

E. S. TURNER.
Lightning-Rod Coupling.

No. 211,441.

Patented Jan. 14, 1879.

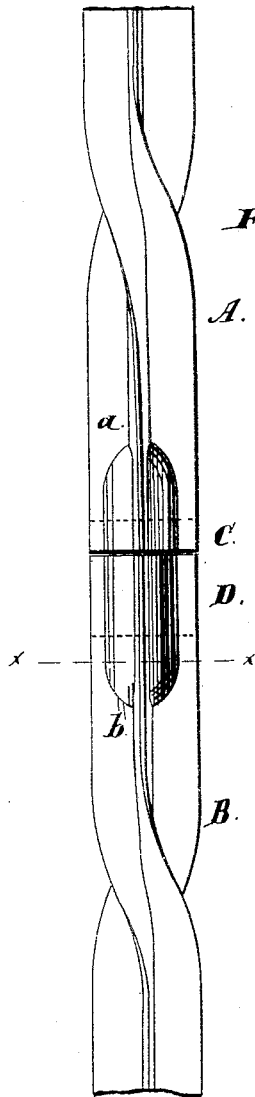


Fig. 1.

Fig. 2.

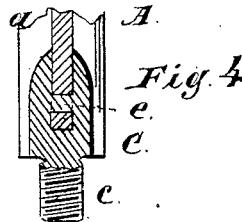
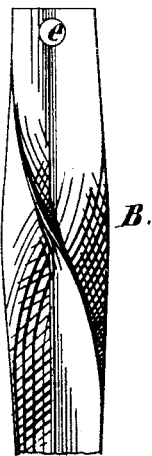


Fig. 5.

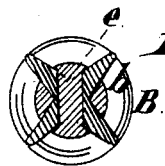
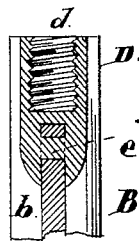


Fig. 3.

Witnesses:
A. W. Bond.
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UNITED STATES PATENT OFFICE.

EDWARD S. TURNER, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LIGHTNING-ROD COUPLINGS.

Specification forming part of Letters Patent No. **211,441**, dated January 14, 1879; application filed December 4, 1878.

To all whom it may concern:

Be it known that I, EDWARD S. TURNER, of Chicago, Cook county, and State of Illinois, have invented certain new and useful Improvements in Lightning-Rod Couplings, of which the following is a full description, reference being had to the accompanying drawing, in which—

Figure 1 is an elevation of two connected sections; Fig. 2, an elevation of a rolled section; Fig. 3, a cross-section on line *xx*; Figs. 4 and 5, longitudinal sections of the couplings.

The object of this invention is to form a secure and effective coupling or union for lightning-rods that may be easily and strongly applied; and its nature consists in casting extensions onto the ends of rolled or light rods, so as to give a sufficient body to the coupling to give the required strength, and in so attaching them that they will remain in place.

In the drawings, A B represent rolled-iron or main sections of a rod; C D, cast or short coupling-sections, the length being indicated by dotted lines in Fig. 1; *a b*, projections for uniting the cast and rolled portions; *e*, male screw; *d*, female screw, and *e* a hole or opening through the end or ends of the rolled sections.

The rolled sections are made of iron or other suitable metal, and for iron are preferably made of the form shown; but my coupling may be used with other forms constructed of this metal. Near the ends of each section are drilled or punched small holes *e*. They are then ready for the cast sections C D, which are made of brass; and to apply them the rods are placed in suitable molds, with cores of the proper form, and molded in the usual way.

In molding, the cores pass beyond the holes *e*, so that when the sections are cast the metal will flow through the hole and form a cast rivet or bar, thus firmly attaching the cast to

the rolled portions and uniting the parts together. The screw *e* is then formed, and the thread *d* tapped, in the usual manner.

By this method of forming the coupling a sufficient amount and length of cast metal can be used to make a strong and efficient coupling.

In order to cast them rapidly a number of cores may be attached to a plate arranged to correspond with the openings in the mold for the insertion of the ends of the rolled sections.

When the rods or rod ends are galvanized there are no sharp angles or projections to receive and hold an undue portion of the galvanizing material, and the work has a finished appearance, and it is ready for use.

By this arrangement the rods are united by a single joint, which renders them less liable to be defective at the coupling when in use, and the union between the brass and iron sections is air and water tight, so that rust at the points of contact is prevented when the sections A B are of iron.

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

1. As an improved article of manufacture, rolled lightning-rod sections having enlarged ends cast thereon, substantially as specified.

2. The cast end sections, C D, arranged to preserve the form of the rolled sections, and attached therewith by uniting the cast portion through one or more holes, *e*, substantially as described.

3. The herein-described method of forming lightning-rod couplings by casting sections to the ends of rolled sections with sufficient metal to form the union by a single joint, substantially as set forth.

EDWARD S. TURNER.

Witnesses:

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H. F. BRUNS.