

(No Model.)

4 Sheets—Sheet 1

L. J. IVES.  
WIRE FENCE.

No. 522,375.

Patented July 3, 1894.

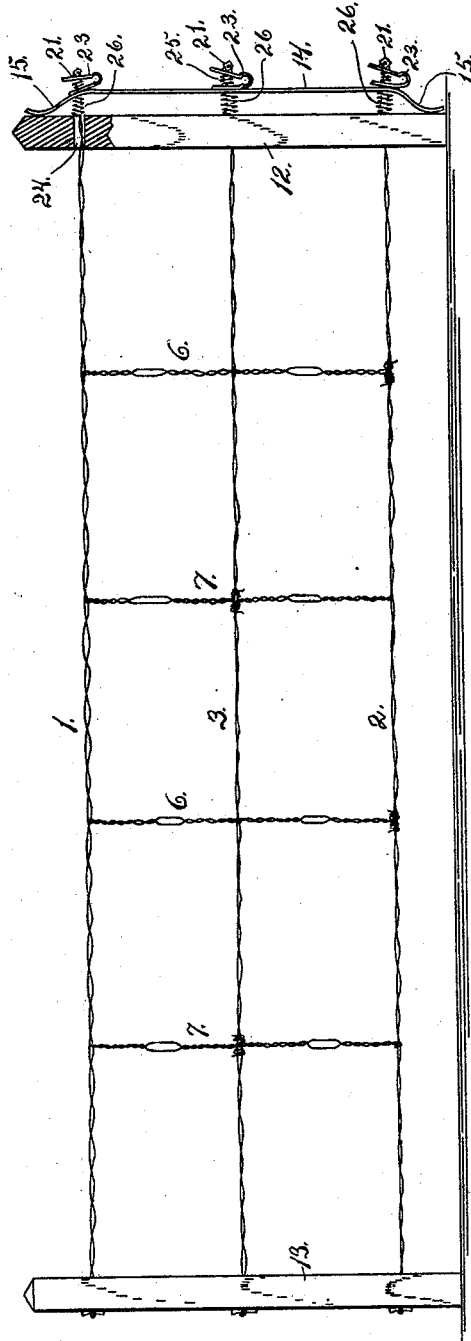


Fig. 1.

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By Miller and Hoddick  
Attorneys

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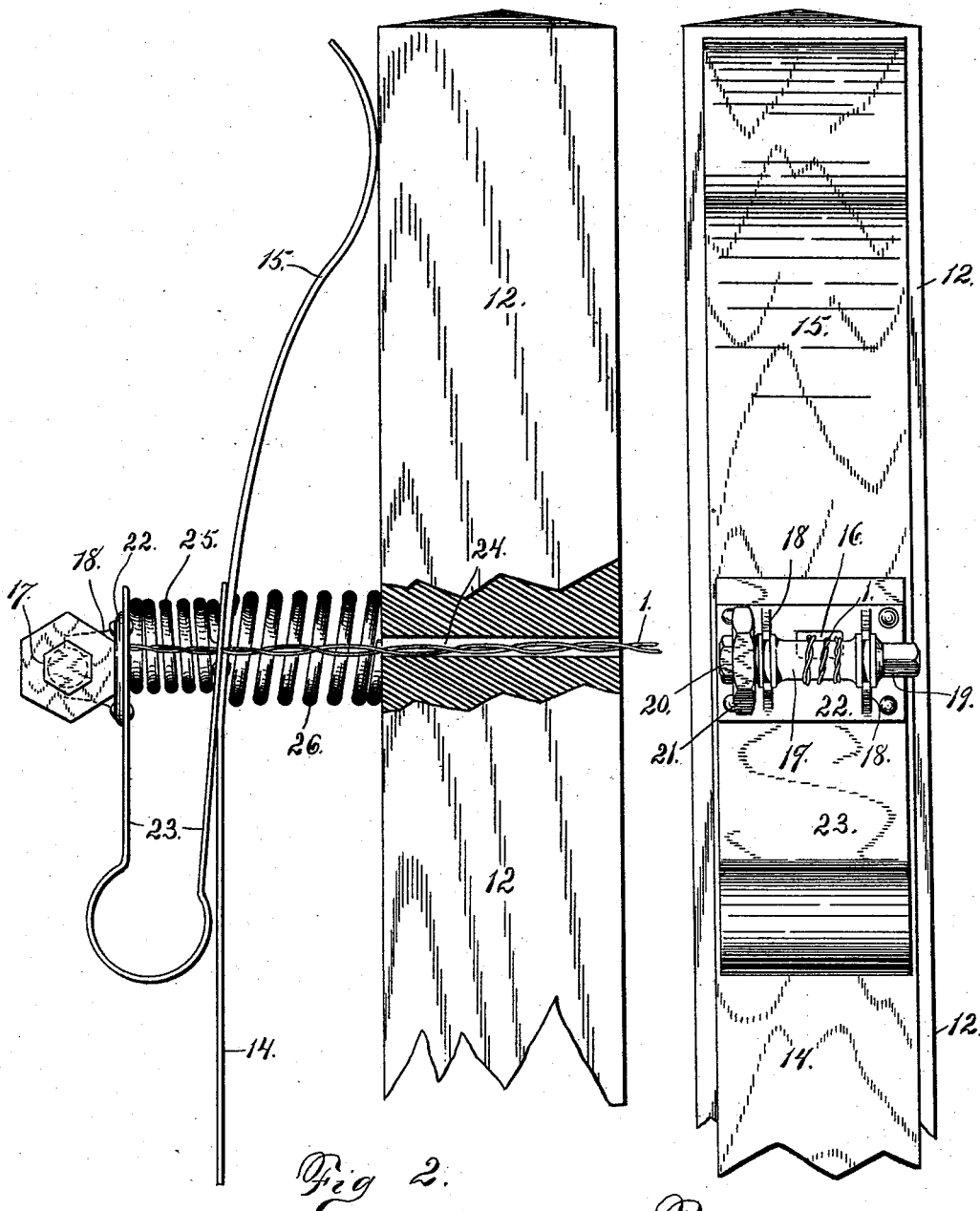


Fig. 2.

Fig. 3.

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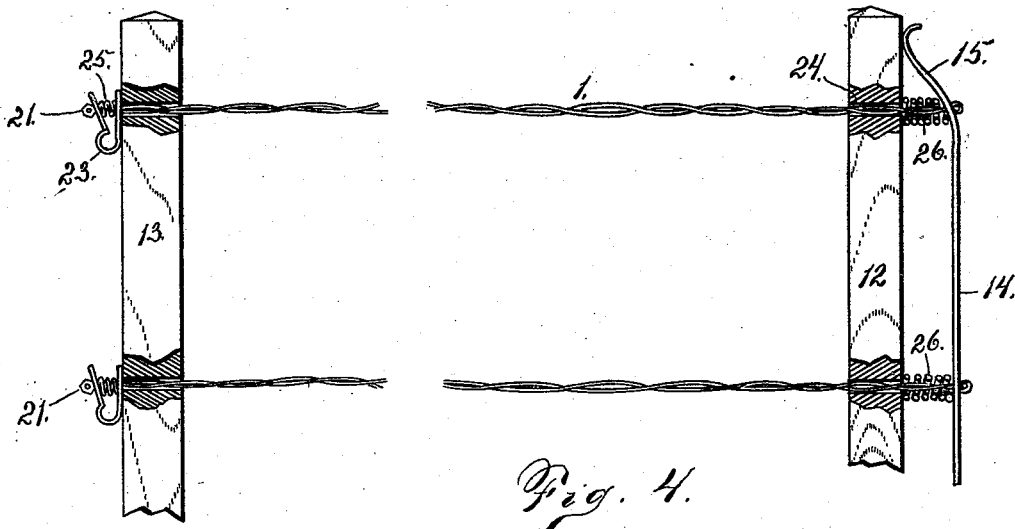
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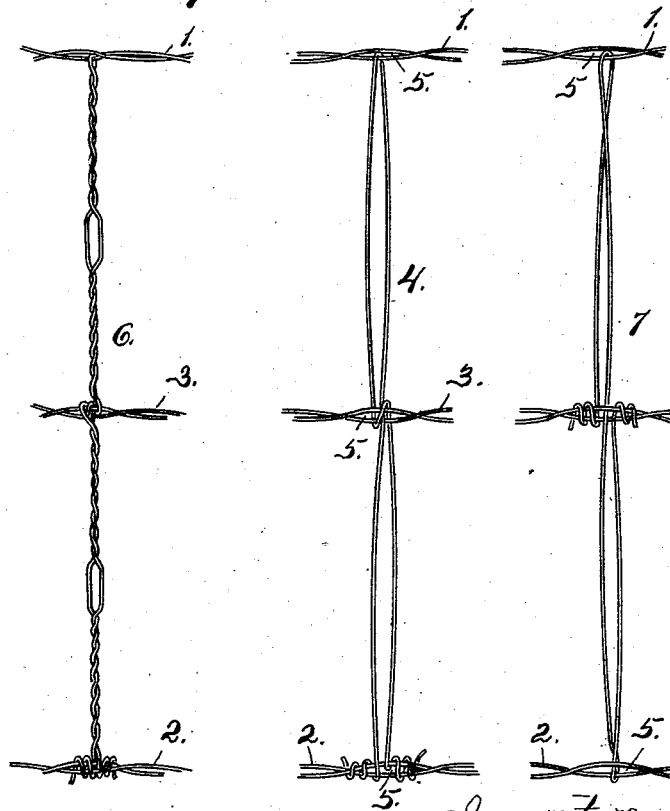
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*Fig. 5.*



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(No Model.)

4 Sheets—Sheet 4.

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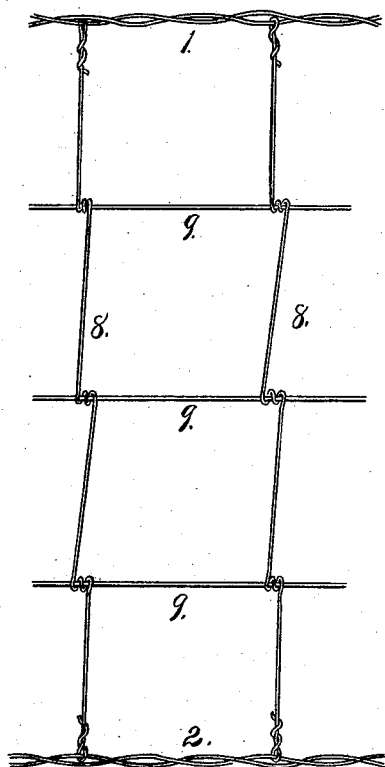


Fig. 6.

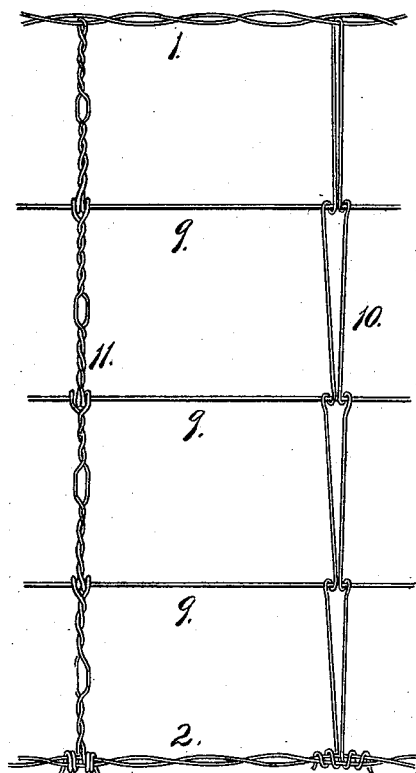


Fig. 7.

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# UNITED STATES PATENT OFFICE.

LEWIS J. IVES, OF MEDINA, NEW YORK, ASSIGNOR TO CARRIE LOUISE IVES, OF SAME PLACE.

## WIRE FENCE.

SPECIFICATION forming part of Letters Patent No. 522,375, dated July 3, 1894.

Application filed October 23, 1893. Serial No. 488,963. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS J. IVES, a citizen of the United States, residing at Medina, in the county of Orleans and State of New York, have  
5 invented certain new and useful Improvements in Wire Fences; and I do hereby 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  
10 appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of fence  
15 which is composed of parallel wires stretched between posts and provided with vertical stay-wires at intervals in their length and it consists in an improved form of tightener and tension-equalizer combined and arranged with a  
20 particular form of horizontal wires and stay-wires.

I will now proceed minutely to describe the manner in which I have carried out my invention and then claim what I believe to be novel.

25 In the drawings, Figure 1 is an elevation of my improved fence. Fig. 2 is an enlarged side detail view of a portion of the tension-equalizer and one of the tighteners. Fig. 3 is an end view of Fig. 2. Fig. 4 shows a modified arrangement of tension-equalizer and  
30 tightener. Fig. 5 shows all of the horizontal wires and vertical stays of double twisted strands. Fig. 6 shows the outside horizontal wires of double twisted strands and the intermediate horizontal wires and vertical stays of  
35 single wire, and Fig. 7 shows the outside horizontal wires and vertical stays of double twisted strands and the intermediate horizontal wires of single wires.

40 Referring more particularly to Figs. 1 and 5 of the drawings it will be seen that 1 and 2 are the upper and lower outside horizontal wires, and 3 is an intermediate horizontal wire (of which there may be more than one)  
45 I prefer to have all these horizontal wires composed of double twisted strands as shown in these two figures. These horizontal wires are stretched of any desired length and at suitable distances apart. 4 is a vertical stay-  
50 wire of sufficient length to double upon itself and is secured to the double twisted horizon-

tal wires as follows: It is passed through a parting 5 in the upper outside wire 1 and doubled evenly upon itself. One of its strands is passed down through similar partings 5 in the  
55 other horizontal wires and its end is twisted around the lower wire 2. The other strand is given one or more turns around each horizontal wire and has its end also twisted around the lower wire 2. A short rod is then placed  
60 between the two strands midway of each section and on being turned twists the strands together as shown at 6 thus securing the horizontal wires together in a reliable manner and adding to the attractiveness of the fence.

65 A variation in the manner of securing the stay wire is shown at 7 in which the ends of the strands are twisted around one of the intermediate wires 3 one portion of the stay-wire passing through the partings 5 as before.  
70

In Fig. 6 the stay-wire 8 is formed of a single wire being wound around each intermediate single wire 9 its ends being passed through partings in the outside wires 1 and 2 of double twisted strands and then twisted  
75 back upon the stay-wire as shown.

In Fig. 7 another variation is shown in which a stay-wire 10 of two strands replaces the single-wire stay 8 of Fig. 6 each strand being secured in the same manner as the stay-wire 8  
80 the two strands being twisted together in each of their sections as shown at 11 Fig. 7.

By using twisted wires for both the outside horizontal wires I strengthen the fence where it is most needful as the heaviest and strongest  
85 wires are on the outside, and I am at the same time enabled to hold my stay wires so that they will not slide or become displaced.

I leave the ends of the horizontal wires of sufficient length beyond the stay-wires to pass  
90 through the posts and allow for tightening. In setting up my improved fence suitable end and intermediate posts are placed in position. In the drawings 12 is one of the end posts and 13 an intermediate or end post to which one  
95 end of each of the horizontal wires 1, 2, and 3, is fastened in any suitable manner, so that they will be held securely, the other ends being passed through the end post 12 and attached to the tightening devices. Staples are driven  
100 into the intermediate posts enveloping the horizontal wires, care being taken to permit

the wires to play loosely through them. My combined tightener and tension equalizer is arranged and operates as follows.

14 is a flat stiff spring strip of metal having its upper and lower ends 15 bowed inwardly toward the post 12 so as to leave enough space between it and the post for sufficient play of the strip in equalizing the tension of the horizontal wires 1, 2, and 3 secured thereto. These wires have their ends passed through openings 16 (Fig. 3) being secured on the outside directly to the strip as shown in Fig. 4 or to a tightener as shown in Figs. 2 and 3.

Any form of tightener may be employed and I show by way of illustration a tightener which forms the subject matter of my former application, Serial No. 481,270, in which 17 is a short axle mounted in bearings 18, 18 having at one end a square portion 19 for the reception of a wrench for turning the same and at the other end a hexagonal portion 20 for the reception of a removable nut 21 for locking the axle 17 in any desired position. The base plate 22 carrying the bearings 18 is secured to a bow-spring 23. The horizontal wire 1 passing through the opening 24 in the post 12 and the opening 16 in the spring strip 14 is secured to the axle 17 and wound around the same until it is tightened to the required tension where it is held by the securing nut 21. A spiral spring 25 encircling the wire 1 may be interposed between the two ends of the bow-spring 23, or the bow-spring 23 and spiral spring 25 may be entirely omitted in which case the base 22 will rest directly against the spring strip 14. Spiral springs 26 encircling the wires 1, 2, and 3, are interposed between the post 12 and the inner surface of the spring strip which as shown extends the entire length of the post.

In Fig. 4 I have shown the spring strip 14 without the tighteners, the horizontal wires being secured on the outer face of the strip in which case the tighteners are located at the other end of the fence-section on the outer end of the end post and at the ends of each of the horizontal wires.

The spring strip 14 under strain of the tightened horizontal wires is forced toward the post 12 against the action of the spiral springs 26, which serve with the spring-strip 14 to regulate the tension of these wires under varying conditions of temperature. The spring strip in connection with the tightener form a perfect device for the purpose and are easily set up and operated any other style of interposed spring may be employed but a coiled spring is preferred.

My improved fence hereinbefore outlined can be built before it is set up and sold ready for use or it can be built on the posts where it is to stand.

I claim—

1. In a wire fence a tension equalizer consisting of a spring strip bowed at its upper and lower ends which rest against the face of

the post and to which strip the ends of the horizontal fence wires are secured, substantially as and for the purpose stated.

2. In a wire fence a tension-equalizer consisting of a spring strip bowed at its upper and lower ends which rest against the face of the post and springs encircling the horizontal fence wires secured thereto and interposed between the spring strip and the post substantially as and for the purpose stated.

3. In a wire fence the combination with a tension-equalizer consisting of a spring strip bowed at its upper and lower ends which rest against the face of the post of a tightener located upon the outer face of the spring strip to which tightener the ends of the horizontal fence wires are secured substantially as and for the purpose stated.

4. In a wire fence the combination with a tension-equalizer consisting of a spring strip bowed at its upper and lower ends which rest against the face of the post and springs encircling the horizontal fence wires and interposed between the spring strip and the post of a tightener located upon the outer face of the spring strip to which tightener the ends of the horizontal fence wires are secured substantially as and for the purpose stated.

5. A wire fence consisting of the horizontal wires stretched between end-posts of which the outer wires are formed of twisted strands and the vertical stay-wires which pass between the strands of the outer wires and are wound around the intermediate wires and a tension-equalizer consisting of a strip bowed at its upper and lower ends which rest against a face of the end-post and to which strip the ends of the horizontal fence wires are secured substantially as and for the purpose stated.

6. A wire fence consisting of the horizontal wires stretched between end-posts of which the outer wires are formed of twisted strands and the vertical stay-wires which pass between the strands of the outer wires and are wound around the intermediate wires and a tension-equalizer consisting of a spring strip bowed at its upper and lower ends which rest against a face of the end post and springs encircling the horizontal fence wires secured thereto and interposed between the spring strip and the post substantially as and for the purpose stated.

7. A wire fence consisting of the horizontal wires stretched between end-posts of which the outer wires are formed of twisted strands, and the vertical stay-wires which pass between the strands of the outer wires and are wound around the intermediate wires and a tension-equalizer consisting of a spring strip bowed at its upper and lower ends which rest against the face of the end-post and a tightener located upon the outer face of the spring strip, to which tightener the ends of the horizontal fence wires are secured substantially as and for the purpose stated.

8. A wire fence consisting of the horizontal wires stretched between end-posts, of which

the outer wires are formed of twisted strands  
and the vertical stay-wires which pass between  
the strands of the outer wires and are wound  
around the intermediate wires and a tension-  
5 equalizer consisting of a spring strip bowed  
at its upper and lower ends which rest against  
the face of the end post and springs encircling  
the horizontal fence wires and interposed be-  
tween the spring strip and the post and a tight-  
10 ener located upon the outer face of the spring

strip, to which tightener the ends of the hori-  
zontal fence wires are secured substantially  
as and for the purpose stated.

In testimony whereof I have signed my  
name to this specification in the presence of 15  
two subscribing witnesses.

LEWIS J. IVES.

Witnesses:

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