S. H. & J. M. St. JOHN.

Barbed Fence-Wire.

No. 205,697. Patented July 2, 1878.

Fig. 1.

Fig. 2.

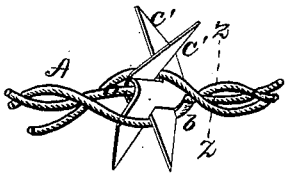


Fig. 3.

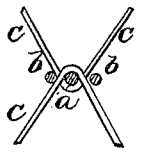
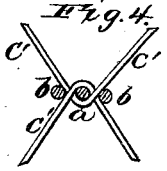
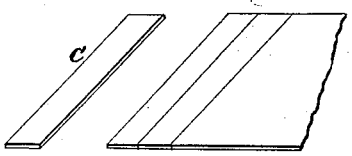
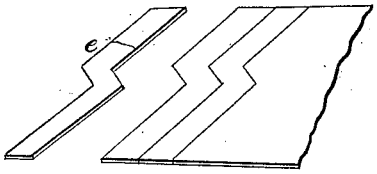


Fig. 4.







WITNESSES

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UNITED STATES PATENT OFFICE.

SPENCER H. ST. JOHN AND JUSTUS M. ST. JOHN, OF CEDAR RAPIDS, IOWA, ASSIGNORS TO J. S. McDANIEL, D. E. McDANIEL, AND S. H. ST. JOHN, OF SAME PLACE.

IMPROVEMENT IN BARBED FENCE-WIRES.

Specification forming part of Letters Patent No. **205,697**, dated July 2, 1878; application filed March 21, 1878.

To all whom it may concern:

Be it known that we, SPENCER H. ST. JOHN and JUSTUS M. ST. JOHN, both of the city of Cedar Rapids, Linn county, and State of Iowa, have invented certain new and useful Improvements in Barbed Wires for Fences, of which the following is a specification:

The object of our invention is to produce barbed wire which shall possess in the greatest degree the adantages of strength, elasticity, and beauty of appearance, with a perfect and secure retention of the barbs in place and at right angles to the wire, together with the merit of extreme cheapness in manufacture.

The invention consists of a fence-cable composed of three strands, provided with pointed barbs made from two pieces of metal, bent at or near the center to form a right angle, and fastened to the fence-wire by the central strand being interposed between the angles of opposite barbs, and the two outer strands pressing into the angles of intersection formed by the crossing of said barbs, as will be more particularly described hereinafter.

In the accompanying sheet of drawings, Figure 1 represents a section of the wire in perspective; Fig. 2, the same view of a modification of the barb; Fig. 3, a cross-section of Fig. 1, taken in the line *y z;* Fig. 4, a similar view of Fig. 2; Fig. 5, a plate of metal and barb, showing the manner of forming the same; and Fig. 6, the same with another style of barb-strip.

A represents the fence wire or cable composed of three strands. Across the central strand *a* are crotched the barb-pieces *c c c' c'*, as indicated in Figs. 3 and 4 more particularly. These pieces cross the central wire and pass each other from opposite directions. Being bent into, or nearly into, a right angle, when thus put upon the wire the prongs of the four-point barb so formed stand at a like angle to the fence-wire, with their points equidistant. To retain them in this position, the two outer strands *b b* are brought into the angle of intersection made by the crossing of the barb-pieces upon each other, and the whole is drawn tightly together by twisting the wires or otherwise. By this means a perfect lock is formed upon the barb, so that nothing short of the breaking of one of the strands at this point, or the bending into the form of a staple of each part of the barb, can release it from the clasp of the several wires and destroy its effectiveness.

The form of barb-strip indicated in Fig. 1 is a simple angular piece of thin metal, pointed at each end. Two of these are used, and are placed side by side, as shown in Fig. 1.

The style illustrated in Fig. 2 is so modified in form as to admit of the two parts crossing upon each other in two ways, making a complete union of the parts, so that neither can slip away from the other. The pieces are cut into the offset or zigzag outline of the one represented in Fig. 6. Thus formed, the respective parts interlock, the prong of one piece passing on one side and its companion prong on the other side of the respective prongs of the other part. The manner in which the pieces halve together is plainly seen by reference to Figs. 2 and 4. Made in this way, the space which the barb occupies is materially reduced, and any tendency to slip upon the wire is perfectly obviated by the closer approach of the twisted part of the same to the barb.

It will be apparent that the barb must stand at a right angle to the fence-wires, as the same are bent at this angle across the center, and this angle follows the direction of the central wire, which at this point is nearly or quite in direct line with the cable.

The benefit arising from this improvement is manifest over those cut metal barbs which are modified in the direction of their projection by the sinuosities of a two-strand wire, or wire barbs which follow a natural slant in winding around the main wire, both of which are less effective and more subject to be bent by stock with impunity than a direct outwardly-extending barb.

The increased strength of a three-strand wire over a single or double one is understood from the natural tendency of iron or steel to increase in strength in disproportion to its size, so that while the weight of the three strands may be the same, its strength is greater than that of a less number of larger wire.

By means of the opening made at the inser-

tion of the barb a certain amount of elasticity is imparted to the cable, which accommodates it to the contrary influences of heat and cold.

In other barbs cut from thin metal there is more or less attendant waste; but it will be seen that in the manufacture of this barb there is little or no loss. This advantage, in connection with the fact that no expensive appliance is necessary to fasten the barb to the wire or wires, renders the cost of construction much less than in the case of many of the barbed wires now in use.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

Fence-wire having barbs composed of two angled pieces crotched over a central wire from opposite sides, and held in place by other wires pressing into the angle of the barbs' intersection, substantially in the manner and for the purpose set forth.

In testimony that we claim the foregoing as our own, witness our hands this 14th day of March, A. D. 1878.

SPENCER H. ST. JOHN.
JUSTUS M. ST. JOHN.

Attest:
R. H. GILMORE,
W. A. YOUNG.