

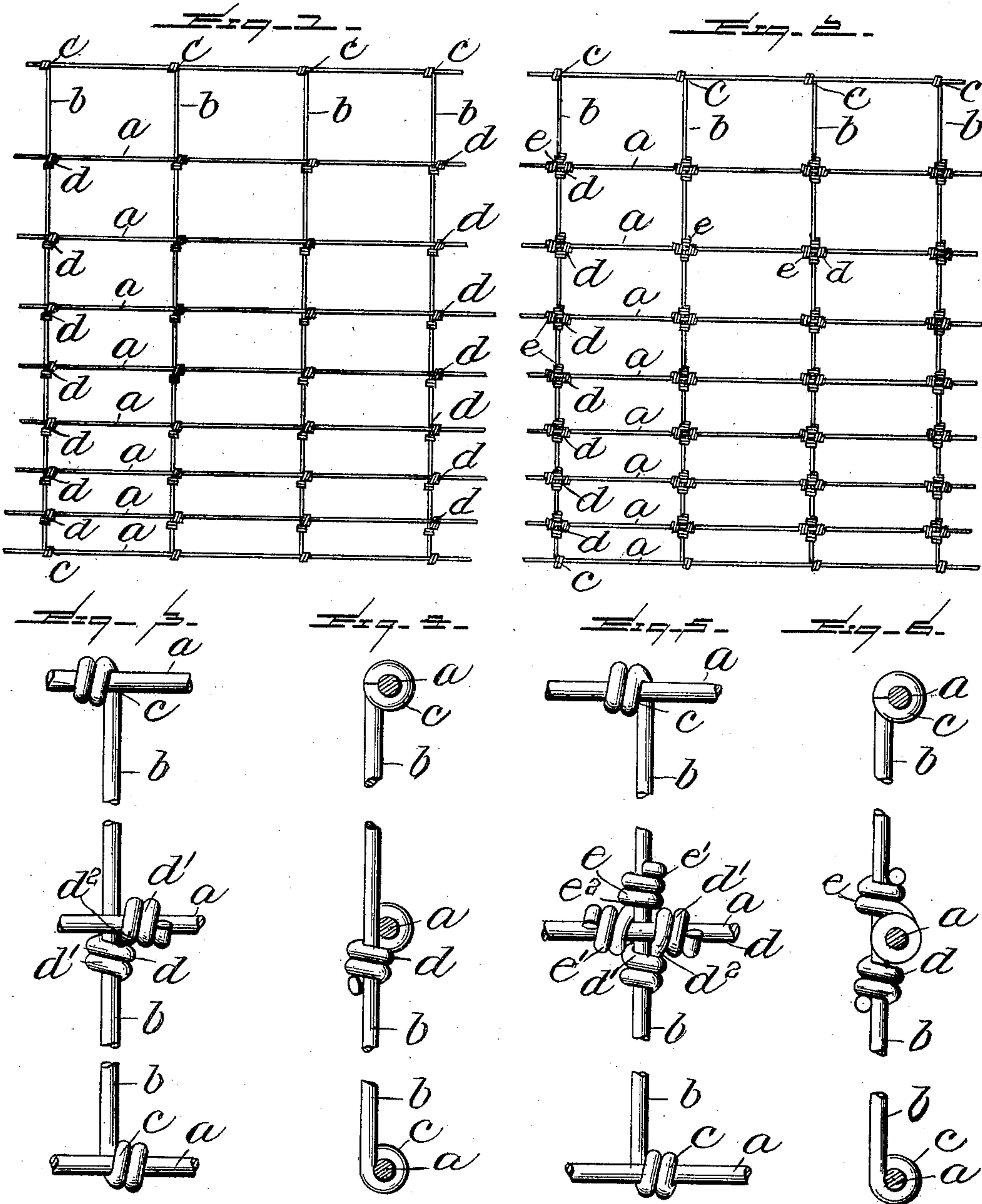
No. 707,743.

Patented Aug. 26, 1902.

A. W. WELLMAN.
WOVEN WIRE FENCING.

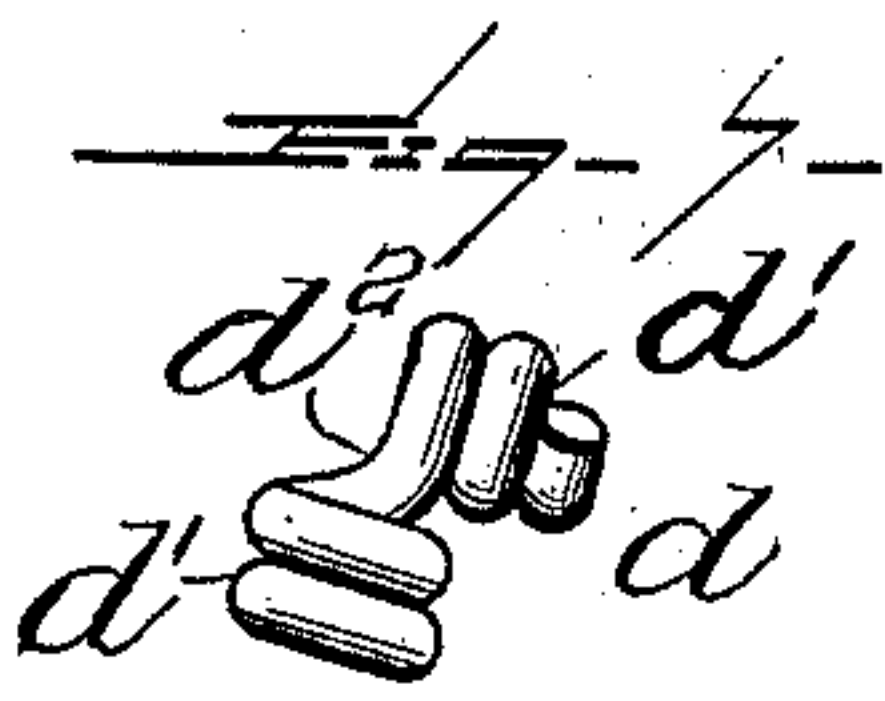
(Application filed Mar. 5, 1901.)

(No Model.)



WITNESSES

Wm. F. Doyle
Alfred T. Gage



INVENTOR

Arthur W. Wellman

BY

E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

ARTHUR W. WELLMAN, OF MADISON, WISCONSIN.

WOVEN-WIRE FENCING.

SPECIFICATION forming part of Letters Patent No. 707,743, dated August 26, 1902.

Application filed March 5, 1901. Serial No. 49,994. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. WELLMAN, a citizen of the United States of America, residing at Madison, in the county of Dane and State of Wisconsin, have invented a certain new and useful Improvement in Wire-Fence Ties, of which the following is a specification, reference being had therein to the accompanying drawings and letters of reference thereon, forming a part of this specification.

The invention relates to improvements in wire-fence ties, and particularly to a tie adapted to interlock the parallel strands of a fence with the continuous vertical stay-wires at the point of intersection between the stay and strand wires.

The invention has for an object to produce a tie having at opposite ends coiled portions disposed at a right angle to each other and connected so as to bring the connecting portion of one coil substantially in line with the periphery of the other coil, which permits ties being threaded or placed upon the strand-wires in the manufacture thereof, and the stay-wires may be passed or threaded through the ties and connected to the strands at the ends of each stay.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof pointed out in appended claims.

In the drawings, Figure 1 is a side elevation of a wire fencing with a single tie at the intersection of the strand and stay wires. Fig. 2 is a similar view in which two ties are used. Fig. 3 is an enlarged detail side elevation showing the use of a single tie; Fig. 4, a detail vertical section of the parts shown in Fig. 3. Fig. 5 is a detail side elevation of two ties. Fig. 6 is a detail vertical section thereof, and Fig. 7 is a detail of the tie.

Like letters of reference refer to like parts throughout the several figures of the drawings.

The letter *a* represents the several wire strands of the fencing, which are connected together by the stay-wire *b* in order to form the mesh of the woven-wire fencing. The ends of the stay-wire are coiled about the strands, as shown at *c*, and between these ends the stay-wires are connected to the strands by means of the ties *d* and *e*, which are similar in con-

struction, and one or both may be used, as shown in Figs. 3 and 5. The tie *d* is formed at its opposite ends with coiled portions *d'* at an angle to each other and connected by a continuous curved bent portion *d''*, extending from one coil across the angle between the coils and at one side of the intersection of the strand and stay wires, and thus connecting the coils without passing over the point of intersection of the strand and stay wires, thus leaving one of the coils *d'* free for the introduction of the stay-wire to be threaded through each of the coils. It will be understood that the coils are placed upon the strand-wires and clamped in proper position thereon to form the desired mesh of the fence, when the stay-wires may be threaded through the ties and secured at their opposite ends to the top and bottom strands of the fence. It will also be seen that this construction greatly economizes in the quantity of wire required and presents a secure tie which resists any lateral movement of either the strand or the stay wires.

In Figs. 2, 5, and 6 a duplicate tie *e*, having coils *e'* and connecting portion *e''*, similar to the tie *d*, is used and provides fastening means at the point of intersection, which may be necessary in fencing used under particular conditions. The stay-wires herein used are a straight continuous piece and may therefore be very quickly threaded through the several ties carried by the strands, thus producing a fencing which can be cheaply manufactured and one in which the position of the stays to form the mesh may be readily altered, thus rendering the fence flexible and adjustable to uneven surfaces and materially economizing in the cost thereof. This is largely effected by simplifying the construction of the tie-wire, so as to secure a most efficient result by the use of a small quantity of wire and permitting the tie to be readily inserted in position without the necessity of special tools for that purpose or bending the wire by hand around the crossed strand or stay wires.

It will be seen that this tie may readily be formed from a continuous coil by bending the opposite end portions thereof at a right angle to each other, so that the coils merge directly from one into the other, which obvi-

ates the use of any connecting portion crossing the intersection of the strand and stay wires and also permits the coils of two ties to be brought into contact with each other, 5 as shown in Fig. 4, thus securing the bracing of the coils against each other.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

- 10 1. In a fence-tie, the combination with strand and stay wires, of a tie-wire continuously coiled in one direction and having its opposite ends formed in two coils at an angle to each other and respectively parallel to and 15 engaging the adjacent strand and stay wires, and a connecting portion between the coils extending across the angle from one coil to the other and at one side of the point of intersection between the strand and stay wires; 20 substantially as specified.

2. In a fence-tie, the combination with strand and stay wires, of a tie-wire having its opposite end formed in two coils at an angle to each other and respectively parallel to and engaging the adjacent strand and stay wires, 25 a connecting portion between the coils extending across the angle from one coil to the other and at one side of the point of intersection between the strand and stay wires, and a duplicate tie-wire disposed at the op- 30 posite side of the point of intersection between the strand and stay wires to the first-mentioned tie-wire; substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 35

ARTHUR W. WELLMAN.

In presence of—

A. H. KAYSER,
E. T. HUGGINS.