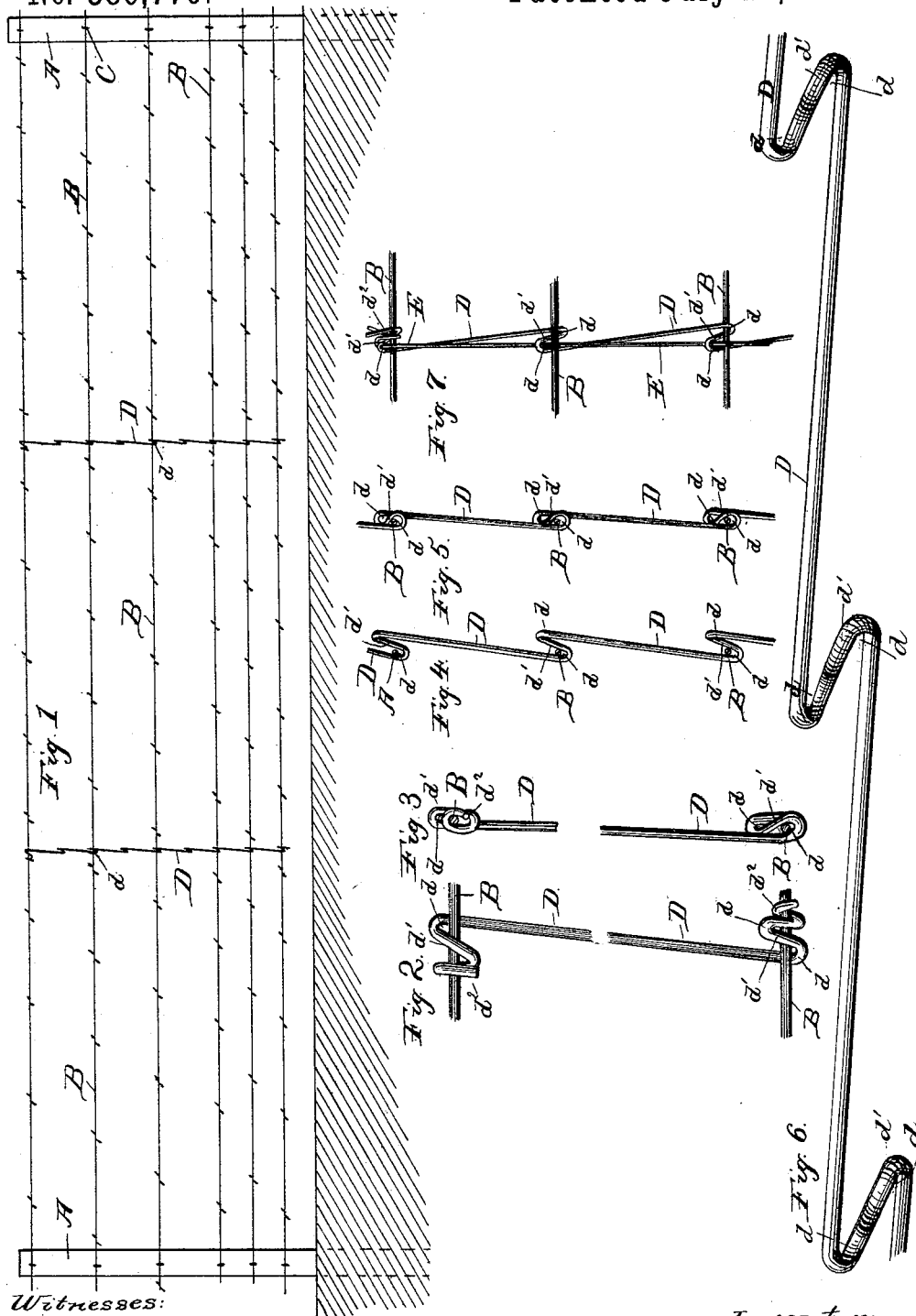


(Model.)

L. W. CONNELL.  
STAY FOR WIRE FENCES.

No. 386,770.

Patented July 24, 1888.



Witnesses:

*L. C. Curtis.*  
*A. W. Munday*

*Inventor:*  
*Lewis W. Connell.*  
*By Munday, Swartz & Adcock,*  
*his Attorneys.*

# UNITED STATES PATENT OFFICE.

LEWIS W. CONNELL, OF JOLIET, ILLINOIS.

## STAY FOR WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 386,770, dated July 24, 1888.

Application filed May 24, 1886. Serial No. 203,173. (Model.)

*To all whom it may concern:*

Be it known that I, LEWIS W. CONNELL, a citizen of the United States, residing in Joliet, in the county of Will and State of Illinois, have invented a new and useful Improvement in Stays for Wire Fences, of which the following is a specification.

My invention relates to wire stays for holding, stiffening, and supporting the wires of wire fences between the fence-posts and keeping said wires the proper distance apart. Where suitable stays for the wires are provided at intervals—say of every eight or ten feet between the posts—the posts themselves may be planted two or three rods apart, more or less, thus effecting a considerable saving in the cost of the fence.

The object of my invention is to provide a wire stay of a strong, simple, and cheap construction, which may be easily and quickly applied to all the fence-wires simultaneously, and which, when applied, will serve to hold each of the fence-wires rigidly in place, so that they cannot be sprung apart or together.

To this end my invention consists of a wire stay, preferably steel wire and about No. 9 or 10 in size, provided with a series of oblique hook eyes or loops—that is to say, the member of the fold in the wire constituting the hook-eye is inclined in two directions or planes, so that when the wire stay is held or turned in one position the fence-wires may be all inserted laterally into the hook eyes or loops, as into an ordinary hook, and then locked therein by simply turning the stay on its axis—say a quarter of a revolution—the hook-eyes forming, when turned in this second position, closed loops or eyes, out of which the fence-wires cannot move up or down or laterally. When applied, the stay is held in this second position by wrapping or coiling one or both of its free ends around the top or bottom wires, one or both, of the fence. The loops or folds in the wire stay, by reason of their being bent obliquely or in two directions, form compound eyes and hooks, or compound closed loops and open loops—that is to say, looked at in one direction these folds appear to be hooks, and when looked at from a direction at right angles to the former they appear to be eyes or closed loops. All that is required to apply

my stay to the fence-wires is simply to hook it over said wires and then turn it slightly on its axis and secure it in that position by wrapping one of its free ends around one of the fence-wires. These compound open and closed loops for securing the fence-wires are, for convenience of manufacture by machinery, preferably placed at equal distances apart on the stay, the distance between them being about equal to the space ordinarily desired between the lower wires of the fence. In this way the upper wires of the fence, which are farther apart, may be secured in every second or every third loop of the stay. However, the loops may be differently spaced, if desired. It is also preferable that these compound open and closed loops should be made double, or of an oblique S form, as the wire may be very conveniently bent in such form, and as then the stay may be applied either end up, or to either side of the fence, or hooked upon the fence-wires upward or downward with equal facility.

In the accompanying drawings, which form a part of this specification, Figure 1 is a view showing my improved wire stay as applied to a wire fence. Fig. 2 is an enlarged detail side view of the stay. Fig. 3 is an end view. Fig. 4 is an end view showing the stay turned into position to hook upon the fence-wires. Fig. 5 is a similar view showing the stay turned into position to lock the fence-wires in the compound eye and hook loops. Fig. 6 is an enlarged perspective view of the stay, and Fig. 7 is a side view showing an additional locking-wire inserted through the loops.

In said drawings, A represents the fence-posts, B the fence-wires, and C the staples by which they are secured to the posts.

D is a wire stay provided at intervals with compound open and closed loops *d*, the bend or fold *d'* of the wire forming this compound open and closed loop being bent or inclined in two directions, such bends or inclinations being preferably in planes about at right angles to each other, as indicated in Fig. 6 or in Figs. 4 and 5.

The stay D is hooked upon the fence-wires in the manner illustrated in Fig. 4, the loops *d* being then turned in position to form hooks to hook over the wires, and then the stay is simply turned about a quarter-turn on its own

axis, when it assumes the position shown in Fig. 5, the loops  $d$  in this position being closed upon the fence-wires by reason of the oblique inclination of the folds  $d'$ . The stay is then secured in this position by wrapping its upper or lower end,  $d^2$ , around the upper or lower fence-wire, one or both. As indicated in Fig. 2, the coil  $d^2$ , together with the loop  $d$ , form two somewhat separated bearings upon the fence-wire, so that when thus secured the stay cannot turn on its axis, and the fence-wires cannot, therefore, escape from the loops  $d$ , as said loops are closed while the stay is turned or held in this position. The inclined part or fold  $d'$  is preferably bent about as indicated in the drawings, thus forming double or two similar compound eyes and hooks or open and closed loops  $d$  at each bend or fold  $d'$  in the fence-wire D. The stay is, or of course should be, made of sufficient length to reach from the bottom to the top wire of the fence. In Fig. 7 an additional locking-wire, E, is inserted through the loops  $d$ . It serves to secure or lock the fence-wires in the loops more effectually, and also to stiffen the stays. When this locking-wire E is employed, the stay-wire D may of course be of smaller size.

To secure the stay in position after it is placed upon the fence-wires, the bending of the end needs not to be carried to the extent shown in the drawings. Any bending which will inclose the fence-strand sufficiently to prevent the turning of the stay on its axis will be sufficient.

I am aware that heretofore wires have been provided with double closed loops inclined at an angle to the direction of the wire to bring the two eyes formed by such closed loops in a line with and opposite each other, so that said eyes or a series of them may be threaded over the end of a second wire at right angles to the looped wire, as shown and described in Letters Patent No. 312,701, to W. R. Boerner, dated February 24, 1885, and I hereby disclaim such device as forming no part of my invention. My invention consists in a stay-wire provided with "compound hook-eyes," or "compound open and closed loops," and by these terms or phrases in this specification, as well as in the claims, I mean a loop in the stay-wire which is open and forms a hook which may be laterally hooked over a fence-wire when the stay-wire is turned on its axis in one position, and which loop is at the same time a closed loop or eye when the stay-wire is rotated on its axis into another position. My combined open and closed loop thus serves to permit the lateral application of the stay to the fence-wires, and at the same time, by a simple rotation of the stay

on its axis, the hook-loops become closed loops, from which the fence-wires cannot become disengaged. It should also be observed that, while my stay-wire is provided with double loops, each of the duplicate parts of which is a compound open and closed loop, my invention is present and operative if one of the duplicate parts of the loop should be omitted; nor do I claim wrapping the end of a stay-wire around a fence-wire, but only such coil in combination with my compound open and closed loops, and the rotatable stay-wire with which said coil coacts and serves to lock said loops on the fence-wires.

I claim—

1. A wire stay for wire fences provided with a number of compound closed and open loops, each of said loops consisting in an oblique bend or fold in the stay-wire, inclined in two directions or planes at an angle to each other, said inclined fold forming an open loop or hook adapted to hook over the fence-wire laterally when the stay is turned in one position, and a closed loop or eye when the stay is turned on its axis into a position at about right angles to said former position, substantially as specified.

2. The wire stay for wire fences, consisting in a single stay-wire, D, provided with compound eyes and hooks  $d$ , consisting of bends or folds  $d'$  in the stay-wire, inclined in two directions, substantially as shown and described, in combination with the wires of a wire fence, said stay-wire having a coil,  $d^2$ , at its end around one of said fence-wires, substantially as described.

3. The combination, with wire stay D, having compound open and closed loops  $d$ , formed by bends or folds  $d'$  in said stay-wire, inclined in two directions, substantially as shown and described, of a locking-wire, E, inserted through said loops  $d$ , substantially as specified.

4. The stay-wire D, having double compound open and closed loops  $d d$ , formed by bends or folds  $d'$  in said stay-wire, inclined in two directions, substantially as shown and described.

5. The stay-wire D, having oblique bends or folds  $d'$  therein, inclined in two directions, substantially as shown and described, forming an open loop or hook on said stay-wire, and at the same time a closed loop or eye, according to the position the stay-wire is turned on its axis, substantially as specified.

LEWIS W. CONNELL.

Witnesses:

JAMES KIRTH,  
FRANCIS H. CONNELL.