

No. 721,433.

PATENTED FEB. 24, 1903.

A. N. EDEBURN.  
TIE FOR CROSS WIRES.

APPLICATION FILED APR. 21, 1902.

NO MODEL.

FIG. 1.



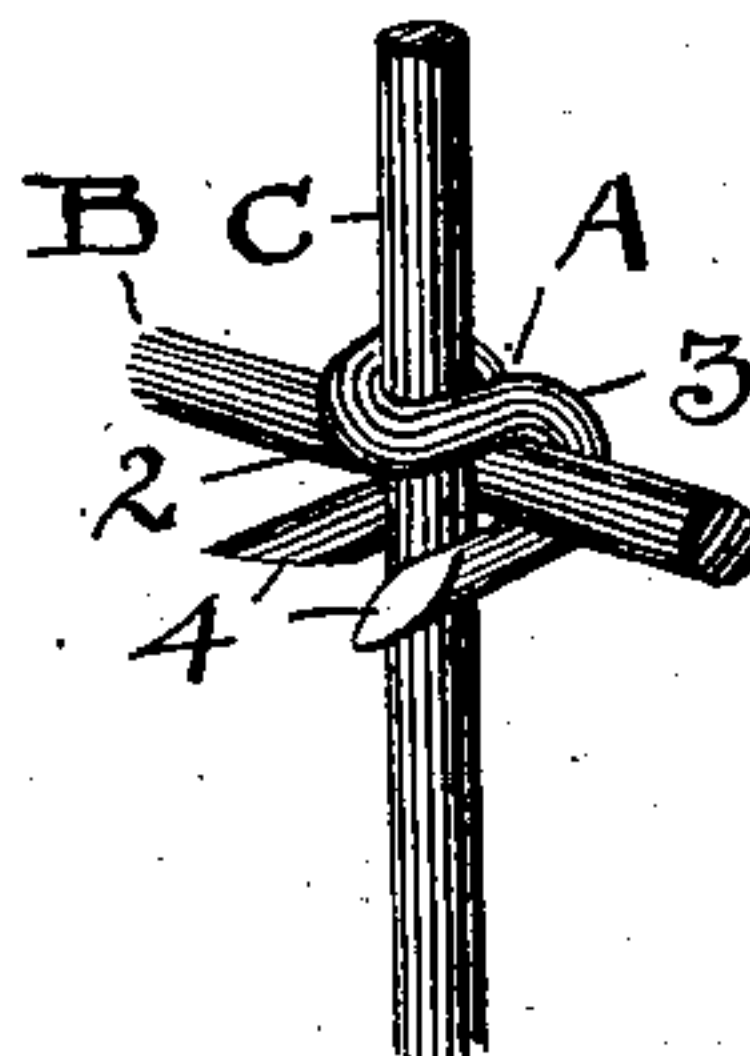
FIG. 2.



FIG. 3.



FIG. 4.



ATTEST.

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# UNITED STATES PATENT OFFICE.

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## TIE FOR CROSS-WIRES.

SPECIFICATION forming part of Letters Patent No. 721,433, dated February 24, 1903.

Application filed April 21, 1902. Serial No. 103,904. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED N. EDEBURN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Ties for Cross-Wires; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to ties for cross-wires; and the invention consists in a tie which is made practically completed in the factory as an article of manufacture, sale, and use and adapted to be engaged upon intersecting wires of a fence or other construction and to grip them together temporarily, all substantially as shown and described, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of my new and improved tie. Fig. 2 is a plain side elevation thereof, and Fig. 3 is a plan view. Fig. 4 is a perspective view of a set of intersecting wires and of my new tie in its first and permanent position thereon except that its extremities have not been bent into locking relation.

In the building of wire fences wherein vertical tie-wires are used in addition to the usual horizontal or line wires the vertical wires are always put in position on the ground after the line-wires have been stretched, and they are placed at such distances apart as the use for which the fence is intended may require. This being the usual method of construction, it is desirable that as much of the work as possible may be done by unskilled help, because such help is both common and cheap, while skilled help is scarce and expensive.

With my improved tie the utmost economy may be practiced in so far as help is concerned, because a boy can go ahead and set the vertical wires and their ties in place and a man follow with a tool suitably constructed for clenching the extremities of the ties. In other words, a boy or a woman goes ahead and places the tie on the line-wire—say as seen in Fig. 4. Then he threads the vertical wire down through the horizontal eye or loop of the tie, and the parts are thus

inseparably united, though they are not yet rigidly fastened together. The same method exactly is followed at each line-wire from top to bottom of the fence, and so on with each and all the vertical wires as a continuous operation. Then the tie is in readiness for locking by simply bending the extremities of the tie across the vertical wire, and this is easily and quickly done by almost any available means, and one end of the wire may be bent at a time, if preferred. Usually, however, a small specially-adapted tool which will engage both ends of the tie at the same time and bend them to place is preferred.

Now referring to the tie A itself as an article of manufacture it will be noticed that it is formed from wire cut to a suitable length and bent to the desired shape originally, so that it is a ready-made tie, as shown, and in which form it goes to the trade and to the consumer. This is best done in a factory equipped with machinery for this purpose and by which a coil of wire is speedily worked up into ties ready for use, as shown. These ties are peculiarly adapted to my manner of building a fence by reason of their being so easily and securely interlocked with the wires without clamping. To this end they are fashioned into practically a double U shape or bend, and in which one U bend is at right angles to the other. This is seen in side elevation, Fig. 2, and in plan, Fig. 3, and, as shown therein, the bend 2 is a middle portion or bend, while the dual or double bends 3 are secondary or farther out and at right angles to bend 2. This leaves the ends 4 of the wire free and straight and parallel to each other and to bend 2. Then in use the tie is first engaged on line-wire B, Fig. 4, after which vertical wire C is threaded down through bend 2 and between the reversely-beveled extremities 4, and the connection is made, excepting the mere tightening of the joint, by bending extremities 4, and thus tightening all the parts together. From another point of view the portions or bends 2 and 3 may be regarded as loops or eyes, and by a simple half-turn of the tie A it might be placed on the line-wire by engaging it in loop or bend 2, Fig. 3, and then threading the vertical wire down through bends 3. Then extremities 4 would be locked on the line-wire



instead of the vertical wire, as here shown. Either way of using the tie may be practiced; but generally it is most convenient to apply the tie in the manner shown in the drawings.

5 In either case, however, the tie is engaged and cannot be removed after the vertical wire has been threaded through one of its loops or bends.

10 While this tie has been described more particularly as used in wire fences, it may be used wherever cross-wires are to be similarly connected.

15 It will be noticed that the ends 4 are of greater length than the top of the tie, so that they project outward beyond the bend 2 some distance. This leaves a projecting portion of said ends or stems 4 standing out beyond the vertical wire, as seen in Fig. 4, so that  
20 said ends may be bent toward each other across wire C when the tie is fastened. Said

ends are, moreover, reversely beveled top and bottom, and thus overlap each other and match when locked across wire C.

What I claim is—

As a new article of manufacture, a ready- 25 made tie for cross-wires of fences and the like, provided with substantially U-shaped bends 2 and 3 at right angles to each other, and having its ends 4 lying in planes parallel to each other and to the sides between bends 2 and 3 30 and projecting out beyond bend 2 and open in respect to each other, and the said ends reversely beveled, substantially as described.

Witness my hand to the foregoing specification this 14th day of April, 1902.

ALFRED N. EDEBURN.

Witnesses:

R. B. MOSER,

T. M. MADDEN.