No. 616,970. Patented Jan. 3, 1899.

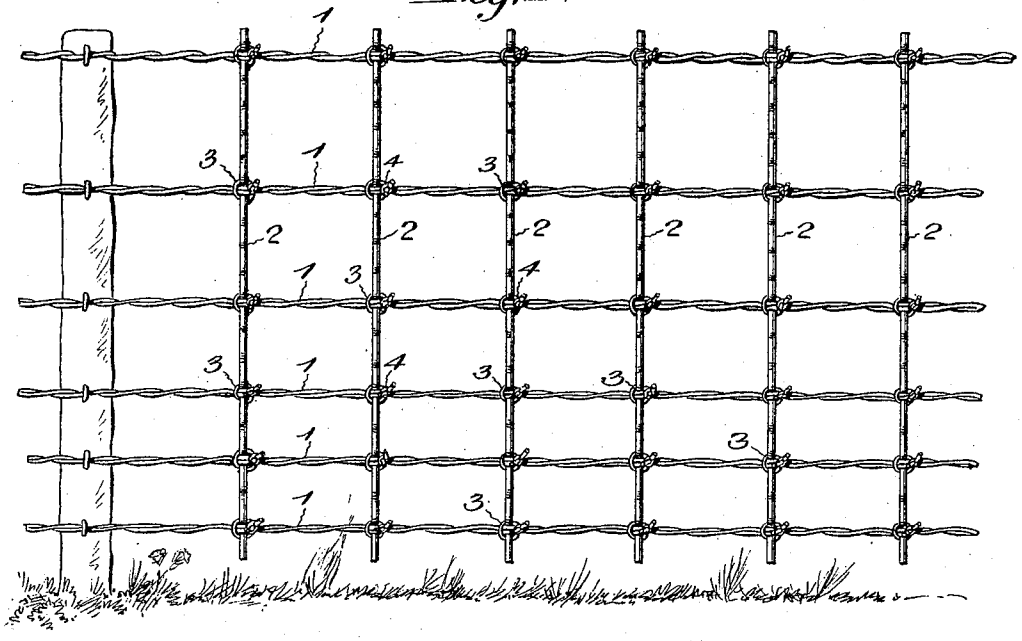
C. J. QUINN.

FENCE.

(Application filed Nov. 30, 1897.)

(No Model.)

Fig. 1.



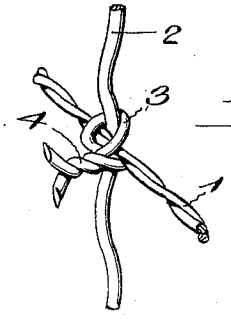


Fig. 2.

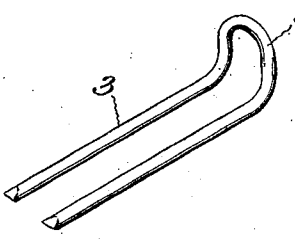


Fig. 4.

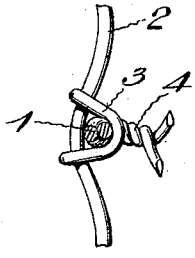


Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES J. QUINN, OF SCRANTON, IOWA.

FENCE.

SPECIFICATION forming part of Letters Patent No. 616,970, dated January 3, 1899.

Application filed November 30, 1897. Serial No. 660,253. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. QUINN, a citizen of the United States, residing at Scranton, in the county of Greene and State of Iowa, have invented a new and useful Fence, of which the following is a specification.

My invention relates to fences, and particularly to wire-fence construction wherein the runners are of smooth wire; and the object in view is to provide a fence composed of smooth-surfaced runners and stays wherein the ties which are employed to connect the runners and stays at their points of intersection constitute simple and efficient horizontally-projecting spurs or barbs to prevent stock from rubbing or leaning against the structure, and thereby breaking down or otherwise injuring the same.

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 view of a portion of a fence constructed in accordance with my invention. Fig. 2 is a detail view in perspective of one of the runner and stay sections, showing the tie in its operative position. Fig. 3 is a side view of the same, showing the runner in section. Fig. 4 is a detail view of one of the tie-loops prior to its application to a fence.

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

The runners 1, as illustrated in the drawings, are of the cable or plural-strand construction; but it will be understood that this feature is not indispensable, as an efficient fence can be constructed in accordance with my invention by the use of a single-strand runner. I have found in practice, however, that the plural-strand or twisted runners coöperate with the runner-connecting stays 2 to prevent displacement of the latter parallel with the runners, and as a means of preventing vertical displacement of the runners with relation to the stays, I have adopted a corrugated or crimped construction of stay, thus forming a plurality of seats through which the runners are adapted to extend, the crimps being sufficiently small to allow the runners to be arranged at any desired intervals.

The runners and stays are secured together at their points of intersection by a tie or lock 3, constructed of a looped wire, which, as shown in Fig. 4, has its looped extremity deflected, as at 3^a, to engage the runner at one side of the plane of the stay, while the arms or legs of the loop pass in rear of the stay above and below the runner, and hence engage the forwardly-inclined portions of the contiguous crimp of the stay above and below the seat in which the runner is fitted. The legs of the loop are then brought forward to the front side of the runner and are twisted together, as shown at 4, being cut off at the desired length to form a short projection or barb, which extends horizontally forward from the runner and in the plane thereof. The cut necessary to remove the surplus ends of the tie or lock is made subsequent to the intertwisting of the legs of the link and at a point slightly beyond the outer end of the twist, the portions of the legs which project beyond the twist being deflected or spread, as clearly shown in Figs. 2 and 3. The cut may be made by a single operation of the shears or cutting-tools, thus severing the legs of the loop at a bevel; but as the flat surfaces formed thereby are approximately in a vertical plane the sharp points or edges project, respectively, upwardly and downwardly. An important advantage of this barb and its arrangement is that while it serves to prevent stock from rubbing against the fence it is not sufficiently sharp to lacerate or otherwise injure the stock. In other words, the barbs have the effect of preventing the stock from leaning or rubbing against the runners or stays by prodding them sufficiently to make such an attempt uncomfortable without tearing the hide or otherwise inflicting an injury.

Furthermore, the peculiar construction of fence adapts it to be manufactured in continuous lengths suitable to be rolled for transportation or to be erected on the field by the use of ordinary tools, such as pliers or the equivalents thereof.

As above indicated, I preferably employ a crimped or corrugated construction of stay and I dispose the plural-strand runners in

the seats formed by the concave portions of the stays. The tie, which consists of a single blank of wire doubled upon itself at its center, is engaged at this looped central portion with the front of the runner at one side of the plane of the stay, and from this point the arms of the tie are extended rearwardly, cross the stay in contact with the convex surface of that crimp in which the runner is seated, thence extend forwardly to a point in front of the runner at the opposite side of the plane of the stay from said looped center of the tie, and are then twisted together to form the barbed construction above described. Thus the tie has two bearings upon the runner, and as the latter is of two-strand twisted construction the displacement of the stay parallel with the runner by reason of the sliding of the tie upon the runner is prevented. The roughened surface of the runner prevents such sliding movement. In the same way displacement of the stay vertically or in a direction transverse to the runner is prevented by the engagement at the two bearing-points of the tie with the convex side of the stay-seat respectively above and below the plane of the runner. Thus the points of bearing of the tie upon the stay are respectively above and below the point of greatest deflection of the seat or crimp in which the runner is arranged and displacement in either direction of the tie with relation to the stay is effectually prevented.

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—

In a fence, the combination of plural-strand runners, crimped or corrugated stays intersecting the runners, and having the runners seated, respectively, in the concave sides of the crimps, and ties engaging the runners and stays at their point of intersection, each tie consisting of a single blank of wire doubled upon itself at its center to form a loop which is engaged with the front side of a runner at one side of the vertical plane of the intersecting stay, the arms or sides of said tie being extended rearwardly, bearing against the rear or convex surface of the stay-crimp in which the runner is seated, respectively above and below the plane of the runner, and above and below the point of greatest deflection of the seat from the medial line of the stay, and said arms or sides of the tie thence extending forwardly, respectively above and below the plane of the runner, to a point in front of the latter, and being twisted together with the terminals thereof spread to form barbs, 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.

CHARLES J. QUINN.

Witnesses:
J. H. WRIGHT,
C. A. WILLETT.