(No Model.)

R. H. SMITH.

JOINT FOR ELECTRIC WIRES.

No. 471,625. Patented Mar. 29, 1892.

Fig. 1.

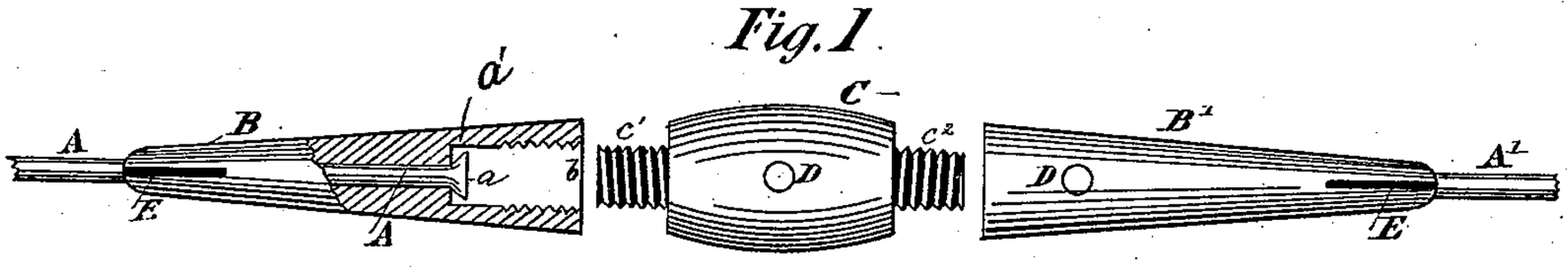
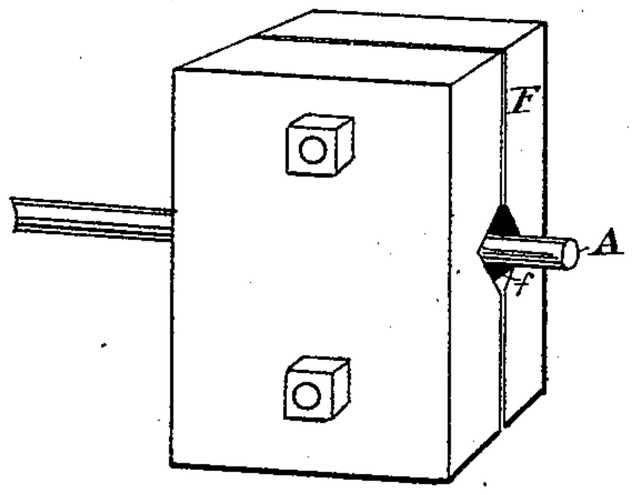


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROGER HANSON SMITH, OF LEXINGTON, KENTUCKY.

JOINT FOR ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 471,625, dated March 29, 1892.

Application filed August 24, 1891. Serial No. 403,504. (No model.)

To all whom it may concern:

Be it known that I, ROGER HANSON SMITH, a citizen of the United States, residing at Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Joints for Trolley-Wires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has relation to that class of couplings for trolley or other wires intended to convey electric currents, which consist, essentially, of two hollow end pieces having internal right and left hand screw-threads, a central piece having projections correspondingly threaded, and the wires having enlarged ends. It has been proposed to enlarge the ends of the wires by splitting them and inserting tapered wedges in the split ends to spread them apart. Such construction has been found to be objectionable because the wires are weakened and liable to break at the place where they are bent, and also because should the central piece become loosened the wedges will work their way out of the ends of the wires, and thereby permit the latter to work their way out of the connection if the loosening of the central piece is not quickly discovered.

The object of my invention, therefore, is to provide a coupling of the character set forth, which will not be open to the objections above specified, and which will at the same time be simpler in its construction and cheaper in its cost of manufacture than those heretofore proposed. These objects are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my trolley-joint, partly in section, showing the different parts detached. Fig. 2 is a perspective view of a block used for upsetting the ends of wires to the proper size.

My joint consists of three pieces—to wit, two end pieces B and B′ and a center connecting-piece C. The end pieces B and B′ are made of metal in the shape of truncated cones and have a hole through them from base to top of a size suited to admit the wires to be joined. Each is bored out at its base, as shown at *b* in Fig. 1, and the bored parts tapped internally with a screw-thread, one adapted to receive a left thread and the other a right thread. The connecting center piece C is of metal, circular in section, with ends corresponding in diameter to the bases of the end pieces and having posts C′ C^2 projecting from the middle of each end, one cut with a right thread and the other with a left thread, adapted to engage the threads tapped in the hollowed bases of the end pieces B B′.

My joint is manipulated as follows: The wire A is slipped through the end pieces B B′ from the tip or small end far enough to attach the upsetting block F, which consists of two blocks of metal, fastened together by two bolts, with a hole the size of a trolley-wire bored between the two pieces and countersunk at the end, as shown at *f*, to allow for the head on the wire. As soon as the head is formed the upsetting block is detached from the wire and the wire pulled back in position against the vertical walls *a′* at the inner ends of the bored bases of the end pieces, as at *a* in Fig. 1. The end pieces B B′ are then screwed onto the center piece C, completing the joint. E E represent a series of slots cut in the end pieces near the tips by which the joint may be soldered to the wire if a better electrical connection is desired.

From the above it will be seen that I have provided a joint for trolley-wires or other wires intended to convey electric currents which presents a very neat and finished appearance, by which the wires are not weakened, and in which there will be no liability of the wires working loose, so that a perfect connection will be made, which will not be liable to become broken, and at the same time I have simplified the construction and reduced the cost of manufacture of devices of this character.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The herein-described coupling for trolley-wires, consisting of the two truncated cone-shaped end pieces having longitudinal openings for the passage of the wires and bored bases having vertical walls at their inner ends, said bored bases being formed with internal right and left screw-threads, respectively, and the outer or tip ends of said end pieces having slots by which they may be soldered to the wires, a connecting-piece having horizontal projections formed with threads corresponding with and adapted to engage the threads of said end pieces, and the wires having upset ends adapted to engage the vertical walls a' of said bases, all substantially as described, and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

ROGER HANSON SMITH.

Witnesses:

F. V. BARTLETT,

HARRY ROBERTSON.