Jan. 3, 1928. 1,654,837

O. SCHMID

METHOD OF MANUFACTURING BARBED WIRE

Filed May 12. 1924

Fig. 1.



Fig. 2.

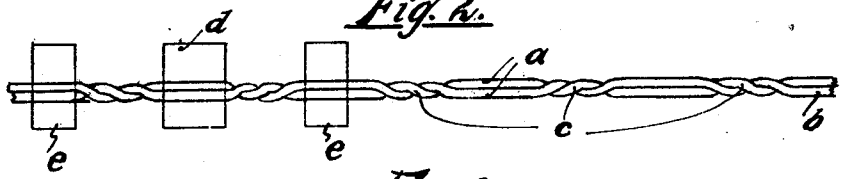


Fig. 3.

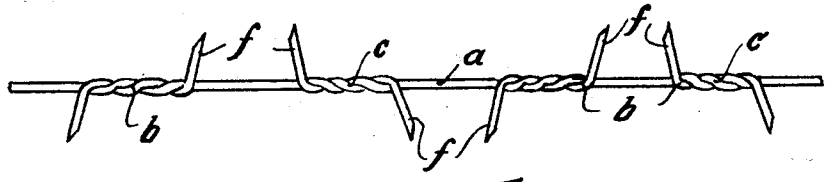


Fig. 4.

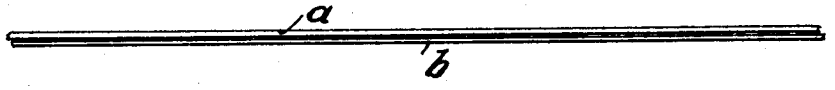


Fig. 5.

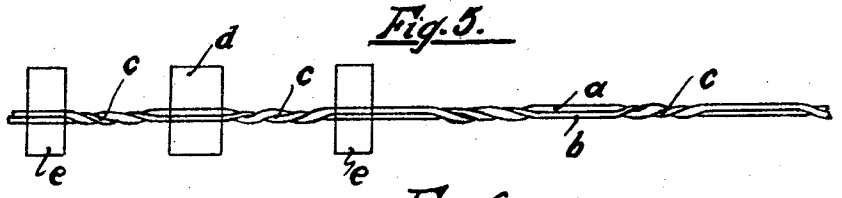
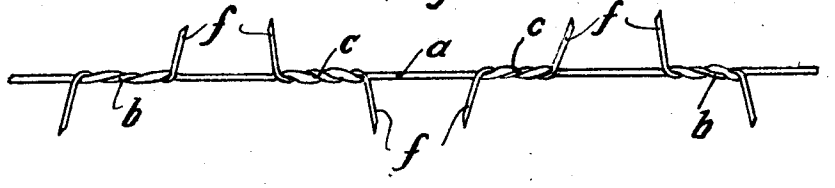


Fig. 6.



Inventor
O. Schmid
by Langner, Parry, Card & Langner
Attys.

Patented Jan. 3, 1928. 1,654,837

UNITED STATES PATENT OFFICE.

OTTO SCHMID, OF REUTLINGEN, GERMANY.

METHOD OF MANUFACTURING BARBED WIRE.

Application filed May 12, 1924, Serial No. 712,817, and in Germany November 1, 1923.

The present invention relates to a method of manufacturing barbed wire of the kind in which the barbs are formed by the ends of a section of wire that is twisted along with the through tension wire. Up to the present the two wires have been twisted in the same direction throughout, a method which complicates the manufacture by machinery inasmuch as during the twisting operation, the entire feed spool of wire has to be rotated with the wire winch.

The advantage of twisting the wires in opposite directions is that two twisted portions are continuously and simultaneously produced and thus also two pairs of barbs. That is, double the output is obtained in a unit of time, since only one pair of barbs is produced when the twisting is always in the same direction. Thus the efficiency is doubled.

A further advantage is that the wire to be worked can be taken directly from the feed spool, as this can remain stationary. If, for example, the wire be always twisted in the same direction, the barbed wire, after each twisting, must always be turned back, as otherwise the feed wires become more and more entangled; or else the entire feed spool has to be turned at each twisting, which, in view of its great weight and the short and numerous operative periods, cannot be practically accomplished. For such an operation, the machine would have to be made very heavy and would soon need repair and attention. Moreover, such operation is quite impractical, as the heavy spools of wire could scarcely be set in motion before the operation of twisting would be terminated, and the heavy wire spools then stopped and held before they could again be set in motion. The necessary rapid movements of the heavy spools could not be effected, due to the spools large inertia.

The old method is thus impractical and industrially inoperative. On winding or twisting in the same direction the wire would have to be wound off and on the spool, and then on twisting, the spools would have to be rotated about the axis of the barb wire. This winding on the spool, which is obviated by the present invention is costly in both time and money, labor and apparatus. This is eliminated by the present invention, as operation is carried on directly from the spool which remains stationary. About 200 meters at most are wound on a spool, and the operation is very rapid, as the 200 meters are used up in a short time, and larger spools cannot be used on account of too great weight.

The barbed wire of the present invention has barbs which are twisted to the right and left alternately. According to the invention this enables two successive (sectional lengths) of wire to be twisted simultaneously and in such a way that the wire winch remains at rest. The manner of carrying out the method consists in feeding the wire a distance equal to two twist sections at a time. The usual clamping tools are situated to the right and left of the two sectional lengths of wire that are to be twisted, whilst the twisting tool acts in an intermediate position. Instead of making two twists at a time, each twist can be produced separately in which event the twisting tool is rotated in one direction to make the first twist and back again in making the second twist.

An improvement in the method of manufacturing this barbed wire consists in that the one wire—for example, the wire out of which the barbs are afterwards formed, is thinner than the other. The employment of wires of different thickness has the advantage that the thinner wire entwines in an exceedingly firm manner with the thicker one in the twisting process. The wire is also more effectually protected by the longer wire. In this case, the manufacture is attended with the difficulty that the thinner wire has a tendency in twisting to merely lap itself round the thicker wire instead of the two intertwining uniformly. In order to obtain such uniformity the two wires must be gripped so firmly in advance and in rear of the section to be twisted that they cannot shift in the clamps but remain in their relative position therein.

Barbed wire according to the method of the present invention is illustrated in the drawing in two typical embodiments.

Fig. 1 shows two wires of equal thickness in untwisted condition;

Fig. 2 shows the wires after twisting;

Fig. 3 shows a finished section of barbed wire;

Figs. 4, 5 and 6 are views similar respectively to Figs. 1, 2 and 3, but with wires of unequal thickness.

The two wires to be treated, *a* and *b* lie closely positioned side by side and in the embodiment shown are firmly held in their relative position on both sides of the sections

c to be twisted by clamping devices *e*. The two wires *a* and *b* are then gripped in the center of the section *c* by a twisting tool *d* and twisted, thus forming the twist sections *c* the spirals of which run in opposite directions. The one wire *b* is next cut through and its ends *f* are bent outward so as to form the barbs: whereupon the wires *a* and *b* are moved a working sectional length onward and the process repeated.

I claim:—

1. The method of manufacturing single strand barbed wire from a plurality of strands comprising twisting said strands together alternately in opposite directions at the points of securement of the barbs. and cutting all the strands but one between said points of securement, forming barbs.

2. In the method of manufacturing single strand barbed wire as claimed in claim 1. using for the wire forming the barbs a strand of different thickness from that of the sustaining strand.

3. In a method of manufacturing barbed wire, firmly holding the main wire and the wire to form the barbs in their relative positions at points in front and to the rear of the sections to be twisted and then twisting the wires at a point midway of the holding points.

4. In a method of manufacturing barbed wire, firmly holding the main wire and the wire to form the barbs in their relative positions at points in front and to the rear of the sections to be twisted and then twisting the wires at a point midway of the holding points, and using for the wire forming the barbs, a wire of different thickness from that of the other wire.

5. In a method of manufacturing single-strand barbed wire, twisting the wire forming each successive pair of barbs in opposite directions and firmly gripping the main wire and the wire forming the barbs, at one point, and then intertwisting the wires at a point removed from said one point.

In testimony whereof I affix my signature.

OTTO SCHMID.