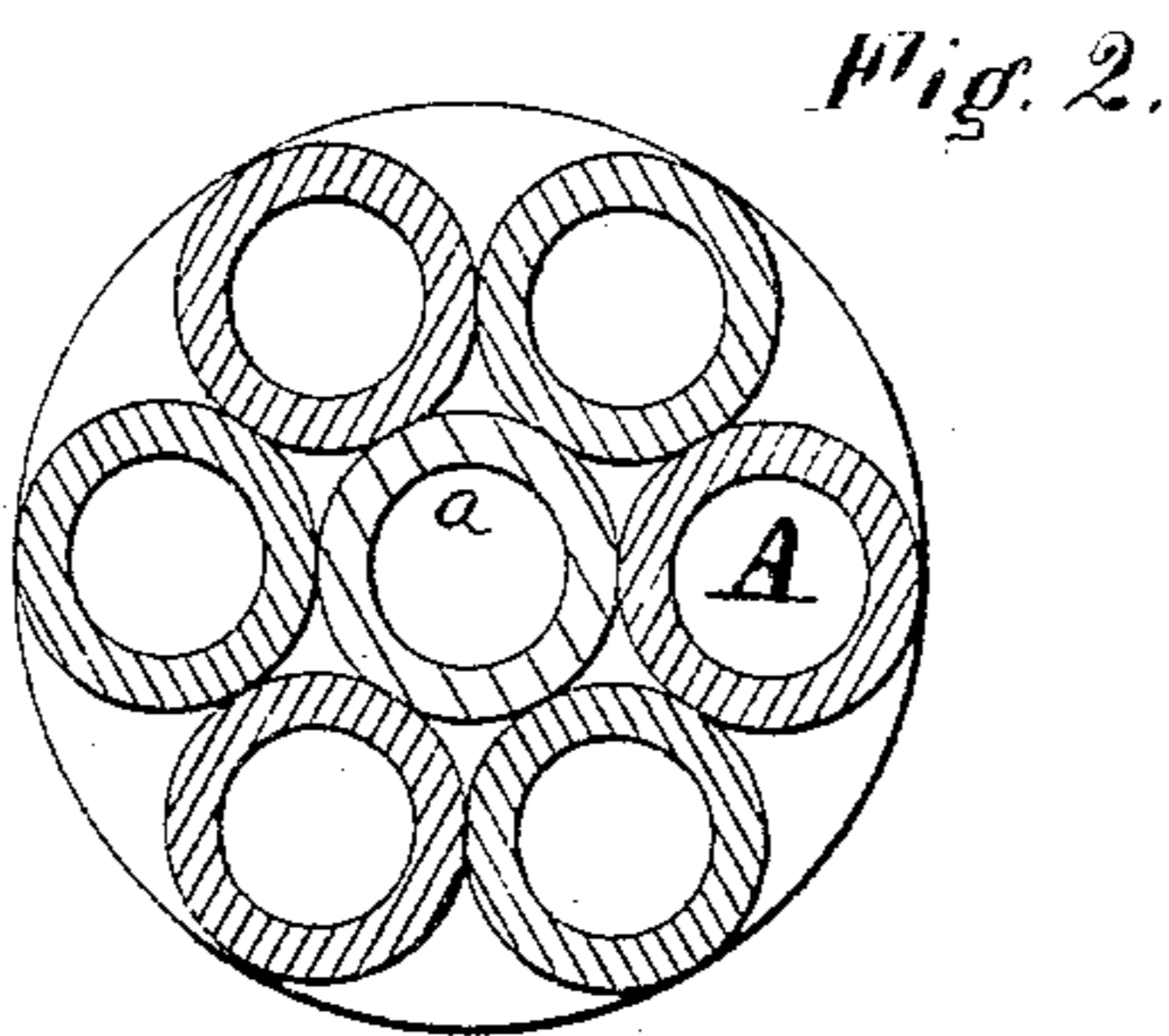
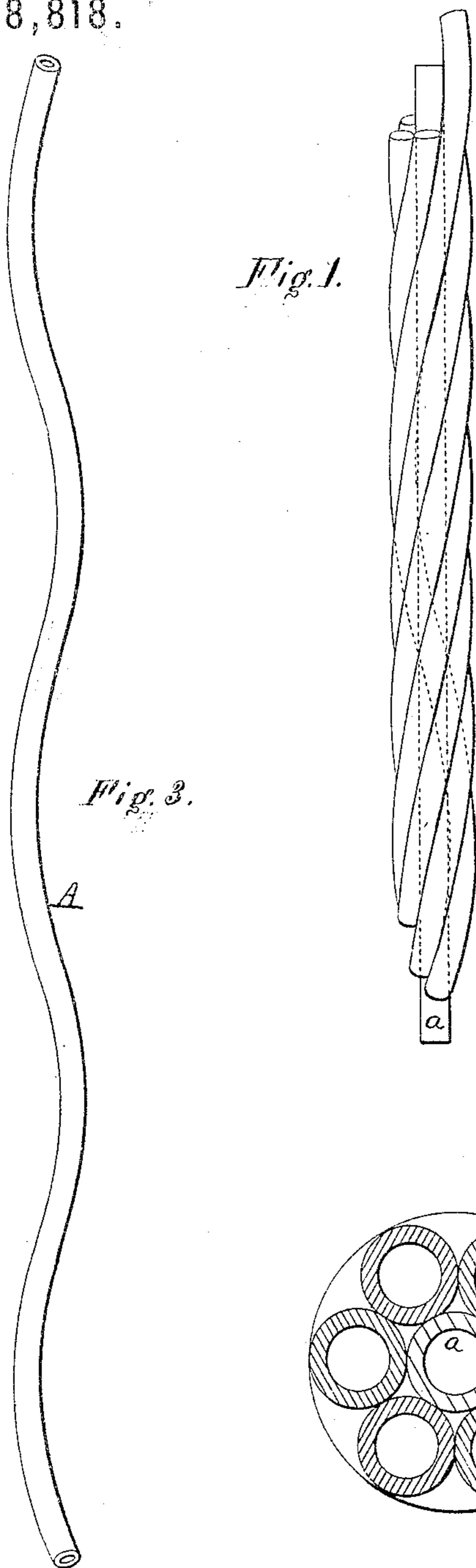


J. C. SCHOONMAKER.
Improvement in Lightning-Rods.
No. 128,818. Patented July 9, 1872.



Witnesses.
Villette Anderson
E. Anderson

Inventor.
J. C. Schoonmaker,
Chipman Fosmer & Co
Atty.

UNITED STATES PATENT OFFICE.

JOHN C. SCHOONMAKER, OF WINONA, MINNESOTA.

IMPROVEMENT IN LIGHTNING-RODS.

Specification forming part of Letters Patent No. 128,818, dated July 9, 1872.

To all whom it may concern:

Be it known that I, JOHN C. SCHOONMAKER, of Winona, in the county of Winona 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 drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my invention. Fig. 2 is a cross-section of the same. Fig. 3 is a single wire of my invention.

My invention has relation to lightning-rods, and consists in the construction of such rods of a series of hollow copper wires, as hereinafter specified and claimed.

A, of the drawing, represents a tube of copper-wire, and constitutes one of a series which I place around a central tube, *a*, and twist into the form shown on Fig. 1. When thus constructed my rod presents a circular-twisted

exterior, usually of six tubular wires, and having a central-core wire of the same material that is not twisted.

A telegraph wire constructed in the manner specified presents a conducting surface of unusual capacity, thereby insuring great certainty in the transmission of the electric fluid.

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

1. A lightning-rod, constructed of a series of twisted copper and tubular wires, substantially as specified.

2. The lightning-rod herein specified, consisting of a series of tubular copper-wires, A, twisted around a central supporting-wire, *a*, substantially as described.

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

JOHN C. SCHOONMAKER.

Witnesses:

O. B. GOULD,
THOMAS WRIGHT.