

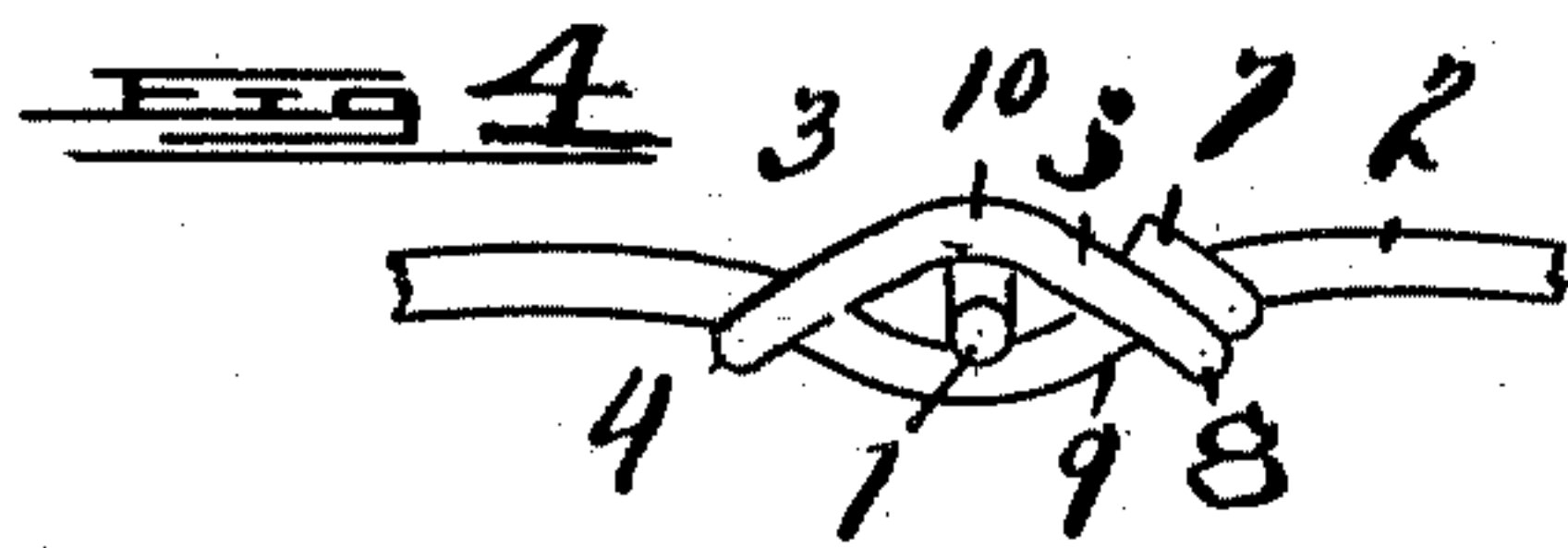
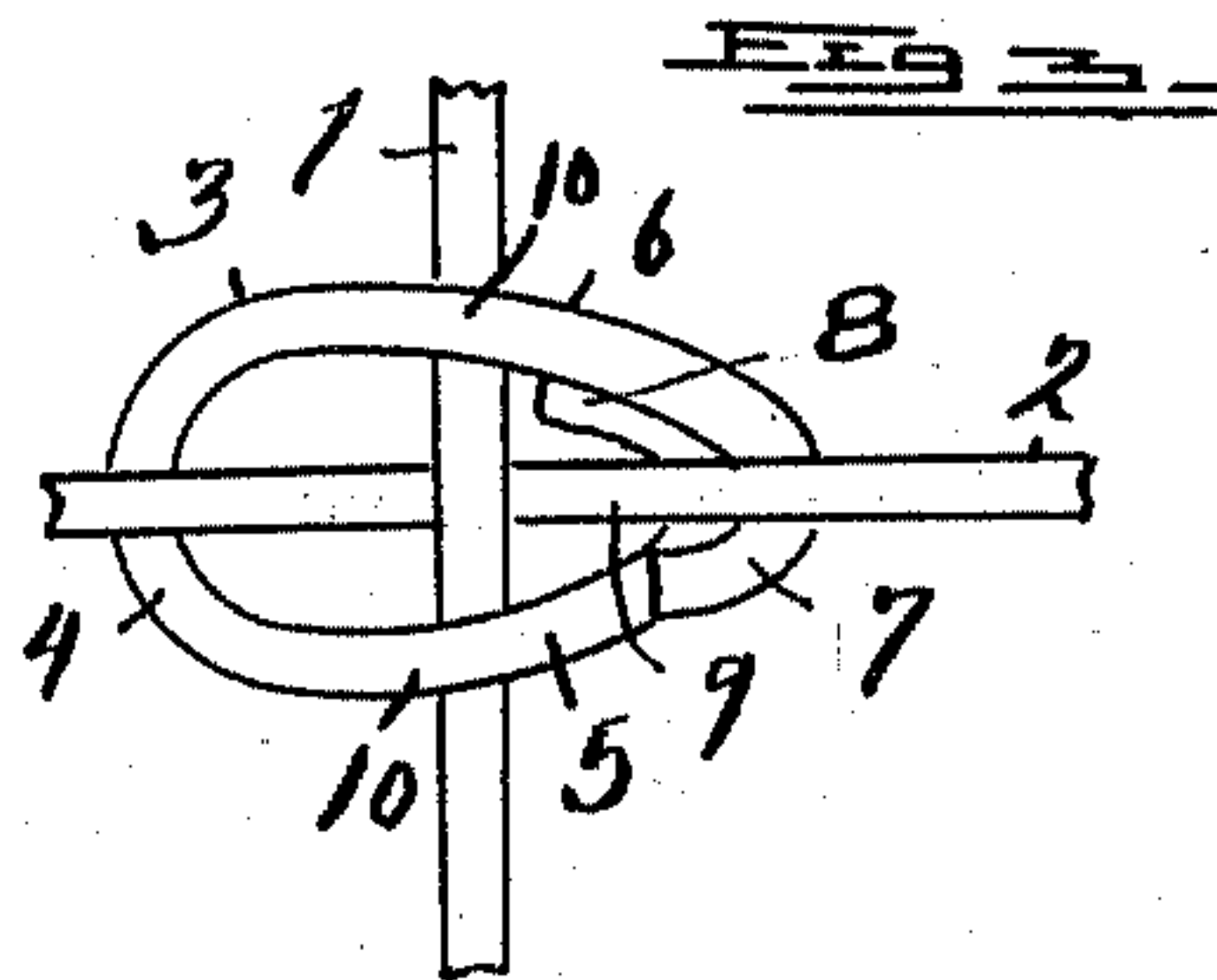
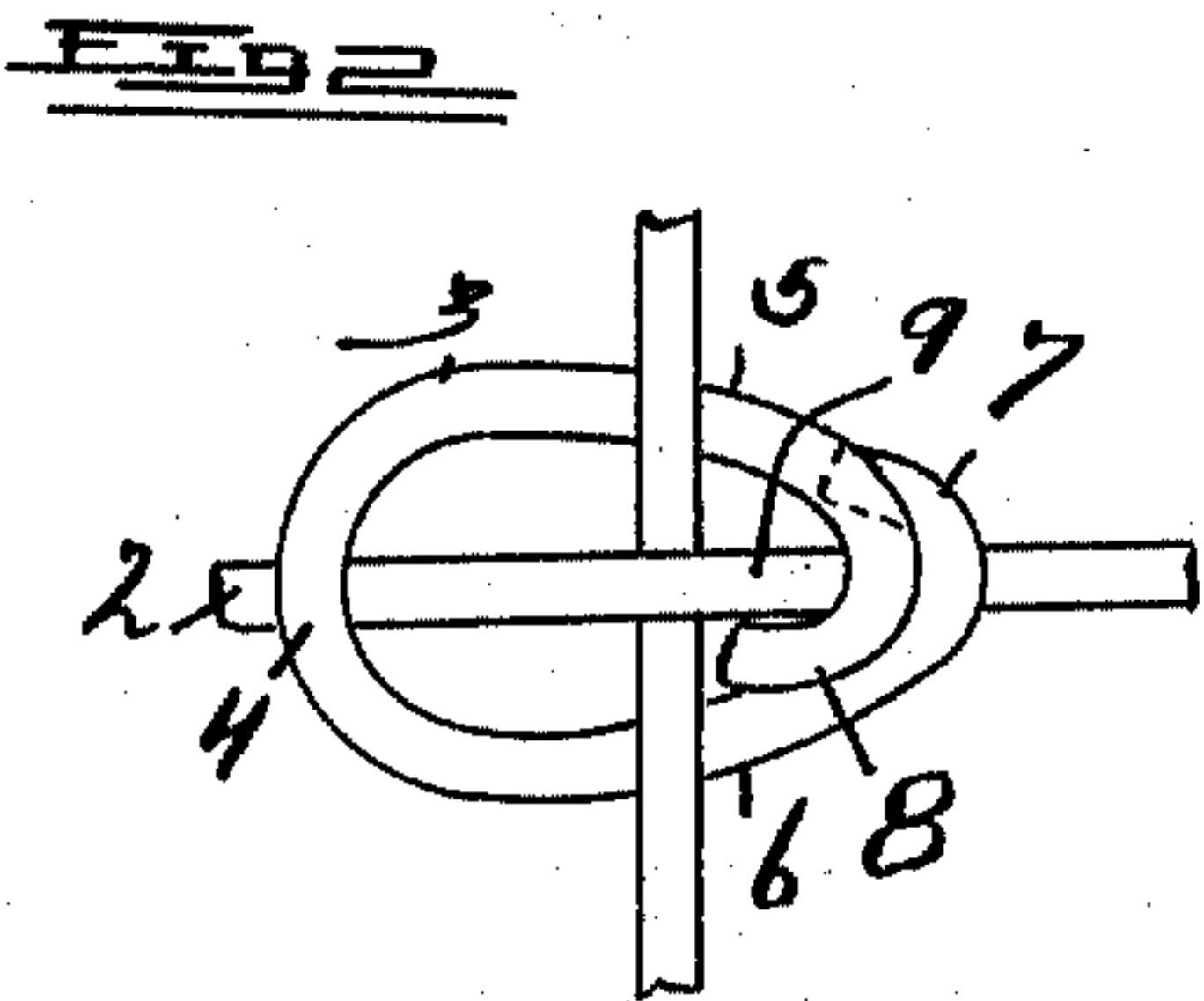
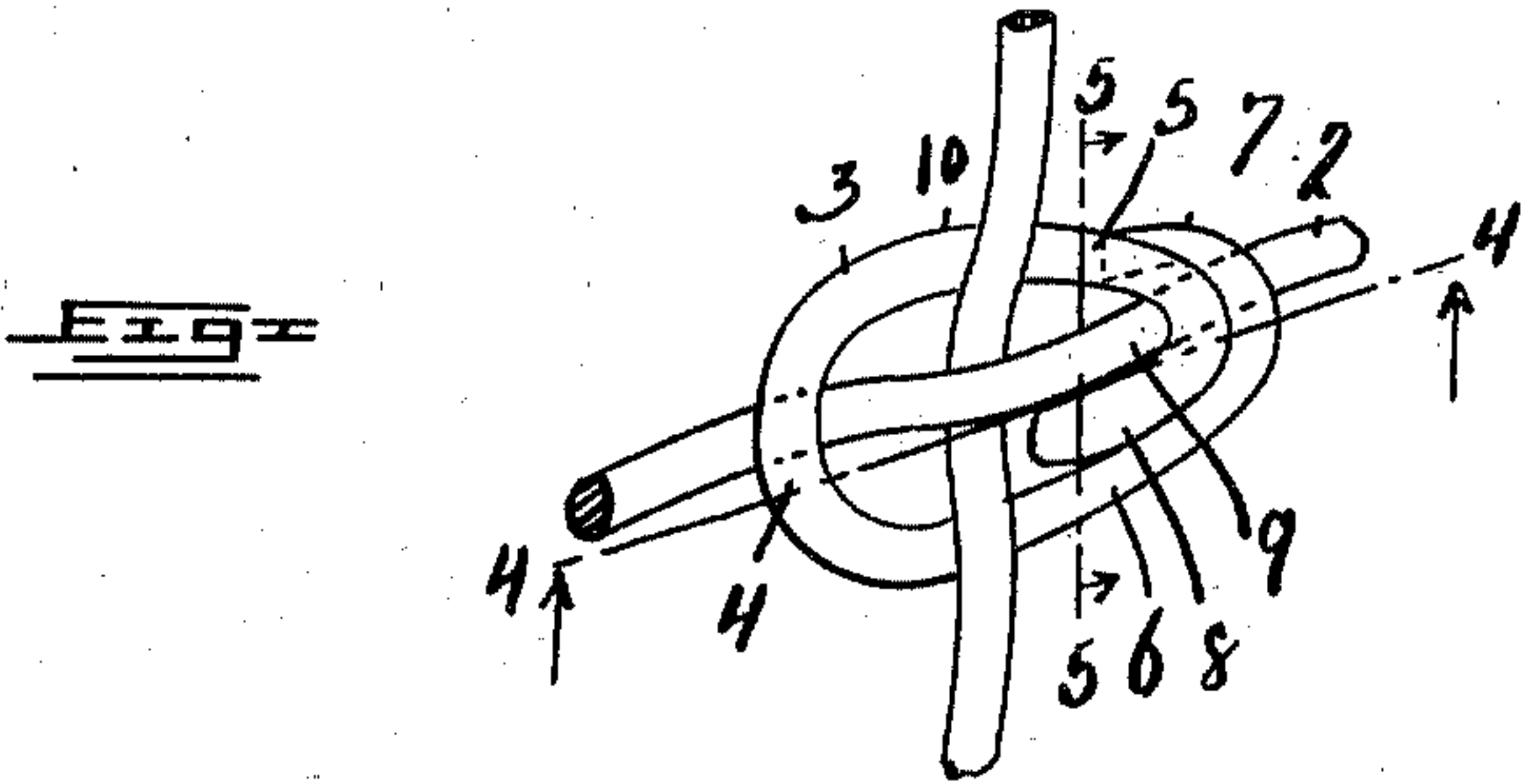
No. 760,271.

PATENTED MAY 17, 1904.

O. S. STURTEVANT.
TIE FOR WIRE FENCES.

APPLICATION FILED SEPT. 8, 1903.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

ORANGE S. STURTEVANT, OF ADRIAN, MICHIGAN, ASSIGNOR TO
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TIE FOR WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 760,271, dated May 17, 1904.

Application filed September 8, 1903. Serial No. 172,300. (No model.)

To all whom it may concern:

Be it known that I, ORANGE S. STURTEVANT, a citizen of the United States, residing at Adrian, in the county of Lenawee, State of Michigan, have invented certain new and useful Improvements in Ties for Wire Fences; 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to a tie for wire fences; and it consists in the peculiar construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a tie or knot for firmly uniting the intersecting wires of wire fencing at their point of crossing, the form of the tie being such as to enable it to be readily driven between suitable dies to secure it in place upon the crossed wires and at the same time avoid acute bends in order to overcome excessive resistance in driving, and to prevent undue weakening of the tie. The object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view illustrating my improved tie as applied to the cross-wires of wire fencing. Fig. 2 is an elevation of Fig. 1. Fig. 3 is an elevation of the rear side of Fig. 2 inverted. Fig. 4 is a plan view of Fig. 2.

Referring to the characters of reference, 1 designates what is commonly termed the "stay-wire" in fencing, and 2 the longitudinal wire thereof. These wires are crimped at their point of crossing to prevent lateral displacement. Embracing said cross-wires, so as to firmly unite them, is a tie which is preferably in the form of an oval loop, the larger end 4 of which engages the wire 2, while the legs 5 and 6, respectively, of said loop pass under the wire 1 and over the wire 2, their terminals being formed into recurved hooks 7 and 8. These hooks, as will be seen, cross the longitu-

dinal wire upon the same side from opposite directions, while their reëntrant portions or inner ends stand adjacent said wire. It will be noted that wire 2 bends laterally at the point where the hooked ends of the loop cross it, as shown at 9, whereby hook 8 is brought into such relation thereto as to engage and support it should a downward force be applied to said wire, while hook 7 stands in position to engage it should it be subjected to an upward pressure. It will be seen that said hooks, because of the lateral bend 9 of the wire 2 and the lateral deflection in the opposite direction of the tie at the point 10, (shown more clearly in Fig. 4,) are caused to engage the wire 2 nearly at right angles, thereby enabling them to more firmly hold the wire against vertical displacement and preventing the tie from being loosened through the effect of a vertical strain upon said wire. The cross wires and tie are prevented from relative vertical movement by the engagement of the legs of the loop at 10 behind the shoulders of the stay-wire. In like manner lateral movement is prevented by the engagement of large end 4 and terminals 7 8 behind the shoulders of the strand-wire. For this purpose it is essential that the reëntrant portions of terminals 7 and 8 both bear against the sides of the strand-wire for part of their length, and therefore I have shown them as crossing parallel and both in engagement with said wire.

The oval shape of the tie is essential in driving the loop in place because of the return-bend which is given to the hooks at the terminals thereof. It would be quite impossible to form said hooks in shaping-dies were it not for the converging lines upon which the legs of the loop are driven enabling the ends of the loop when encountering the channels of the dies which give them their hooked formation to more readily follow the desired course.

It will be noted that terminal 7 is farther removed from the stay-wire than terminal 8 and lies in contact with the face of the strand-wire. Terminal 8 lies substantially parallel with the terminal 7 and is in contact therewith. By this arrangement the inner faces of the two terminals at the point of crossing the strand-wire

lie in a plane substantially parallel to the shoulder 9 in said strand-wire. It will be noted that as terminal 7 lies in contact with the face of the straight portion of the strand-wire, with its reëtrant portion partially in contact with the side of the latter, and terminal 8 lies in contact with terminal 7 and with the face of the shoulder 9 and its reëtrant portion partially in contact with the side of the strand-wire, there are five points of contact at this end of the tie.

I desire to have it understood that by the term "oval" I mean egg-shaped. The advantage of this construction in the formation of the tie has been set forth. Its advantage after the tie has been produced is as follows: Any tie possessing a great number of acute bends is unduly weakened because of the rupture of the fibers of the metal allowing rust to attack the tie with deleterious effect. For this reason I make one end of the loop flaring and cause the legs gradually to converge toward the terminals, which permits me to form the recurved portions without any sudden bend. I also make the tie of wire which is of equal cross-section throughout in order that there shall be no points of weakness even where bent to the greatest degree necessary.

What is claimed as new is—

1. The combination with the intersecting strand and stay wires crimped at their point of crossing; of a tie comprising a loop having one end crossing the face of the strand-wire at one side of the stay-wire, opposed legs passing in rear of stay-wire having hook-shaped terminals crossing the strand-wire—one being more remote from the stay-wire than the other and in contact with the straight portion of the strand, and its reëtrant portion in contact for part of its length with the side of the strand-wire; and the other being in parallel

contact with the first-named terminal and in contact with the crimped portion of the strand-wire, its reëtrant portion lying for part of its length in contact with the side of said strand-wire.

2. The combination with the intersecting strand and stay wires crimped at their point of crossing; of a tie comprising an oval loop having its large end crossing the face of the strand-wire at one side of the stay-wire, converging legs having lateral bends passing in rear of the stay-wire, and hook-shaped terminals crossing the strand-wire—one being more remote from the stay-wire than the other and in contact with the face of the strand-wire, and the other crossing the incline of the crimp of the strand-wire, the reëtrant portions of both of said terminals lying adjacent the sides of the strand-wire, each in parallel relation to the other leg.

3. The combination with the intersecting strand and stay wires crimped at their point of crossing; of a tie comprising an oval loop having its large end crossing the face of the strand-wire at one side of the stay-wire, converging legs passing in rear of the stay-wire, and hook-shaped terminals crossing the strand-wire—one being more remote from the stay-wire than the other and in contact with the face of the strand-wire, and the other being in parallel contact with the first-named terminal and crossing the strand-wire with its reëtrant portion lying for part of its length in contact with the side of the strand-wire.

In testimony whereof I sign this specification in the presence of two witnesses.

ORANGE S. STURTEVANT.

Witnesses:

JNO. E. BIRD,

FRANK E. KENNEDY.