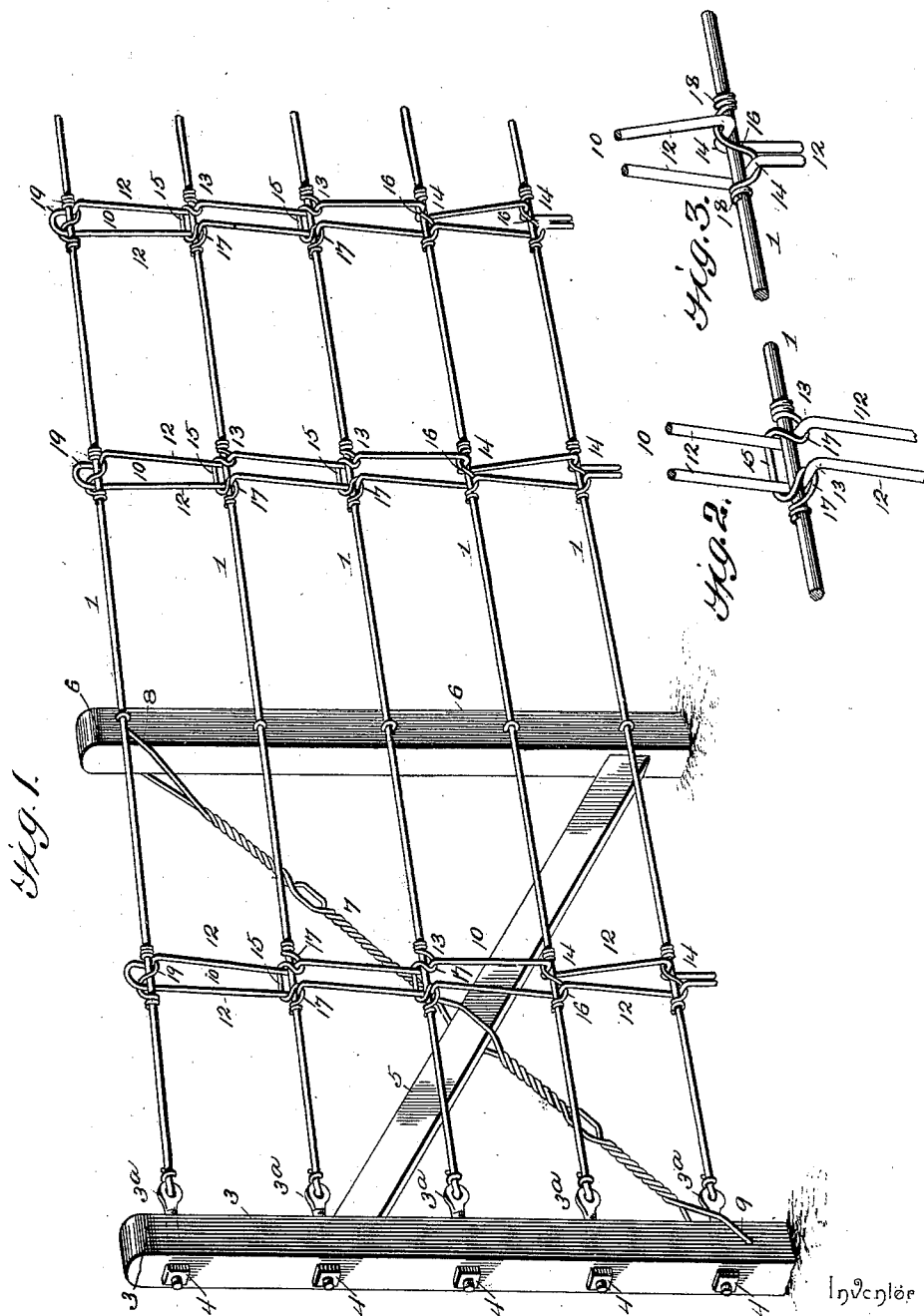


(No Model.)

J. K. ETTER.
FENCE.

No. 554,441.

Patented Feb. 11, 1896.



Witnesses

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JOSEPH K. ETTER, OF SANDBEACH, PENNSYLVANIA.

FENCE.

SPECIFICATION forming part of Letters Patent No. 554,441, dated February 11, 1896.

Application filed January 31, 1895. Serial No. 536,849. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH K. ETTER, a citizen of the United States, residing at Sandbeach, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Fence, of which the following is a specification.

The invention relates to improvements in fences, and has for its object to provide a wire fence possessing strength, durability, and stiffness, and in which the runners are securely held against vertical movement on the stays, and the latter are locked against movement longitudinally of the runners.

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 claim.

In the drawings, Figure 1 is a perspective view of a portion of a fence constructed in accordance with the invention. Fig. 2 is an enlarged detail perspective view illustrating the connection of one of the upper runners to a stay. Fig. 3 is a similar view showing the connection of one of the lower runners to a stay.

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

1 designates runners secured at their ends to an end post 3 provided with a series of stretching devices 3^a, consisting of screw-eyes passed through perforations in the post and engaged by nuts 4.

An inclined brace 5 is arranged between the end post 3 and an intermediate supporting-post 6, the ends of the inclined brace 5 being beveled and arranged in recesses of the posts 3 and 6, and a wire brace 7 inclined in the opposite direction to the brace 5 is provided at its upper end with a loop 8 to engage a perforation at the top of the post 6 and at its lower end with a similar loop 9 to engage a perforation in the end post. The inclined wire brace is provided with a central loop to receive the inclined brace 5 and may be twisted between the central and terminal loops to attain the desired tension.

The runners are connected at intervals by stays 10 of the "hair-pin" type, each constructed of a single blank of wire doubled to form legs 12, which are provided at intervals

corresponding with the intervals between the fence-wires with horizontal supporting shoulders or seats 13 and 14, and are secured to the fence-wires by ties 15 and 16. The shoulders 13 are formed in pairs at transversely-opposite points in the legs to occupy positions beneath the runners, and the shoulders 14, preferably located near the bottom of the fence, are formed in different horizontal planes in the two legs to occupy positions, respectively, above and below the plane of a runner.

The runners are secured in the seats formed by the bends 13 by means of tie-wires 15, each of which engages the legs of the stay above and below the plane of the runner and thus holds the runner in the angles formed by the bends. In the construction illustrated the tie 15 is arranged to form opposite loops 17, which engage the seats or shoulders, respectively, of the legs, and a connecting portion between said loops which crosses the horizontal plane of the runner to prevent displacement, said connecting portion being extended around the legs of the stay above the plane of the runner, as shown clearly in Fig. 2. The extremities of the tie-wire are coiled around the runner upon opposite sides of the stay.

The tie-wire 16 by which the runners are secured in the seats 14 of the stays is also provided with opposite loops engaging the offset portions or bends of the legs of the stay and a connecting portion between said loops, which crosses the horizontal plane of the runner, the extremities of the tie being coiled, as at 18, around the runner. Thus in both forms of the tie I employ oppositely-disposed loops which, respectively, engage the offset portions or bends of the legs of the stay and a connecting or intermediate portion between said loops which crosses the horizontal plane of the runner and thereby prevents displacement of the latter; but in the tie-wire 15 I have found it necessary to extend this portion around both legs of the stay above the plane of the runner, whereas this is unnecessary with the tie 16 by reason of the shoulders or bends 14 being arranged, respectively, above and below the plane of the runner.

It will be seen that in both forms of my invention the tie is connected to the legs of the stay both above and below the horizontal

plane of the runner, and hence crosses said horizontal plane.

At the top of the fence each stay is provided with a single angular bend and is secured to the top runner by a tie 19, substantially the same as the tie 16 and consisting of an S-shaped central portion. The single angular bend is arranged beneath the top wire, and the straight side of the stay at this point is located in rear of the top wire of the fence.

It will be seen that this fence is exceedingly simple and inexpensive in construction, that it is adapted to be quickly erected, and that the stays firmly support the runners and prevent any vertical movement thereof. It will also be seen that the tie-wires which embrace the runners and the sides of the stays securely hold the stays at the desired points on the runners.

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—

The combination with runners, of vertical hair-pin stays having their legs provided respectively with horizontal offsets or bends forming shoulders or seats in contact with the runners, and tie-wires for securing the runners in the angles formed by the offsets or bends, the same being connected to the legs of the stay above and below the horizontal plane of the runner, and having oppositely-extending loops respectively engaging the shoulders or seats at the opposite side of the runner from the angles in which the runner is fitted, and a connecting or intermediate portion between said loops which crosses the horizontal plane of the runner to prevent displacement of the latter, 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.

JOSEPH K. ETTER.

Witnesses:

A. M. KUHNS,
M. A. FARNSLER.