Nov. 24, 1953 A. E. BRICKMAN 2,660,406

BARBED WIRE STRUCTURE

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Fig. 1.

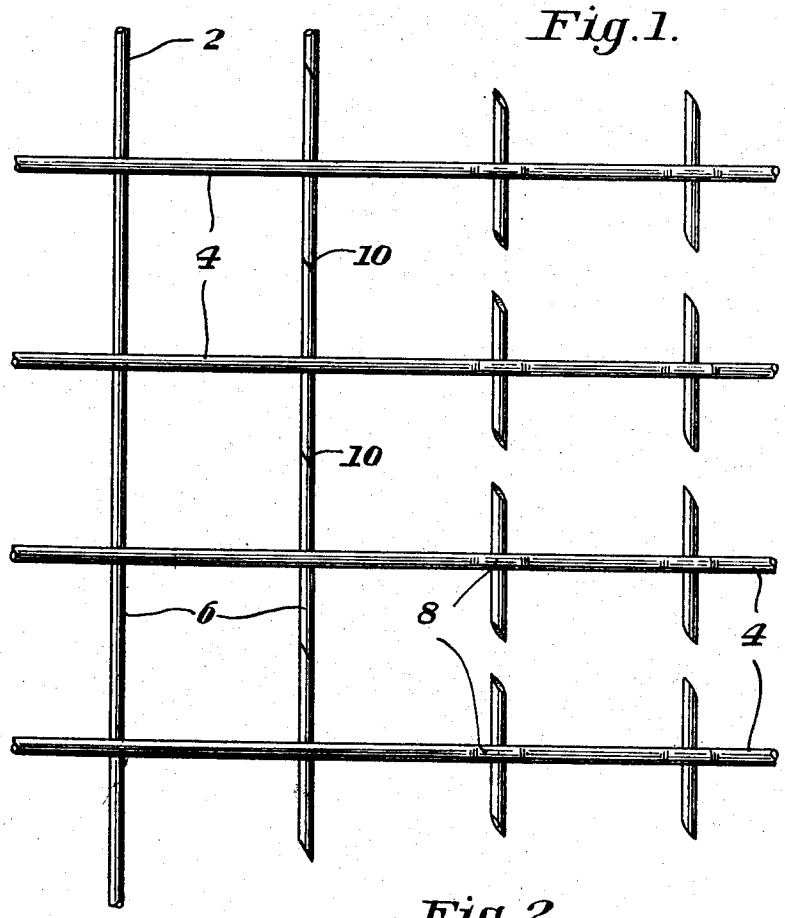

Fig. 2.

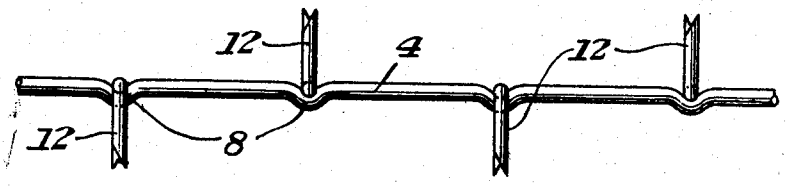

Fig. 3.

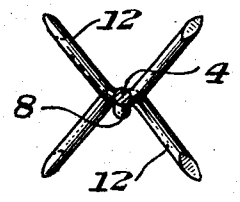

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Fig. 4.

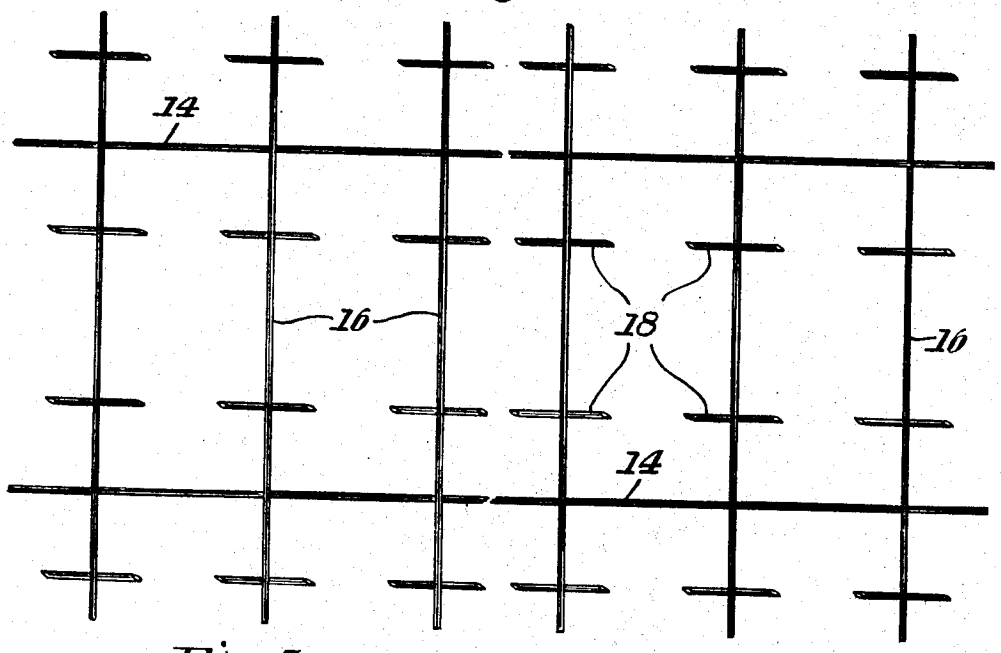

Fig. 5.

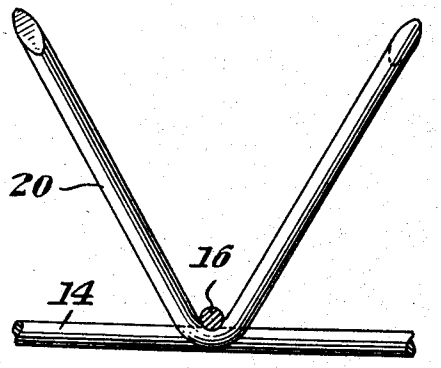

Fig. 6.

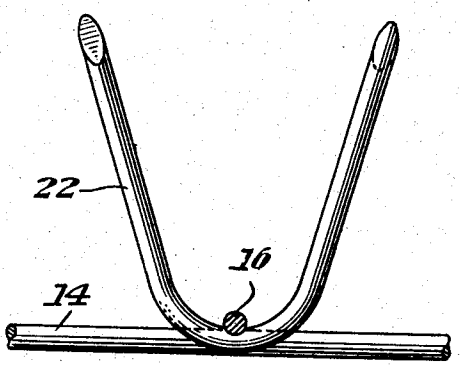

Fig. 7.

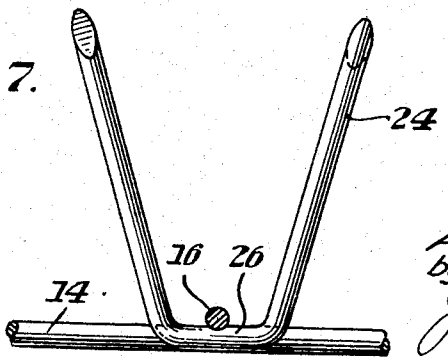

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Fig. 8.

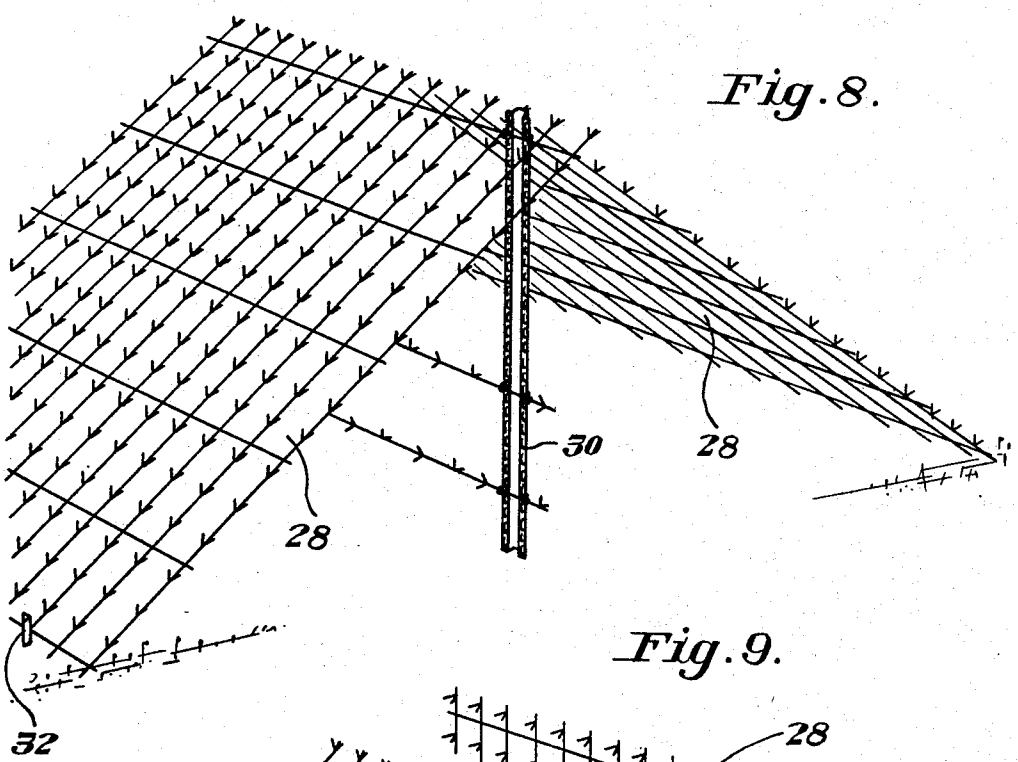

Fig. 9.

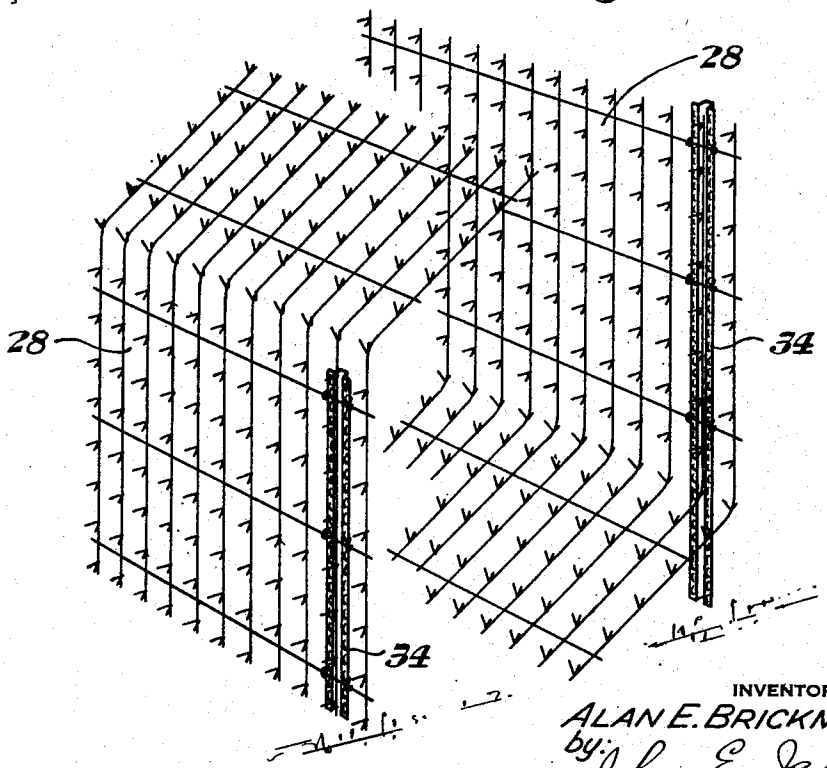

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Fig. 10.

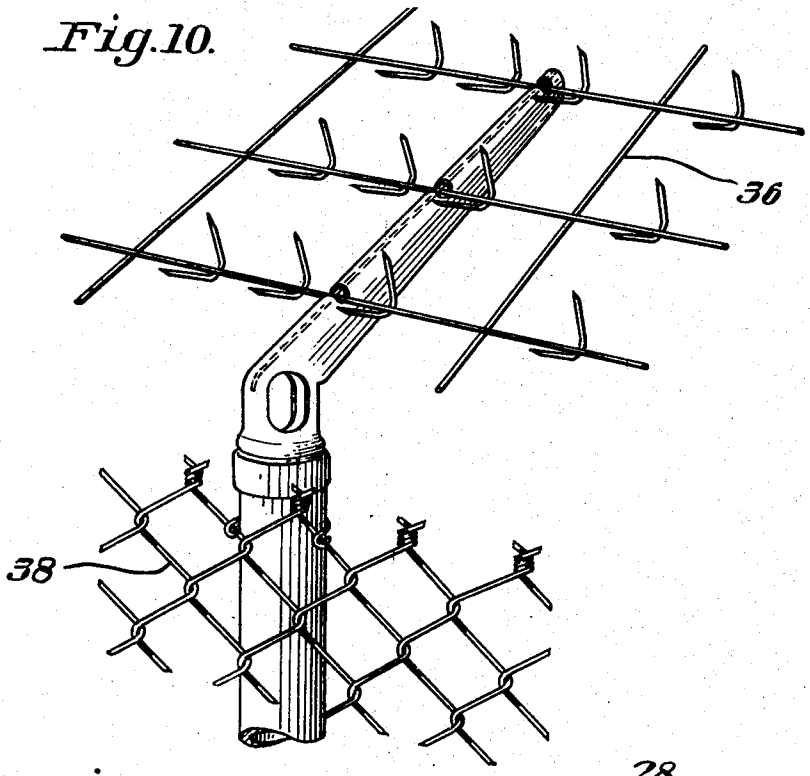
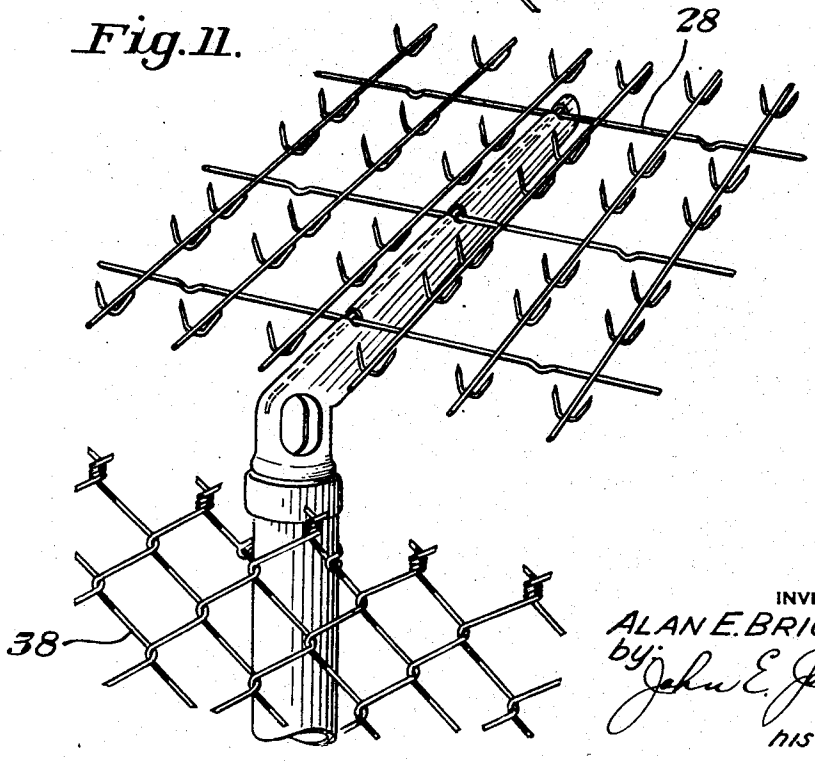


Fig. 11.



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BARBED WIRE STRUCTURE

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Fig. 13.

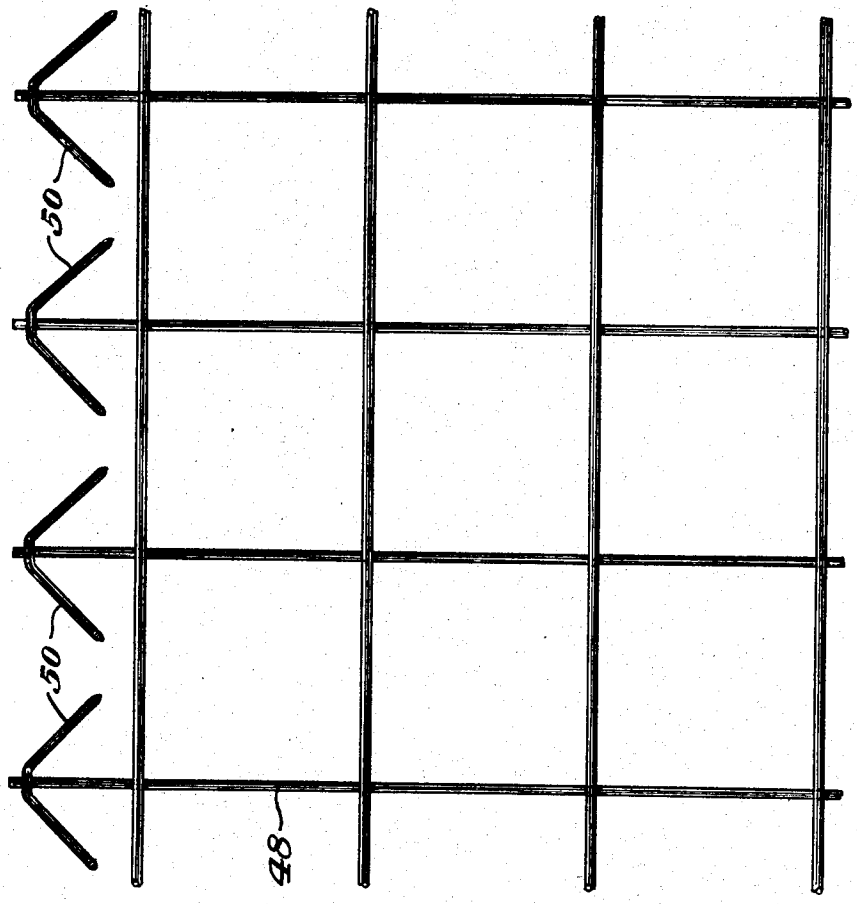
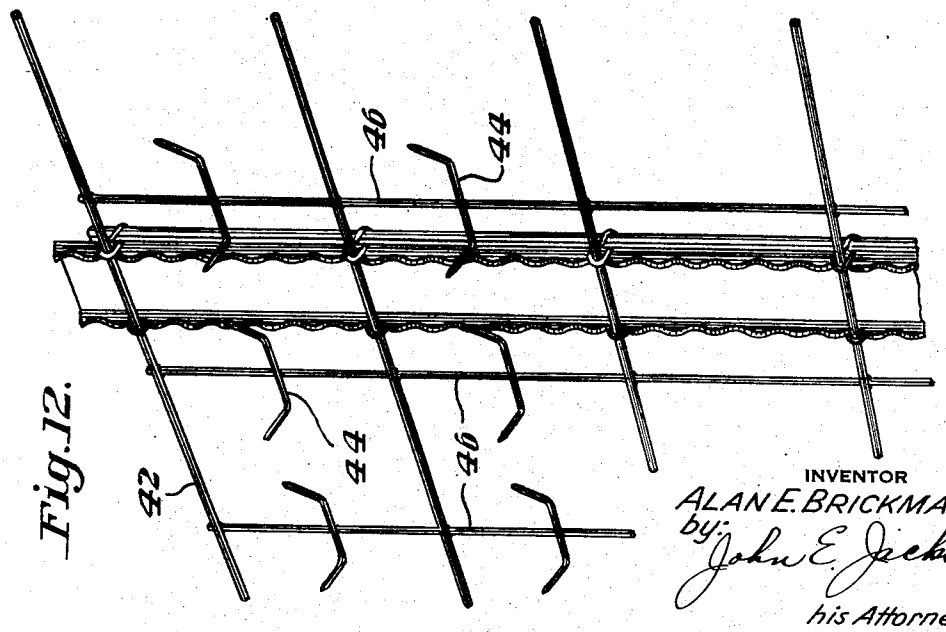


Fig. 12.



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Patented Nov. 24, 1953

2,660,406

UNITED STATES PATENT OFFICE

2,660,406

BARBED WIRE STRUCTURE

Alan E. Brickman, Worcester, Mass., assignor to United States Steel Corporation, a corporation of New Jersey

Original applications June 3, 1943, Serial No. 489,514, and May 26, 1945, Serial No. 595,945. Divided and this application June 5, 1950, Serial No. 166,197

3 Claims. (Cl. 256—5)

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This invention relates to barbed wire structures and is a division of my original application, Serial No. 489,514, filed June 3, 1943, now Patent No. 2,392,223, dated January 1, 1946, and of my copending application, Serial No. 595,945, filed May 26, 1945, now abandoned. Barbed wire is used as obstacles against the passage of men or beasts. At present a large amount of barbed wire is used in making barb wire entanglements to prevent the passage of foot troops. The standard wire used is the common two-wire type No. 12, A. S. & W. gage with four-point barbs spaced approximately 4 inches apart. This wire is shipped to the front on reels weighing 50 to 100 pounds where the barbed wire entanglements are constructed from a multiple of barbed wire strands which in most instances are arranged in parallel rows. If one or two of the bottom wires are cut, the enemy can pass through the entanglement.

It is an object of this invention to provide a barbed wire mat which may be used in place of a plurality of strands of barbed wire.

This and other objects will be more apparent after referring to the following specification and attached drawings, in which:

Figure 1 shows a welded wire fabric from which the barbed wire mat is made;

Figure 2 shows a completed barbed wire strand of the present invention;

Figure 3 is an end view of the barbed wire strand of Figure 2;

Figure 4 is a view of the barbed wire mat of the present invention;

Figure 5 shows one form of barb used in the present invention;

Figures 6 and 7 disclose modifications of the barb;

Figures 8 and 9 show the use of the mat in building obstacle fences;

Figures 10 to 13, inclusive, show various modifications and adaptations of the barbed wire mat.

Referring more particularly to the drawings, the reference numeral 2 indicates a welded wire fabric from which the barbed wire structure of the present invention can be made. The welded wire fabric 2 consists of a plurality of longitudinal strands or wires 4 to which are welded a plurality of cross wires 6. The longitudinal wires 4 have tension crimps 8 for maintaining the barbed wire taut under conditions of contraction or expansion. If desired, these tension crimps may be dispensed with.

A barbed wire is made as follows:

A welded wire fabric 2, of the desired weight having the spacing of the cross wires the same

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as the desired spacing of the barbs, is provided. The cross wires are cut on a bias as shown at 10 in Figure 1 and the cut wires are bent to form a substantially V-shaped barb 12. Each cross wire is bent in a direction opposite to that of the wires adjacent thereto as clearly shown in Figures 2 and 3.

In making a barbed wire mat, such as shown in Figure 4, substantially the same method is followed. Part of the longitudinal wires 14 are cut on a bias and bent into barbs 18 which extend from the mat in one direction. The completed mat consists of a plurality of longitudinal wires 14 and a plurality of cross wires or pickets 16 to which barbs 18 are fastened. This mat may be used in fields and roads to puncture pneumatic tires of enemy planes or land vehicles.

The barbs may assume various shapes. As shown in Figure 5, the barb 20 is bent on a sharp radius around the cross wire 16. The barb 22 of Figure 6 is bent around the wire 16 on a larger radius and extends upwardly at a sharper angle than the barb 20. The barb 24 of Figure 7 has a flat portion 26 and extends upwardly at substantially the same angle as barb 22.

Figure 8 shows how the mats are utilized to make a double apron fence. A mat 28 with the barbs facing upwardly is laid against one side of a standard fence post 30 and a second mat 28 is laid against the post 30 from the other side. The bottom of the mats 28 are anchored by means of pegs 32.

Figure 9 discloses the use of the mats in a moat fence. In making a moat fence U-type line posts 34 are arranged in parallel rows. On the row of posts nearest the enemy, a mat 28 is fastened so that it extends for some distance above the top of the posts. The mat is then bent back in a direction away from the enemy at an angle of about 45°. A second mat 28 is fastened to the other row of posts with its top approximately on a level with the top of the posts and the bottom of the mat is bent toward the first row of posts at an angle of about 45°. Both mats have their barbs extending toward the enemy.

Figure 10 shows a mat 36 used as an overhang on a fence 38. This mat differs from the previous mat in having the barbs welded to the longitudinal strands. Figure 11 is similar to Figure 10, but discloses a mat 28 having the barbs welded to the cross wires.

Figure 12 discloses a special type of mat 42 which has two lines of barbs 44 fastened to the top of the cross wires or pickets 46. This par-

ticular type of mat is used as a fence and the two lines of barbs 44 prevent cattle from leaning against the top strands of the fence.

Figure 13 discloses a mat 48 which may be used as a fence or as part of a trap. The top strand is cut and bent downwardly to form the barbs 50 which discourage climbing or any form of top wire loading.

While various modifications of the invention have been shown and described, it will be apparent that other modifications may be made without departing from the scope of the attached claims.

I claim:

1. A welded wire fabric having one substantially flat side comprising a plurality of cross wires welded on top of a plurality of longitudinal wires to form a unitary mat, some of said longitudinal wires being cut on a bias and bent outwardly from the plane of the fabric to form barbs, all of said barbs extending outwardly in one direction from the fabric on the side opposite the longitudinal wires.

2. A wire fabric having one substantially flat side comprising a plurality of spaced apart wires, a plurality of spaced apart wires arranged transversely of the first named wires and extending therebetween, said second named wires resting on said first named wires, welds connecting said first named wires to said second named wires at the intersections between said wires, substantially V-shaped barbs each consisting of a single wire, each of said barbs passing around one of said second named wires at its apex, a weld connecting the apex of each of said barbs to the second named wires between the first named wires, all of said barbs extending outwardly from the fabric on the side thereof opposite said first named wires substantially normal to a plane through the axes of said first named wires.

3. A wire fabric according to claim 2 in which the barbs are arranged in rows parallel to the first named wires and the total length of the wires forming the barbs in each row is substantially equal to the length of each of said first named wires.

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