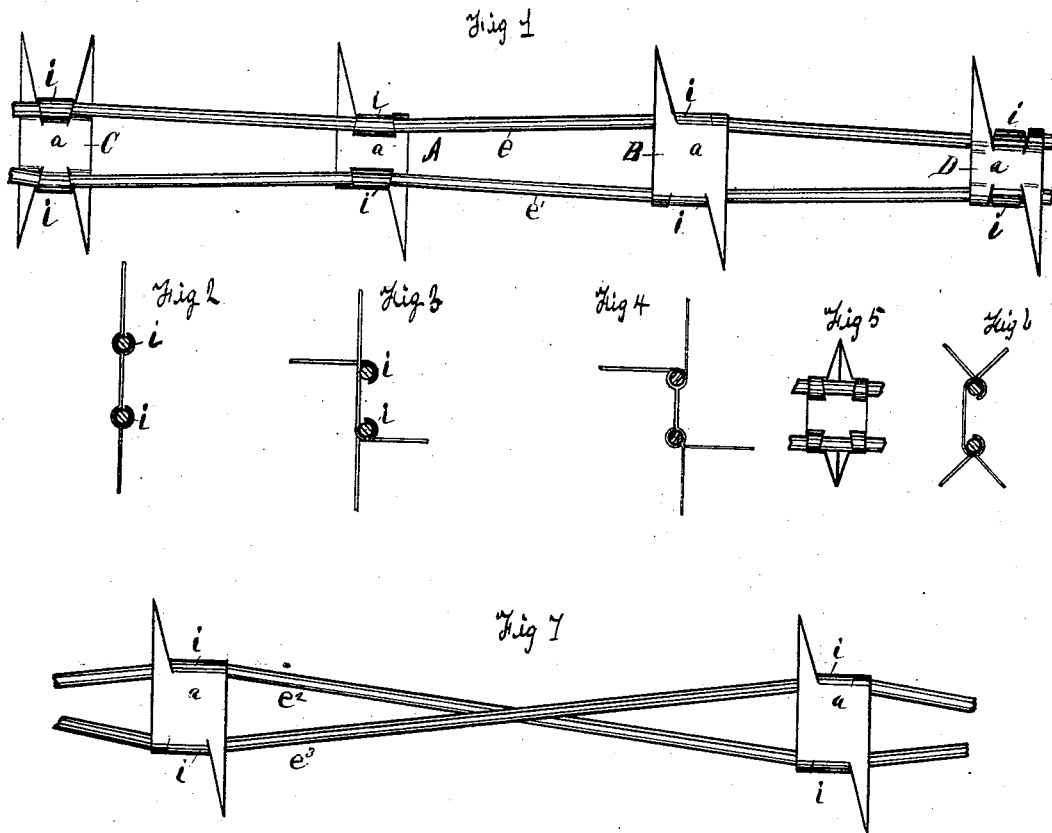


(No. Model.)

G. ELSEY.  
BARBED FENCING.

No. 261,212.

Patented July 18, 1882.



Witnesses  
D. S. Loomis  
W. B. Hill

Inventor  
George Elsey  
By Allen Webster atty.

# UNITED STATES PATENT OFFICE.

GEORGE ELSEY, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO ISADORE A. UPHAM, OF SAME PLACE.

## BARBED FENCING.

SPECIFICATION forming part of Letters Patent No. 261,212, dated July 18, 1882.

Application filed March 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE ELSEY, of Springfield, in the county of Hampden and State of Massachusetts, have made new and useful Improvements in Barbed Fencing, of which the following is a specification, reference being had to the accompanying drawings and letters of reference marked thereon.

The fencing material heretofore made is defective, for the reasons that where the strands are twisted or braided together the fiber is liable to become injured in the manufacture, and the strands must necessarily lie near each other, thus presenting but a small surface to the sight, and a material of such construction will retain moisture for a great length of time, thus greatly increasing the danger of destruction from corrosion, and a greater amount of material is required for a given length of finished fencing than if the main wires were not twisted or braided. In the construction where the main wires lie parallel with each other they are very liable to be broken by contraction in cold weather and to sag by reason of expansion in warm weather; and another very objectionable feature in this is that the barbs do not remain firmly in place, but are easily moved on the strands, and the fencing material heretofore made, having main wires not twisted or braided together, but being at varying distances from each other, are defective, for the reasons that it is not in strands, so that it may be attached to ordinary posts, but it is either made as a whole fence at the place of manufacture or must be built up, wherever used, from separate parts, it being all united together and not consisting of a series of independent strands, thus rendering it more complicated to build, more expensive, and less effective.

The object of my invention is to construct a fencing strand or material whereby the above-mentioned objectionable features are overcome, and I accomplish this object by the construction herein shown.

My invention consists in so constructing a fencing-strand that the main wires of the strand are at varying distances from each other, thereby avoiding breakage by reason of

contraction, and sagging by reason of expansion, and preventing lateral movement of the connecting-piece or barb upon the strands.

My invention further consists in the novel construction and arrangement of the parts, as herein set out, whereby the objects of my invention are attained.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a side view of my fencing-strand. Fig. 2 is an edge view of the piece marked C. Fig. 3 is an edge view of the piece marked A. Fig. 4 is an edge view of the piece marked D, the wires in each of the last three figures being shown in section. Fig. 5 is a side, and Fig. 6 an edge, view of a modification of the connecting barbed piece; and Fig. 7 is a side view of one modification of my invention.

I deem it best to arrange the main wires as shown in the drawings in Fig. 1. Any convenient form of barb or other device may be used to connect the main wires, the construction being such that these wires will be at varying distances from each other without being braided or twisted together. I prefer to use the connecting barbed piece A, each alternate one of which has a greater distance between the points which come in contact with the main wires than the ones next to it; or, in other words, if one-half the connecting-pieces hold the main wires three-fourths of an inch apart I place other connecting-pieces between the first, which will draw the main wires nearer each other and hold them at a less distance than three-fourths of an inch apart, thus causing the main wires to approach and separate, as shown in Fig. 1.

I show one modification of my invention in Fig. 7. In this the connecting-pieces are of equal length and the varying of the distances apart of the main wires is caused by crossing them.

The barbs may be made a part of or connected with the connecting-pieces, or may be attached to the main wires in any convenient manner. I prefer to construct the connecting-pieces and barbs of sheet metal and attach them by wrapping the central part, *i.*, around the main wires. This may be wrapped in

either direction—*i. e.*, in the manner shown at A and B in Fig. 1, or as shown at C and D in the same figure. These pieces having a comparatively large surface, *a*, render the fencing very much more sightly than if narrow connecting-pieces were used.

The barbs may all project in the same plane, or a portion may be bent at right angles, as shown in Figs. 3 and 4, or they may stand at any desired angle.

I show in Figs. 5 and 6 a modification of the connecting barbed piece. In this the parts that wrap around the main wires are at each outer corner and the barbs project from the central portion.

I am aware that a wire fencing material having "tablets" (so called) to render the same more sightly has heretofore been made, but it was without barbs and the strands were twisted tightly together, except at the points where the tablets were inserted. In such construction no provision is made for expansion and contraction, which is of the essence of my invention.

It will be seen that in my method of manufacture the connecting-pieces are held firmly in place and all lateral movement effectually prevented, and that in the manufacture the main wires will not be bent sharply at or near the connecting-pieces to run in straight lines from point to point, but that the bending or springing will in a measure extend throughout the whole extent of the wires, thus giving an elastic fencing material which will, if it be secured to the posts under strain, take up all slack that will occur by reason of expansion, and thus prevent sagging. When the main wires contract the tendency is to draw them in straight lines between the points of connection with the connecting-pieces, and if there is not a sufficient amount of slack thus provided to compensate for the contraction, then the connecting-pieces which strain the strands apart will spring or bend before the strand will break, thus entirely overcoming the danger of breakage from contraction.

It will be seen that I thus construct an independent strand of fencing material consisting of two main wires held at varying distances from each other without being twisted or braided, which strand possesses all the advantages in economy of material, on which strand the barbs or connecting-pieces are held firmly in place, and in which the objections from expansion and contraction are overcome, and with which a fence may be made in the ordinary manner by simply fastening the desired number of strands to the ordinary posts.

I am aware that a wire fence has heretofore been made in which the main wires alternately approached and separated; but this fence is made as a whole, and not in independent strands, and if one of the main wires or connecting-pieces become broken the main wires are all

affected and made slack to a degree, while with my construction only the accompanying wire is affected; and, again, the other fence is difficult to make and cannot be shipped in parts, unless all the parts be separated, and I do not claim such construction.

I am also aware that a fencing material has been made in which the wires crossed each other; but with that the same objection is found as with the fence last-above described. It is not made and cannot be used in independent strands.

I am also aware that a fencing-strand has heretofore been made in which the wires, not being twisted with each other, vary in distance of separation; but in these the connecting-pieces are attached at points where the wires are parallel. Hence there is nothing in the position of the wires to prevent the objectionable slipping of the connecting-pieces upon them. The same objection, therefore, exists against that construction as is found against a strand having its main wires parallel throughout, so far as lateral movement of the connecting-pieces is concerned.

I am also aware of United States Letters Patent No. 221,300, dated November 4, 1879, and I claim nothing shown therein.

Having therefore described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A strand of fencing material consisting of two main wires (not being twisted together) held at varying distances from each other by connecting-pieces attached to the main wires at the points where the main wires are nearest to and farthest from each other, substantially as shown.

2. A strand of barbed fencing material consisting of the combination of two main wires, bent as shown, whereby they alternately approach and separate, (being neither twisted nor braided with each other,) with barbed connecting-pieces which are fastened to the main wires, as shown, at the places where the main wires are nearest to and farthest from each other, whereby the relative position of the main wires is maintained and movement of the barbed pieces on the main wires is prevented, substantially as shown.

3. The combination of wires *e* and *e'* at varying distances from each other, as shown, with connecting-pieces of unequal length between the points of contact with the wire, and provided with one or more barbs and having broad intermediate surfaces, substantially as shown, and for the purposes stated.

In witness whereof I hereunto set my hand in the presence of two witnesses.

GEORGE ELSEY.

Witnesses:

ANDREW J. UPHAM,  
ALLEN WEBSTER.