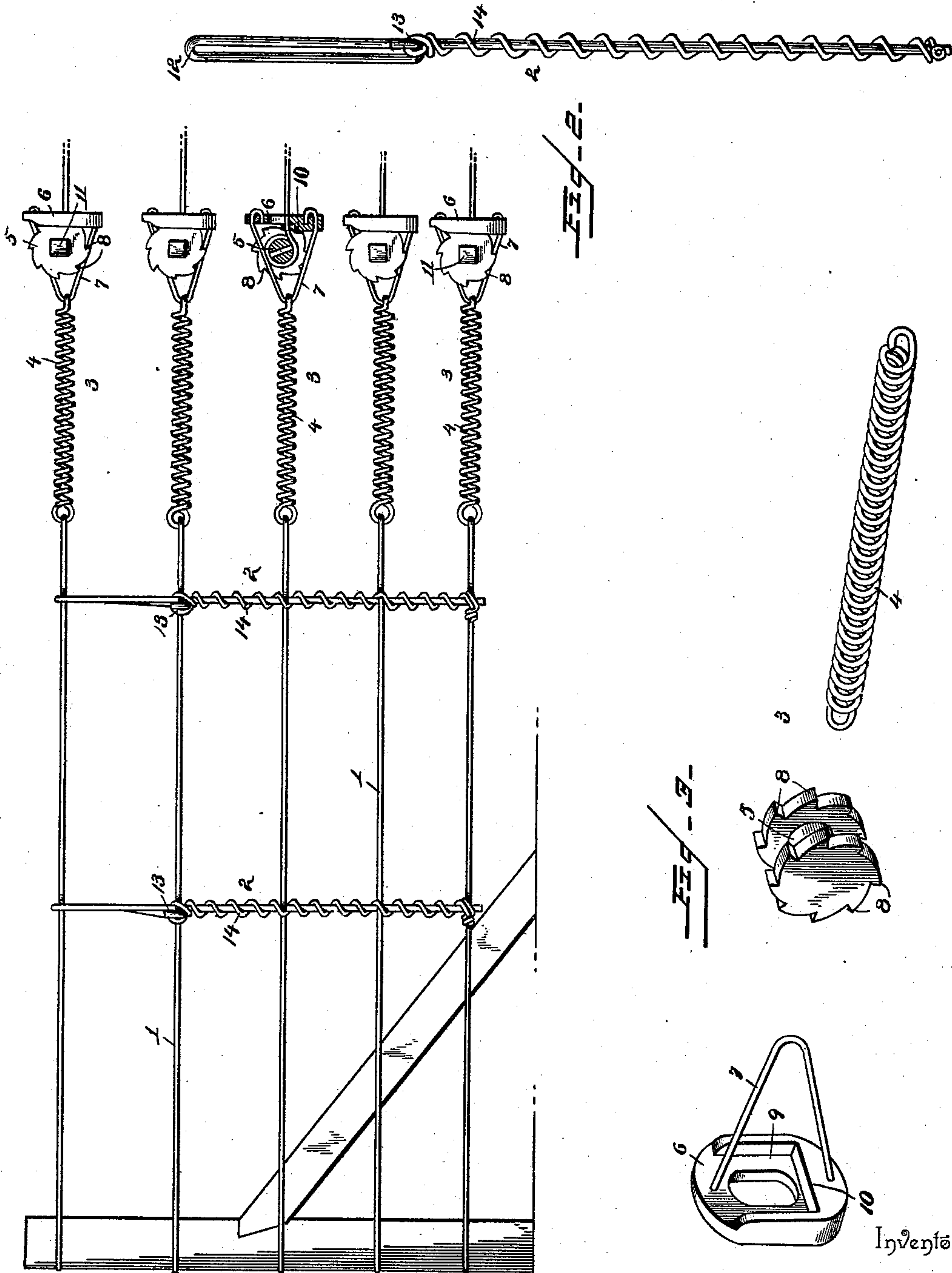


(No Model.)

I. M. WARNER.  
WIRE FENCE.

No. 572,322.

Patented Dec. 1, 1896.



Witnesses.

*T. W. Riley*  
*J. H. Hays*

By *his* Attorneys,

*Isaac M. Warner.*

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

ISAAC M. WARNER, OF BATAVIA, MICHIGAN.

## WIRE FENCE.

SPECIFICATION forming part of Letters Patent No. 572,322, dated December 1, 1896.

Application filed October 5, 1895. Serial No. 564,806. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC M. WARNER, a citizen of the United States, residing at Batavia, in the county of Branch and State of Michigan, have invented a new and useful Wire Fence, of which the following is a specification.

My invention relates to wire fences, and has for its object to provide simple and efficient means for securing and retaining the desired tension of the runners without risk of fracture caused by changes of temperature, and, furthermore, to provide an improved stay for connecting the runners and means for connecting said runners to the stay.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view of a fence constructed in accordance with my invention. Fig. 2 is a detail view of a stay. Fig. 3 is a detail view in perspective of the tension device with the parts detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the runners connected by stays 2, each runner being provided at an intermediate point with a tension device 3. In the construction illustrated in the drawings the tension device comprises a spring 4, connected to the terminal of one portion of the runner, a drum or spool 5, connected to the extremity of the other portion of the runner whereby the runner may be reeled thereon sufficiently to secure the desired tension, and a shoe 6, connected by means of a yoke 7 with the contiguous extremity of the tension-spring 4. The drum or spool is provided at its extremities with ratchet-disks 8, which bear against the shoe 6, said shoe being provided with a seat 9, terminating at its lower end in an offset or projection 10 to engage the teeth of the disks and hold the drum or spool from backward rotation when it has been turned to increase the tension of the runner. The yoke or loop by which the shoe is connected to the extremity of the tension-spring passes between the ratchet-disks with its arms upon

opposite sides of the drum or spool. The drum or spool is provided with an angular stud or wrench-seat 11, by means of which it may be turned when necessary to adjust the tension of the wire.

The stay by which the runners are connected is constructed of a blank of rod or wire doubled upon itself at a point between its extremities to form a loop 12, through which the uppermost runner extends, said stay hanging upon said runner, and the extremity of the short arm of the loop is doubled upon itself to form a hook 13, which engages an intermediate runner, preferably the runner below that which forms the uppermost member of the fence.

Coiled upon the straight portion of the stay below the loop is a tie-wire 14, by which the hook at the extremity of the short arm of the loop formed in the stay is secured to the runner which it engages, the lower extremity of the straight portion of the runner being fastened to the lowermost runner by means of the same tie-wire. The intermediate portion of the tie-wire being coiled around the straight body portion of the stay engages the intermediate runner or runners and thus secures them against lateral vibration, and at the same time allows sufficient vertical movement to prevent breakage when strained. A further advantage of the coiled tie-wire is that it need not be constructed to suit the number of runners in the fence. Said runners may be arranged at any desired intervals, and they will be engaged by the tie-wire and thus secured to the body portion of the stay.

From the above description it will be seen that the various runners of the fence are capable of vertical movement without affecting the strength of the structure by reason of the tension device arranged at intermediate points thereof, and the loops at the upper ends of the stays provide for free vertical movement of the uppermost runner, as when strained by the heads of stock, without communicating movement to the other parts of the fence. In the same way the intermediate runners may be strained and will be returned by the parts of the stay to their proper positions.

Various changes in the form, proportion, and the minor details of construction may be



resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a fence, the combination with a runner, of a drum or spool connected to one end of the runner and provided with ratchet-disks, a tension-spring connected to the other extremity of the runner, a shoe having a seat bearing against the ratchet-disks and provided with a projection or shoulder to engage the teeth thereof, and a loop or yoke connecting the shoe to the adjacent extremity of the tension-spring, said loop or yoke being arranged between the planes of the ratchet-disks with its arms upon opposite sides of the drum or spool, substantially as specified.

2. In a fence, the combination with runners, of a single blank stay intersecting the

runners and doubled upon itself near its upper end to form a loop extending over and engaging the uppermost runner, the short arm of the loop terminating in a hook engaging the upper intermediate runner, and a continuous tie-wire coiled upon the lower single portion of the stay and securing the runners thereto, the intermediate runners with the exception of that with which said hook is engaged being capable of vertical movement independently of the stay by reason of the coiled tie-wire, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ISAAC M. WARNER.

Witnesses:

ELMER E. PALMER,  
B. C. THORPE.