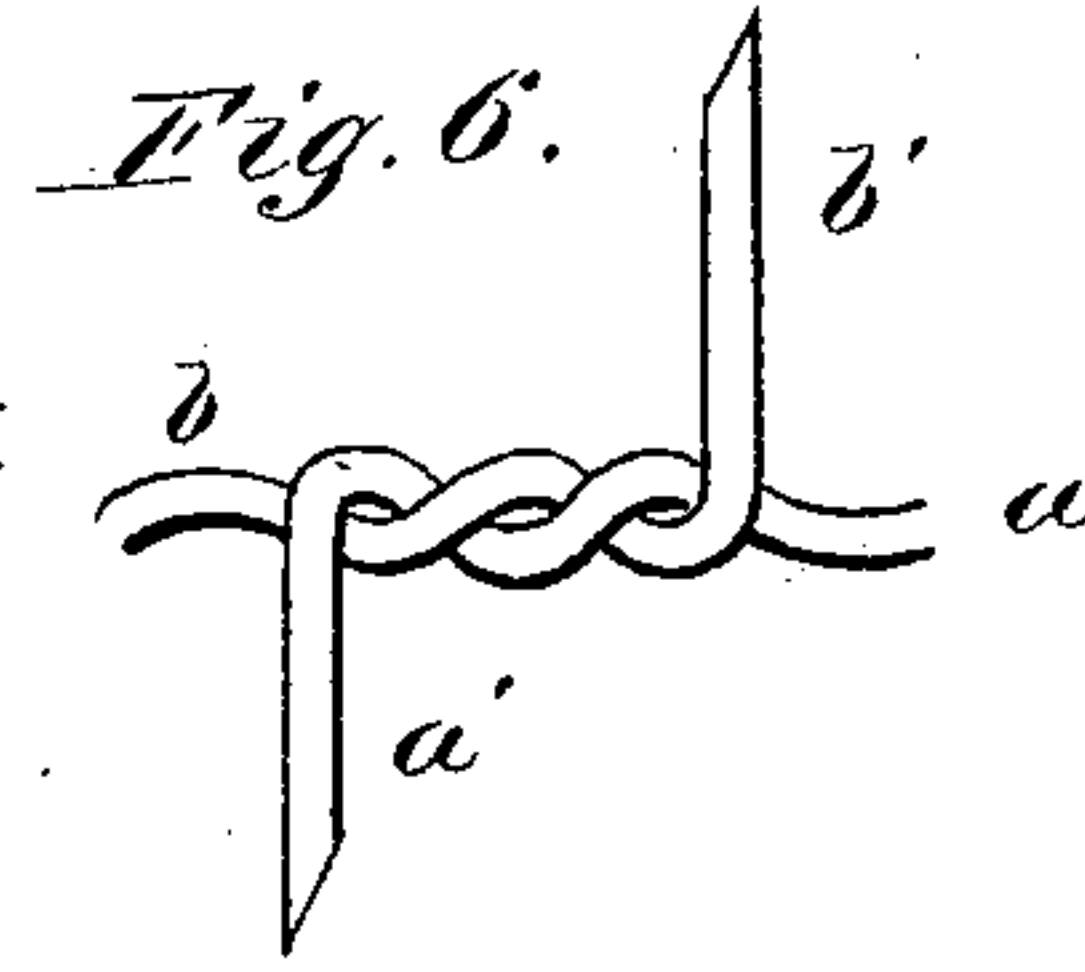
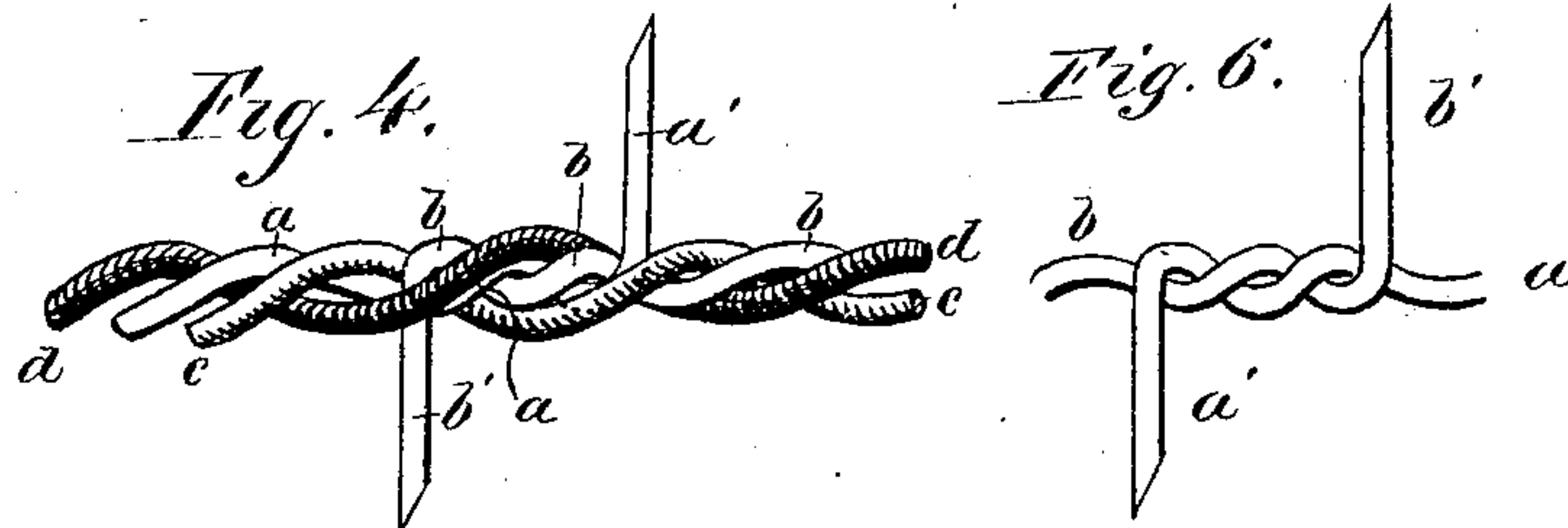
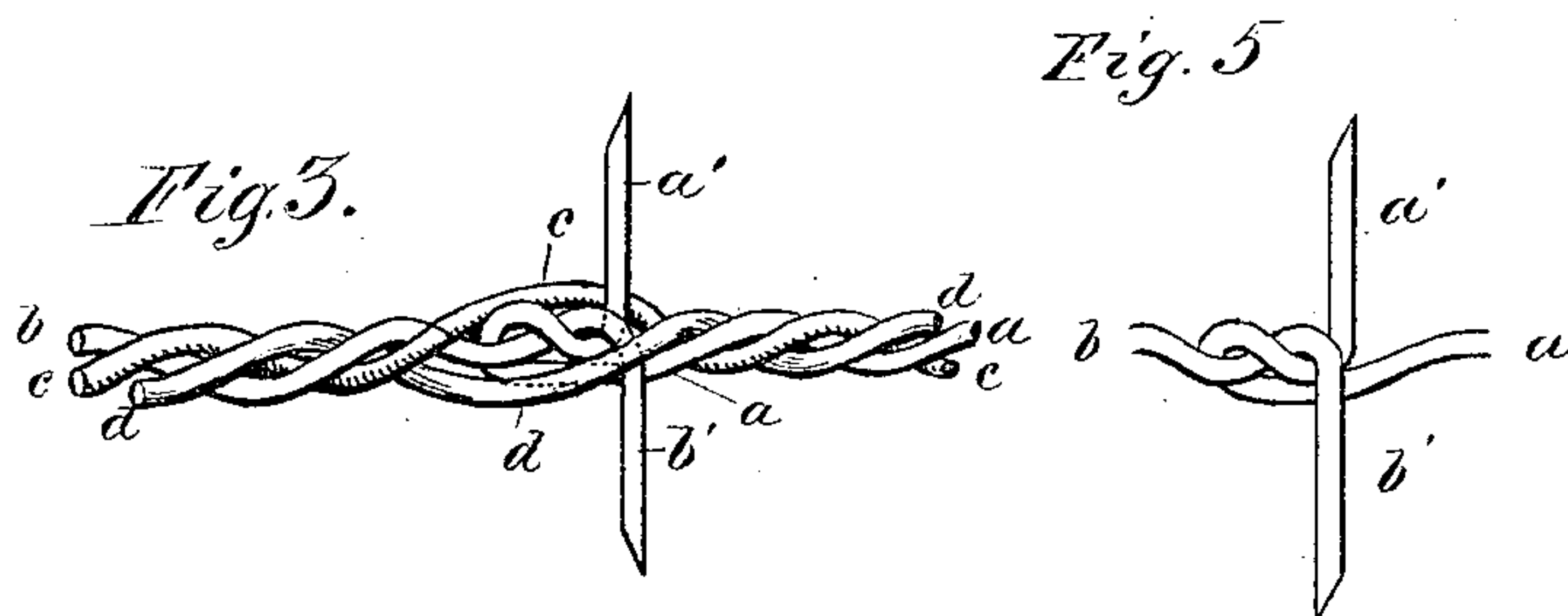
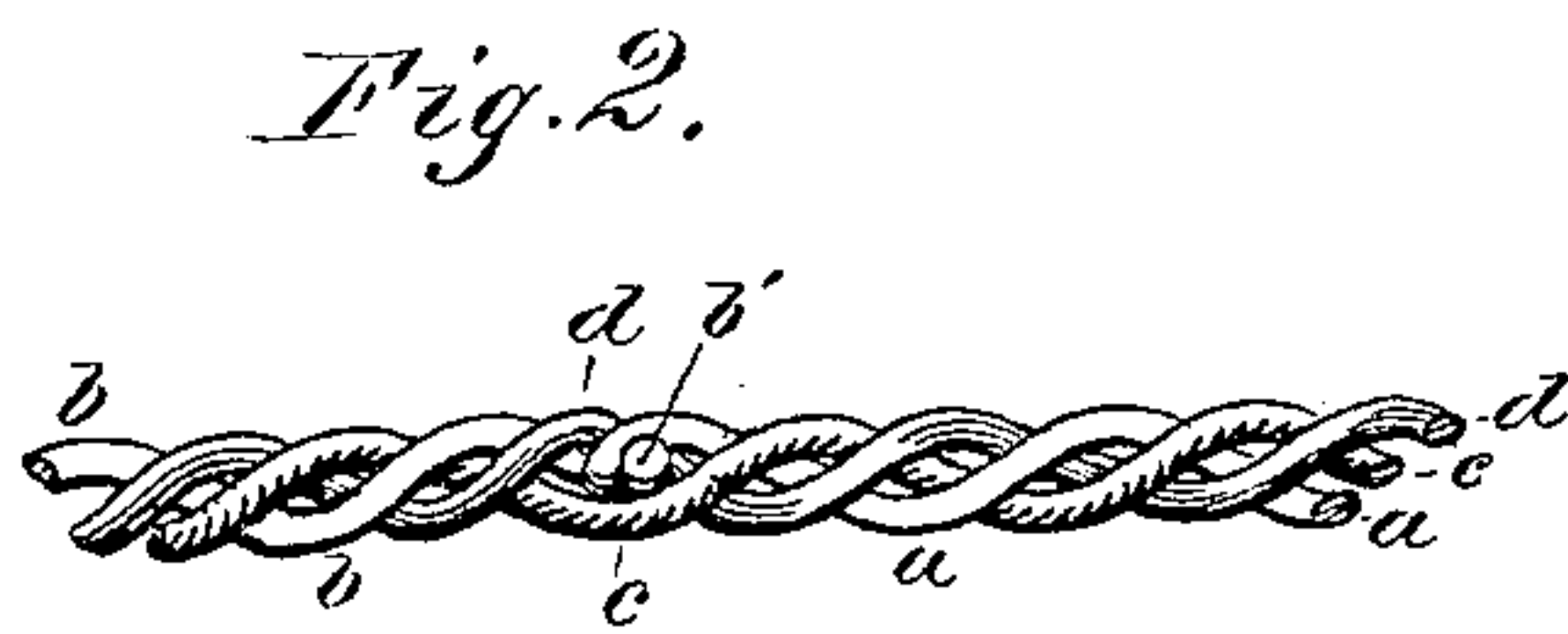
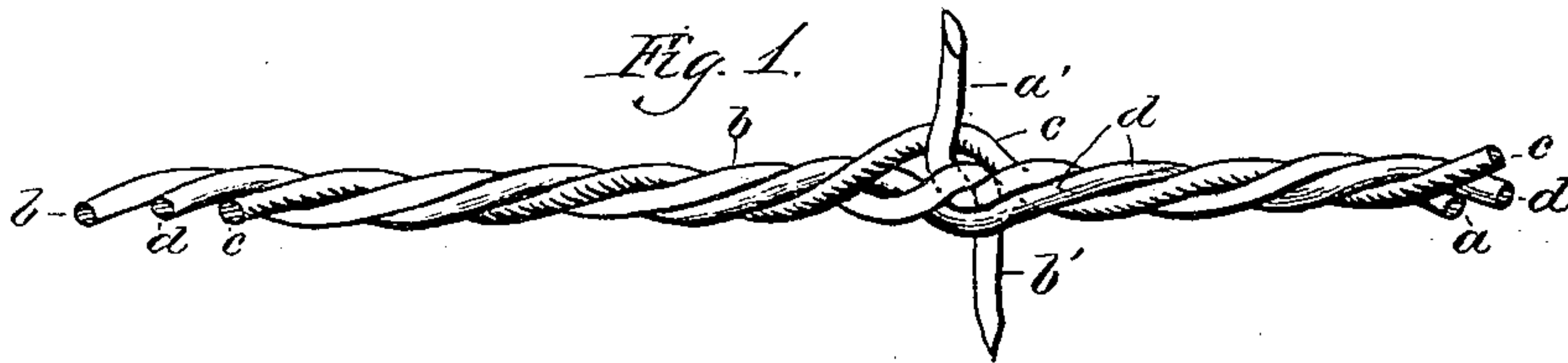


(No Model.)

G. W. NICHOLS.
BARBED FENCE WIRE.

No. 246,191.

Patented Aug. 23, 1881.



WITNESSES.
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GEORGE W. NICHOLS, OF COLDWATER, MICHIGAN.

BARBED FENCE-WIRE.

SPECIFICATION forming part of Letters Patent No. 246,191, dated August 23, 1881.

Application filed April 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. NICHOLS, of Coldwater, in the county of Branch and State of Michigan, have invented certain new and useful improvements in Barbed Fence-Wire; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to twisted barbed fence-wire; and it consists, first, in a twisted wire having three strands, one of which is composed of a number of short sections interlocked with each other near their extremities, and having their ends bent outward from the point of junction to form barbs, and the other two of which are continuous and so twisted with or about the sectional strand above mentioned as to pass one on each side of the joint uniting the sections.

It further consists in the combination, with a strand formed of sections joined and bent as first above described, of an additional strand or additional strands twisted with or about said sectional strand, and arranged to bear on the outside of both outwardly-bent ends or barbs at the junction of the sections.

In the drawings, Figure 1 shows a barbed fence-wire, in side elevation, of the barbs embodying the first feature of my invention. Fig. 2 is a view of the construction shown in Fig. 1 in the plane of the barbs. Fig. 3 is a side elevation of a construction embodying both features of my invention. Fig. 4 is a modification. Fig. 5 is a view of the junction of the sections less plainly shown in Fig. 3, and Fig. 6 is a view of the junction of the sections as connected in Fig. 4.

The short lengths which form the sectional strand and the barbs are lettered *a* and *b*, and their ends which are turned outward to form the barbs are respectively lettered *a'* and *b'*. The two continuous strands are lettered *c* and *d*.

In Figs. 1 and 2 the sections *a* and *b* are interlocked by a quarter-turn only of each section upon the other at a point about three-fourths of an inch from its end, and the ends are turned outward in opposite directions to form two barbs. The sections will be about

six inches long between their points of connection, and when united one with another in the finished wire they form what I have termed the "sectional" strand of such completed wire. In twisting upon or with the sectional strand described the two additional and continuous strands *c* and *d*, one of said additional strands, *c*, is passed around one side of the junction of *a* and *b*, and the other strand, *d*, is passed around the other side of said junction; as more plainly shown in Fig. 2. The effect of this arrangement of the continuous strands with the junction of the sectional strand is to make the joint uniting the sections central, and to give equal strength to the completed wire on both sides or throughout its diameter at this point. It also serves to more perfectly retain the joined parts in place.

It will be observed that when the sections *a* and *b* are joined by a quarter-turn of each, as described of Figs. 1 and 2, both barbs are on the same side of the axis of the sectional strand so formed. Thus in Fig. 1 they are both on the farther side, and in Fig. 2 they are both on the lower side. By the connection shown in Figs. 3 and 5, on the contrary, the barbs are brought on opposite sides of the axis of the sectional strand. This joint is made by placing two sections side by side and end to end, and twisting them together at the proper point, turning the extremities out to form the barbs, and then separating the bodies of the sections, and bending one outward into line with the other. A third section is joined to one of these in a similar manner, and so on until the barbed strand is made of any desired length. In twisting the two continuous strands *c* and *d* with or upon the sectional strand *a b*, so formed, the twist is made in a direction opposite to that which joins the sections, and one continuous strand is brought on each side of the joint, as in Figs. 1 and 2. In this way, also, each continuous wire is brought outside one of the outwardly-turned barbs, so that the latter is supported firmly and is also closely confined between two strands of the wire. Thus *a'*, Fig. 3, is held up by *c* against *b*, and *b'* is similarly held by *d* against *a*.

In Figs. 4 and 6 the sections *a* and *b* are joined as in Figs. 1 and 2, except that they are twisted together and interlocked by one or

more full turns of each section upon the other. The barbs in these figures are therefore brought on the same side of the axis of the sectional strand as in Figs. 1 and 2, but at a distance
 5 apart. In twisting the two continuous strands about the sectional strand so formed, and giving to each a half-turn less than is given either section between the barbs, one of said continuous strands is brought on the outside of
 10 one barb and the other on the outside of the other barb. At each barb the sectional strand is also thereby embraced between the two continuous strands, as in Figs. 1 and 2, and the wire as a whole has at the juncture of the
 15 sections the symmetry, firmness, and uniformity in strength described of the construction shown in said Figs. 1 and 2. The same arrangement for the purpose described will be effected if the twist of the three strands to-
 20 gether be made in a direction opposite to the twist which joins the sections *a* and *b*.

If desired, the sectional strand may be straight between joints, having the continuous strands twisted spirally about it.

25 In connection with the section-joint shown in Figs. 4 and 6 a single continuous wire may be brought outside both barbs by giving to the same one or more full turns between the barbs of the same joint.

30 I am aware of the construction shown in the patent to Jacob Haisch, No. 146,671. My invention differs therefrom in combining with the single sectional strand of Haisch two con-

tinuous strands instead of one, said strands being arranged to pass one on each side of the
 35 joints in the sectional strand, whereby the strength of the wire is distributed equally on both sides of said joint, and separation or loosening of said joints is avoided.

I claim as my invention—

40 1. A twisted barbed fence-wire composed of three strands, one of which is sectional, consisting of a number of short wires joined by being bent about each other near their ex-
 45 tremities, and having their ends turned outward to form barbs, and the other two of which are continuous wires twisted with or about the sectional strand, one on each side of the joint uniting the sections of said strand, substan-
 50 tially as and for the purposes set forth.

2. In a three-ply barbed fence-wire, the sectional strand, Fig. 3, having the barbs turned on opposite sides of the axis of the strand, combined with two continuous strands twisted
 55 with or upon said sectional strand, and arranged to bear one upon the outside of one barb and the other upon the outside of the other barb, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence
 60 of two witnesses.

GEORGE W. NICHOLS.

Witnesses:

M. E. DAYTON,
 JESSE COX, Jr.