

Feb. 9, 1943.

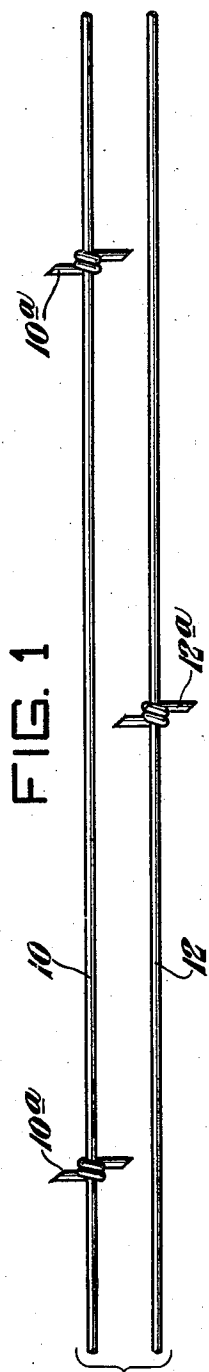
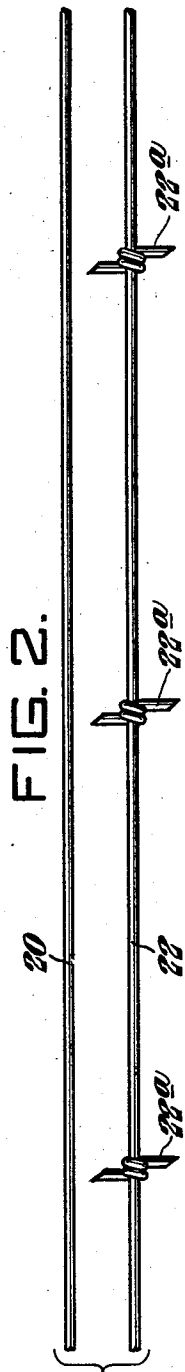
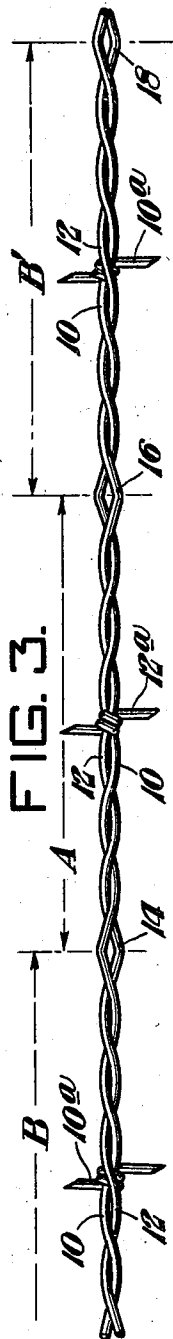
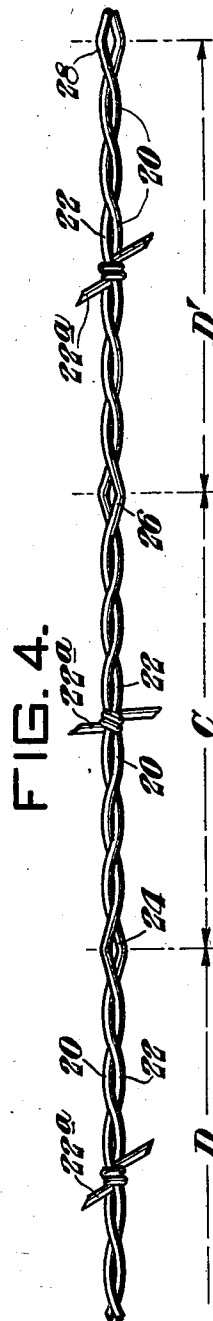
H. A. NELSON

2,310,668

REVERSE TWIST BARBWIRE

Original Filed June 16, 1939

2 Sheets-Sheet 1



Inventor:
HENRY A. NELSON,
by: *John E. Jackson*
his Attorney.

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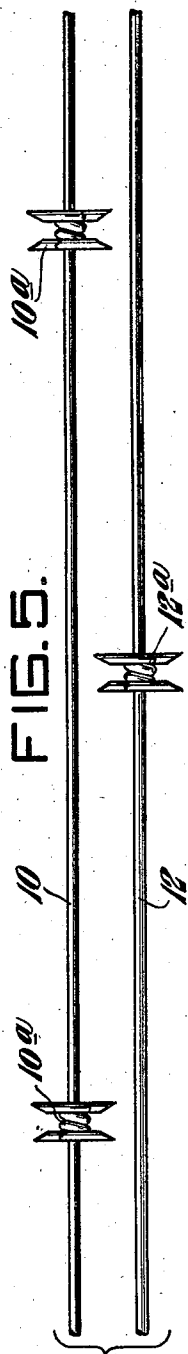
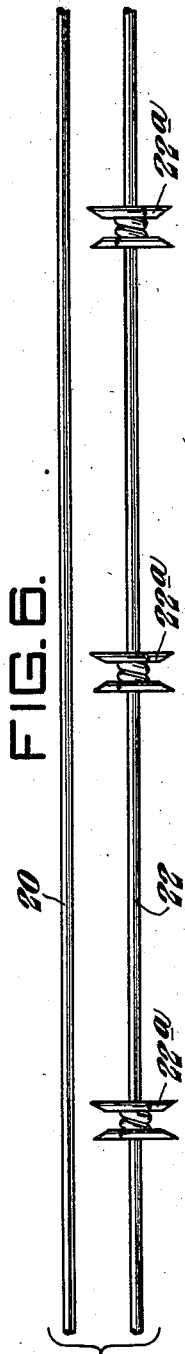
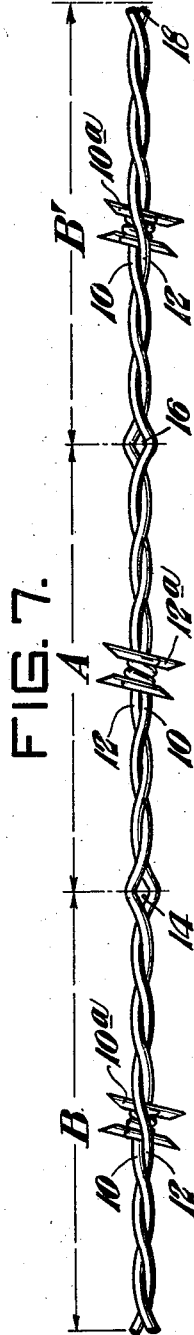
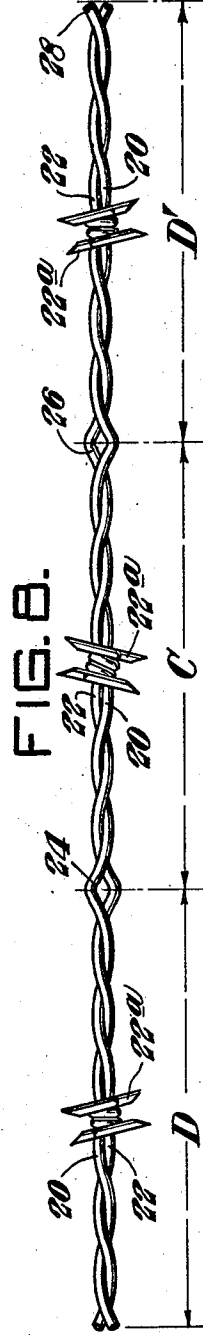
H. A. NELSON

2,310,668

REVERSE TWIST BARBWIRE

Original Filed June 16, 1939

2 Sheets-Sheet 2



Inventor:
HENRY A. NELSON,
by: *John E. Jackson*
his Attorney

UNITED STATES PATENT OFFICE

2,310,668

REVERSE TWIST BARBWIRE

Henry A. Nelson, De Kalb, Ill.

Original application June 16, 1939, Serial No. 279,545. Divided and this application March 21, 1940, Serial No. 325,251

2 Claims. (Cl. 256-6)

This invention relates to an improved type of barbwire and is a division of my prior application, Serial No. 279,545, filed June 16, 1939, which issued as Patent No. 2,254,238, September 2, 1941.

The invention aims to provide barbwire comprising a plurality of twisted strands having portions reversely twisted, whereby the tendency of certain portions to turn is counteracted by other portions. Thus the new barbwire may be said to be balanced, due to the novel structural arrangement whereby predetermined twisted sections of wire tend to negative the twisting tendency of other predetermined sections.

The above and further features of the invention will be fully apparent from the following disclosure and the appended claims, when read in connection with the accompanying drawings in which:

Figure 1 is a view showing two elemental strands of the product before twisting, both strands being provided with barbs of two prongs.

Figure 2 is a view similar to Figure 1 wherein only one of the strands is provided with barbs of two prongs.

Figure 3 is a side elevation of a length of finished barbwire made in accordance with my novel method of twisting together the strands shown in Figure 1.

Figure 4 is a view similar to Figure 3 showing the novel barbwire made according to my invention by twisting together the strands of Figure 2.

Figures 5 to 8, inclusive, illustrate modifications.

Referring first to Figures 1 and 3 of the accompanying drawings, in accordance with the novel method described in my prior application above identified I provide a plurality of elemental strands 10 and 12 to which are secured barbs 10^a and 12^a. These barbs are secured to the strands by any conventional form of twisting head in much the same manner as barbs are secured in the manufacture of conventional types of barbwire. However, the spacing between the barbs 10^a on the strand 10 and the barbs 12^a on the strand 12 is substantially uniform, with the barbs on one strand staggered with respect to the barbs on the other strand. Preferably, although not necessarily, the barbs on one strand will be located about midway between those on the other strand.

After the respective barbs have been secured to the strands 10 and 12 in staggered relation, two predetermined lengths of the strands are subjected to twisting operations performed in a

novel manner which constitutes an important characteristic of the method claimed in the aforesaid application and which results in the production of the improved product herein claimed.

The method disclosed in my prior application consists in twisting predetermined portions or sections of the strands in opposite directions so that the tendency of one predetermined portion of the twisted product is counteracted or negated by the tendency of another predetermined portion of the twisted product to turn in the opposite direction. This results in the formation of what might be termed a balanced product; inasmuch as the tendency for certain portions of the barbwire to turn in one direction is balanced by the tendency of another portion to turn in a contrary direction, the two opposed tendencies thus balancing and resulting in the product which might be termed a balanced or "dead lay" product. This reverse twist of different predetermined lengths of wire will be apparent from examination of Figure 3, wherein the middle section of the completed barbwire, as indicated by the predetermined length A, is so twisted that the strands have a right-hand lay, while the sections marked B and B¹ are so twisted that the strands have a left-hand lay.

Such reverse twisting of adjacent predetermined sections of barbwire may be readily accomplished by arranging the strands close together in substantially parallel relation and then gripping the parallel strands at spaced intervals, such as indicated at 14 and 16 in Figure 3, and applying reverse rotary motions to the respective gripping element employed.

For example, if the element gripping at the point 14 is rotated clockwise, as viewed from the right in Figure 3, and the element gripping at the point 16 is rotated counterclockwise, the predetermined section A will have imparted thereto the right-hand lay described, while the sections B and B¹ will have left-hand lay imparted thereto, it being understood that the same procedure will be followed with many such predetermined lengths.

Such method of manufacture may be carried out by the utilization of any suitable mechanism capable of imparting the reverse twist to adjacent predetermined lengths of the product. While in Figure 3 I have illustrated one barb centrally of each predetermined section of the given twist or lay, it is apparent that more than one barb can be applied to each such predetermined length, or barbs could be omitted from certain predetermined lengths; also, the barbs

could be located at the points 14 and 16 where the grippers exert the twisting action.

In general, it is considered preferable to employ a plurality of strands, each carrying barbs arranged in staggered relation and to exert the respective twisting actions between barbs in opposite directions. By employing two separate strands, each with barbs arranged in staggered relation for a given length of longitudinal travel of the strands, the separate twisting heads which apply the barbs can be operated at the maximum high speed, and, because a separate twisting head is effective to apply barbs to each strand, it follows that a much faster rate of production can be maintained than would be the case if the barbs were applied to only one of the strands, as indicated in Figure 2.

It is also contemplated that the method may be practiced by using three or more parallel strands, each with respective barbs arranged in suitable staggered relation.

In carrying out the method with the use of one plain strand 20, which is devoid of barbs, as shown in Figure 2, and another strand 22 which carries all the barbs 22^a, the parallel strands may be gripped at points 24, 26 and 28 illustrated in Figure 4, and then twisted in opposite directions at such points. This will result in the production of barbwire such as shown in Figure 4, wherein the lay or twist of the strands in section C of a predetermined length will have a right-hand lay, and the lay or twist in the sections D and D¹ will be left-hand.

In Figures 5 to 8, inclusive, an alternative embodiment of the invention is illustrated. Figure 5 shows two elemental strands of the product prior to twisting, both strands being pro-

vided with barbs of four prongs. As illustrated in Figure 6, which is a view similar to Figure 5, only one of the strands is provided with four prongs. In Figure 7 is shown, in side elevation, a length of finished barbwire made in accordance with my novel method of twisting together strands shown in Figure 5. Figure 8 similarly illustrates the novel barbwire made in accordance with my invention by twisting together the strands of Figure 6. Thus it is apparent that the same method described in connection with Figures 1 to 4, inclusive, is applicable to produce barbwire with more than two prongs, for example, wire with four prongs, as illustrated by Figures 5 to 8, inclusive.

While I have described definite relationships of the component parts of the two embodiments of the invention illustrated, it is to be understood that I am not limited thereto, and the drawings and detail description are to be interpreted in an illustrative rather than a limiting sense.

I claim:

1. Barbwire comprising a plurality of strands, some of which carry barbs, the strands being reversely twisted midway between adjacent barbs whereby the tendency of the barbs to turn relatively to one another is negated by the reversely twisted portions.

2. Barbwire comprising a pair of intertwisted strands having respective barbs attached thereto in staggered relation, the strands being reversely twisted midway between adjacent barbs whereby the tendency of the barbs to turn relatively to one another is negated by the reversely twisted portions.

HENRY A. NELSON.