J. W. FRITSCH.

Lightning-Rod Coupling.

No. 214,558. Patented April 22, 1879.

FIG. 1.

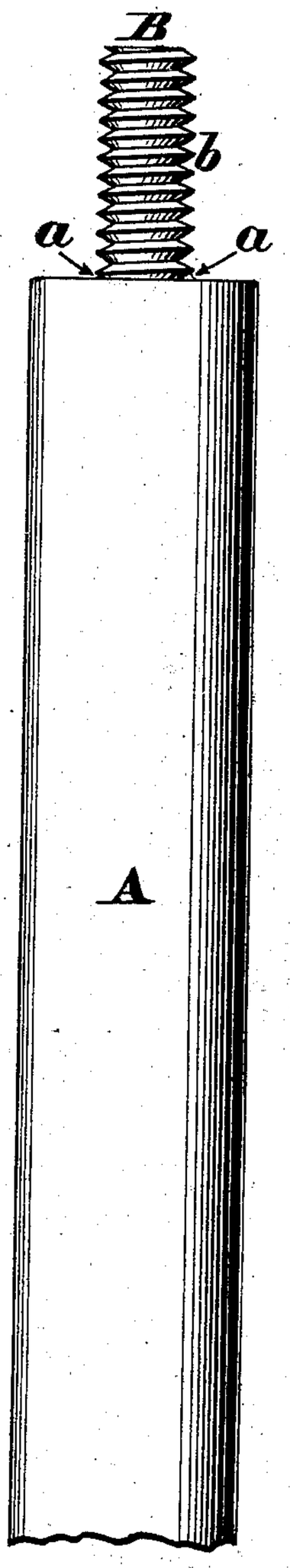


FIG. 2.

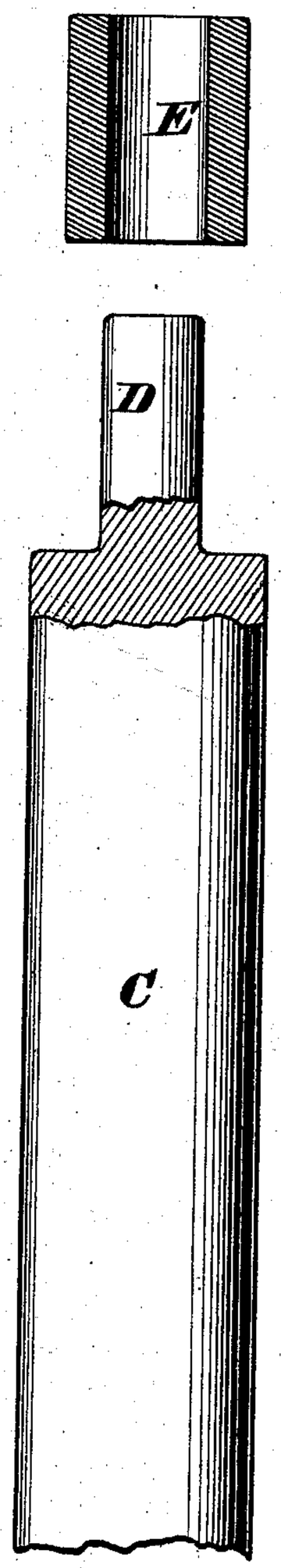


FIG. 3.

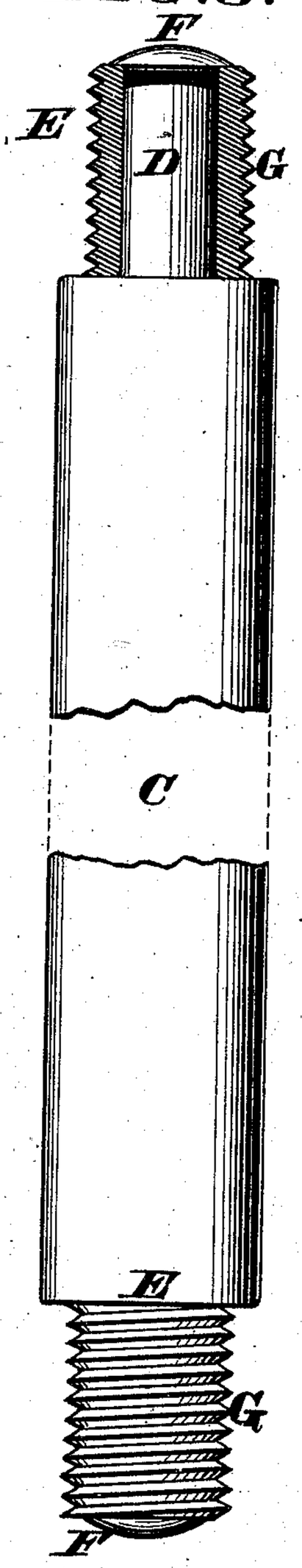
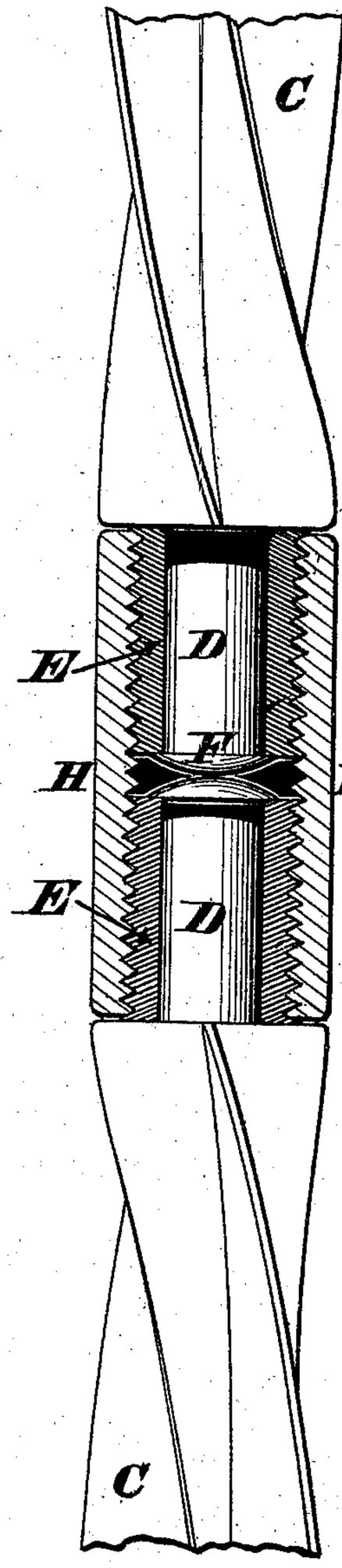


FIG. 4.



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JOSEPH W. FRITSCH, OF CINCINNATI, OHIO.

IMPROVEMENT IN LIGHTNING-ROD COUPLINGS.

Specification forming part of Letters Patent No. **214,558**, dated April 22, 1879; application filed February 6, 1879.

To all whom it may concern:

Be it known that I, JOSEPH W. FRITSCH, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Lightning-Rods, of which the following is a specification.

This invention relates to those rods which are united together by means of threaded tenons or shanks formed at the ends of each section or length of rod; and my improvement consists in a novel method of constructing such screw-couplings.

Heretofore the male screws of these couplings have been cut directly on the shanks; but this construction is defective on account of the accumulation of rust, which soon destroys the rod at the angular junction of the latter with the tenons. In my rod the tenon or shank is smooth or unthreaded, and a thimble or sleeve of copper or brass, or other non-corrosive metal, is driven firmly on said tenon, and the projecting end of the latter is then headed up, so as to secure the thimble immovably in position. The male screw is now cut on this non-corrosive thimble, previous to which operation said thimble and rod may be galvanized, if preferred.

By this arrangement water and moisture are effectually excluded from the aforesaid angular junctions, and, consequently, the durability of the rod is increased without adding materially to its cost of construction.

In the annexed drawings, Figure 1 represents an old and well-known form of lightning-rod. Fig. 2 represents one step in the manufacture of my improved rod, the now unthreaded sleeve or thimble being shown separated from the tenon or shank. Fig. 3 shows the thimble riveted to the tenon and properly threaded. Fig. 4 shows two sections of rod coupled together.

Referring to Fig. 1, the old form of rod A has formed at its end a tenon or shank, B, around which tenon is chased the male screw *b*, that engages with the coupling.

The objection to this construction is, that water and moisture will penetrate at the ends of the coupling or swivel, and speedily rust out the tenon at its angular junctions *a* with the rod proper, which difficulty is increased in case the rod is made with spiral flanges, as the depressions between said flanges serve as channels to conduct the water into these junctions.

To overcome this difficulty I form on the end of my rod C, or otherwise apply to the same, a tenon or shank, D, which is perfectly smooth or unthreaded, and has a closely-fitting thimble or sleeve, E, driven on it. This thimble is composed of copper or brass, or any other non-corrosive material capable of having a secure thread cut around it, and said thimble or sleeve is driven so firmly upon the tenon as to cause an intimate junction between the abutting ends of the members C and E of the rod, as seen in Figs. 3 and 4. The thimble is then immovably fastened to the rod by riveting the projecting end of the tenon at F. The attached thimble and rod may now be dipped or galvanized, if desired; but such a precaution is not essential for the completion of my invention. Finally, the thimble has a male screw, G, cut upon it, which screw is adapted to engage with any suitable form of coupling, H, as seen in Fig. 4.

In addition to the previously-described advantages of my invention, it is apparent that the moment the sections are coupled together the heads or rivets F of the contiguous tenons are brought in contact with each other, and thus insure a continuous or unbroken metallic connection throughout the entire rod.

In Fig. 3 the thimble E is shown as applied to an ordinary round rod, while in Fig. 4 said sleeve is represented as attached to a rod having spiral flanges.

The invention, however, is not limited to these forms; but the right is reserved of applying the thimble to any rod using a tenon joint or connection. Furthermore, the head F may be omitted, and the thimble can be screwed, or soldered, or keyed, or otherwise attached to the tenon.

I claim as my invention—

1. A non-corrosive thimble applied to the tenon of a lightning-rod, and furnished with a male screw, for the purpose specified.

2. The combination of rod C, tenon or shank D, threaded thimble E G, and rivet F, for the purpose specified.

In testimony of which invention I hereunto set my hand.

JOSEPH W. FRITSCH.

Witnesses:
JAMES H. LAYMAN,
GEORGE H. KOLKER.