

(No Model.)

E. L. WILLIAMS.
TIE FOR WIRE STRUCTURES.

No. 533,403.

Patented Jan. 29, 1895.

Fig. 1 *Fig. 2* *Fig. 3*

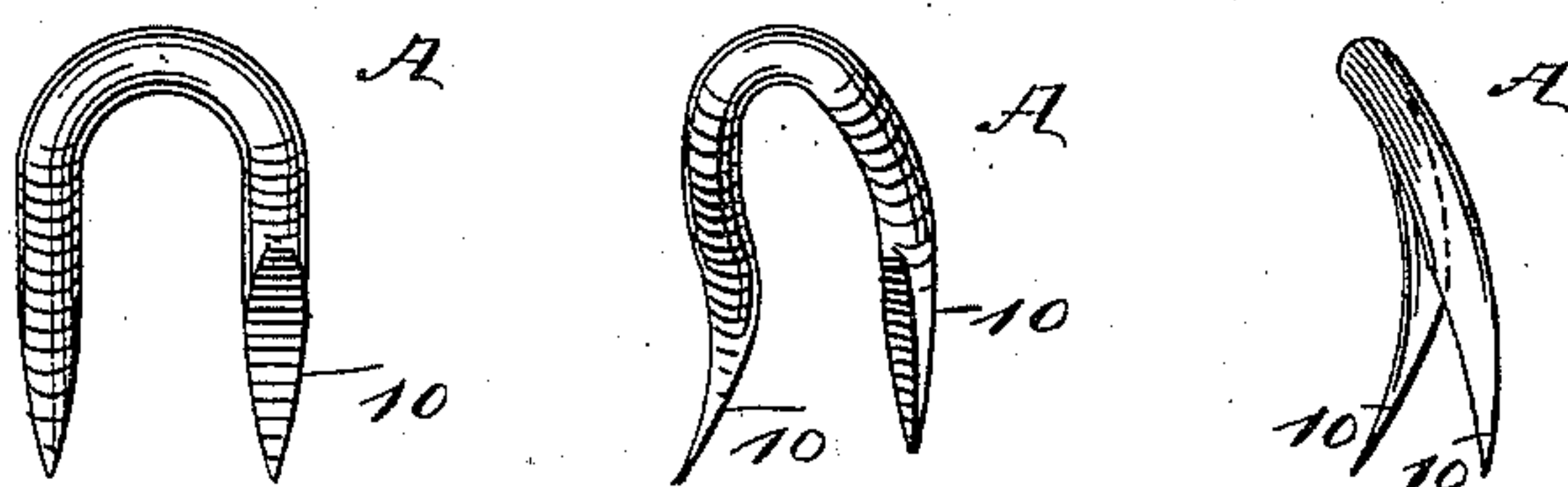


Fig. 4 *Fig. 5.*

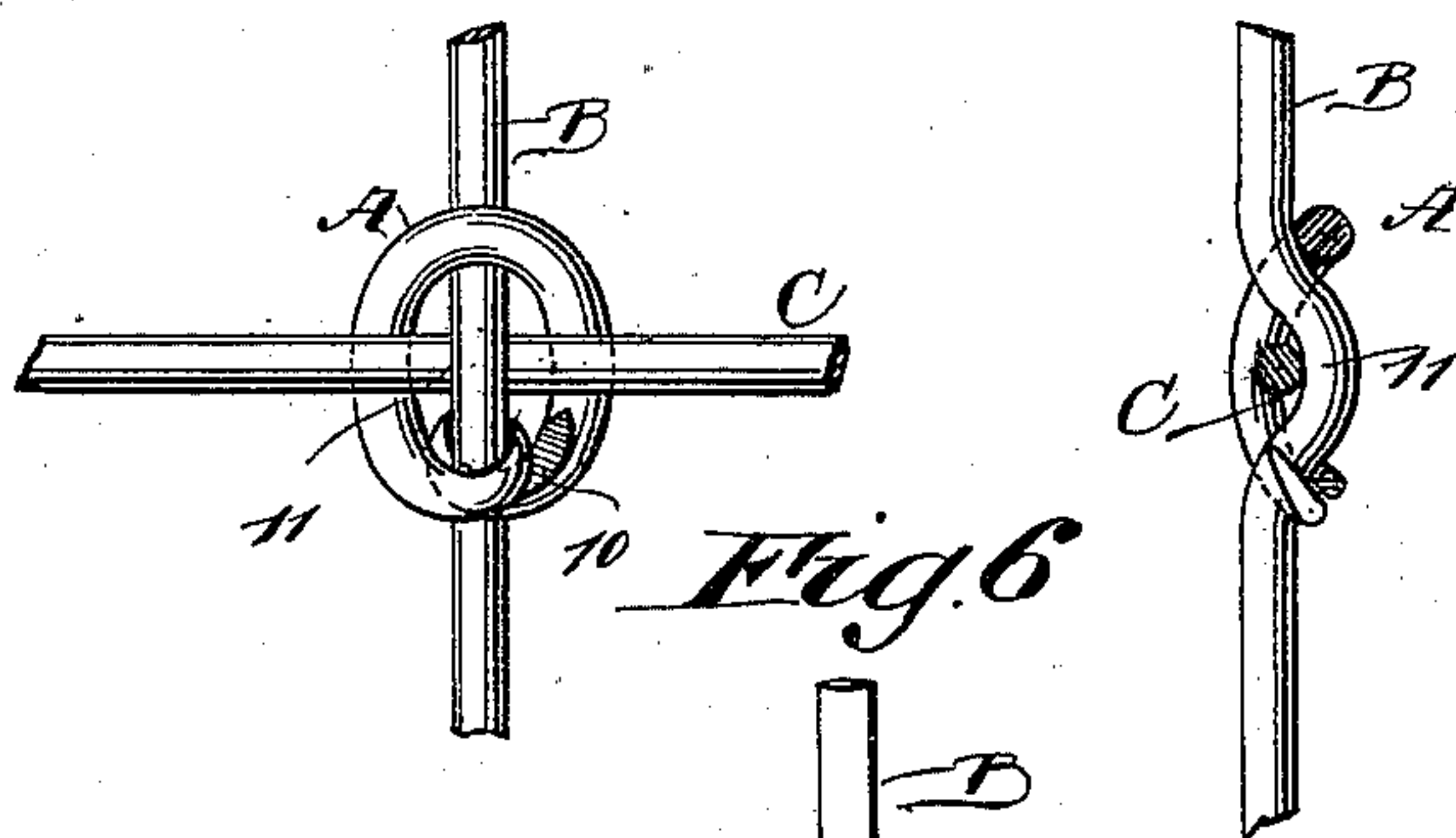
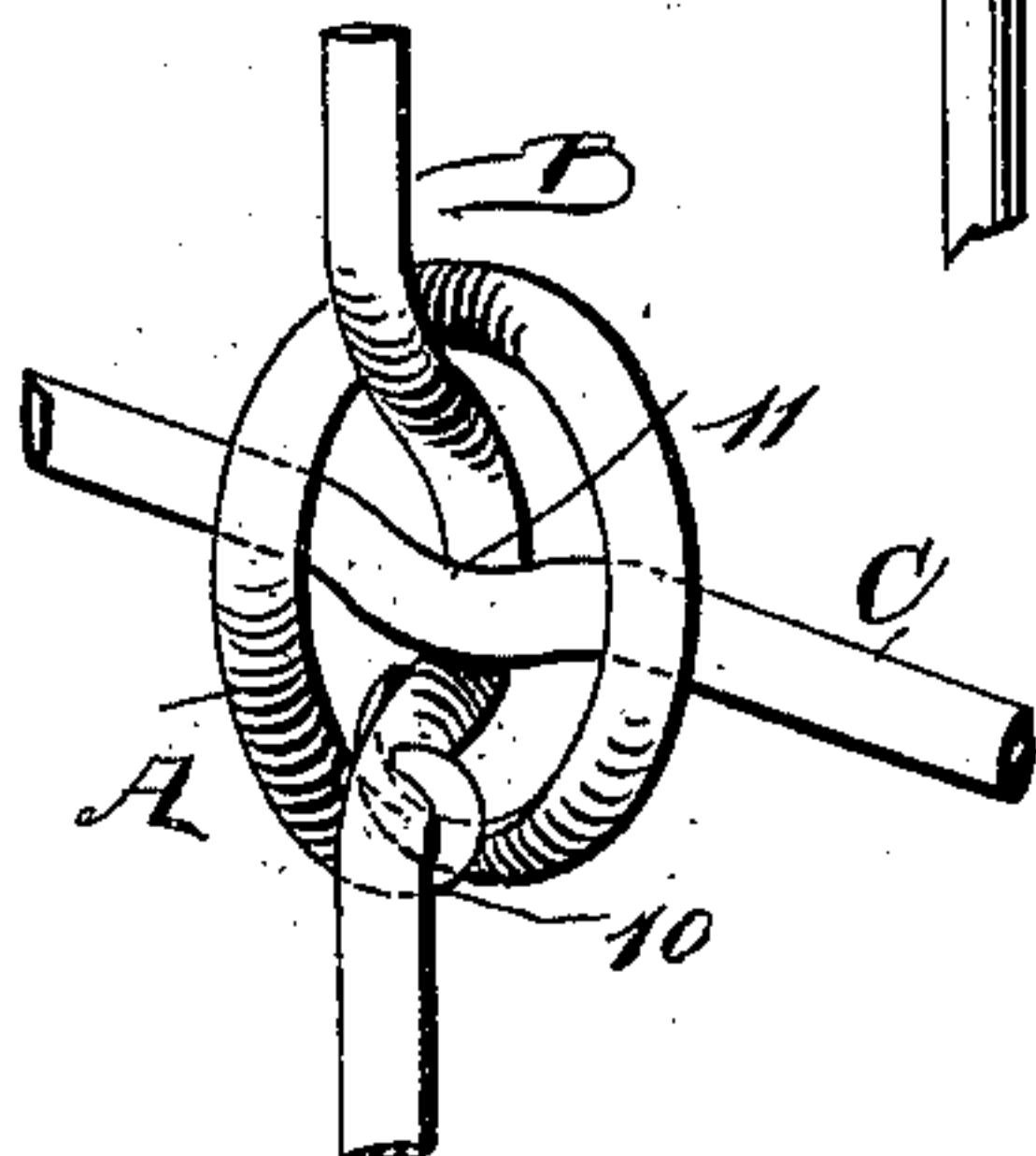


Fig. 6



WITNESSES:

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UNITED STATES PATENT OFFICE.

EUGENE L. WILLIAMS, OF JERSEYVILLE, ILLINOIS, ASSIGNOR OF ONE-HALF
TO JOHN S. WILLIAMS, OF SAME PLACE.

TIE FOR WIRE STRUCTURES.

SPECIFICATION forming part of Letters Patent No. 533,403, dated January 29, 1895.

Application filed May 10, 1894. Serial No. 510,768. (No model.)

To all whom it may concern:

Be it known that I, EUGENE L. WILLIAMS, of Jerseyville, in the county of Jersey and State of Illinois, have invented a new and useful Improvement in Ties for Wire Structures, of which the following is a full, clear, and exact description.

My invention relates to ties for wire structures, and it has for its object to provide a simple device whereby the cross wires in wire structures may be expeditiously, conveniently and firmly tied together, and to provide a tie for this purpose which while strong will yet be of light and not unsightly appearance.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the tie in staple form. Fig. 2 is a perspective view thereof. Fig. 3 is a side elevation of the staple. Fig. 4 is a front elevation of a portion of a wire structure, illustrating a staple converted into a tie. Fig. 5 is a section through the tie shown in Fig. 4; and Fig. 6 is a perspective view of the tie, viewed from the opposite side to that shown in Fig. 4.

In carrying out the invention the staple A from which the tie is made is provided upon opposite sides of its members at the extremities of the latter with a substantially flat face 10, the flattened or beveled face upon one member facing the front, the other face of the opposite member facing to the rear, and the extremities of both members of the staple are sharpened to a greater or less degree.

The staple is longitudinally curved, whereby it presents one concaved face and an opposing convexed face, and the members of the staple are carried out of alignment with each other, one of them being more decidedly curved than the other, as shown in Fig. 3, whereby when viewed in side elevation the

space between the flattened or beveled faces 50 of the members will have substantially the contour of an inverted V. This difference in the curvature of the two members is produced in order that the staple may fit snugly in the dies of a machine utilized for effecting a tie; and furthermore, the difference in the curvature of the two members of the staple provides against one member interfering with the other when the staple is bent to a substantially ring-like form, which latter form it 60 partakes of when converted into a tie.

The wires B and C to be tied together are curved in opposite directions where they meet, as shown at 11 in Figs. 5 and 6; and the staple is passed over, for example, the 65 vertical wire B, and its members are made to hang down across the horizontal wire C. The staple is then manipulated through the medium of a suitable die in a manner to carry its ends in direction of one another, so that 70 they will curve over the vertical wire B at a point below the horizontal wire. In this manner the tie will engage with the vertical wire B above and below the curvature therein on the same face of the wire, and will likewise 75 embrace the horizontal wire, bearing against its opposite face and encompassing a curvature produced therein.

As heretofore stated, owing to the difference in the curvature of the members of the 80 staple, the two members when brought together readily pass one over the other, their beveled or flattened faces being opposing faces; and the attachment of the staple to the wire strands is completed by bending the extreme ends of the members of the staple in 85 opposite directions around the wire with which they may be in contact, as is shown in Figs. 4, 5 and 6. By this means a durable, simple, economic and ornamental tie is ob- 90 tained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination in a wire structure, of 95 the crossed wires, one of which is bowed to receive the other, with a tie consisting in a staple engaging with its bend the said bowed

wire with its legs crossing the other wire and its points bent around the bowed wire from opposite sides, substantially as described.

2. A staple adapted for use as a tie for wire
5 structures, the said staple being longitudinally curved, one member having a greater curvature than the other, whereby the members are decidedly out of alignment at their

extremities, the said members being likewise beveled at their extremities upon opposite faces, substantially as and for the purpose specified.

EUGENE L. WILLIAMS.

Witnesses:

JOHN S. WILLIAMS,
O. B. HAMILTON.