

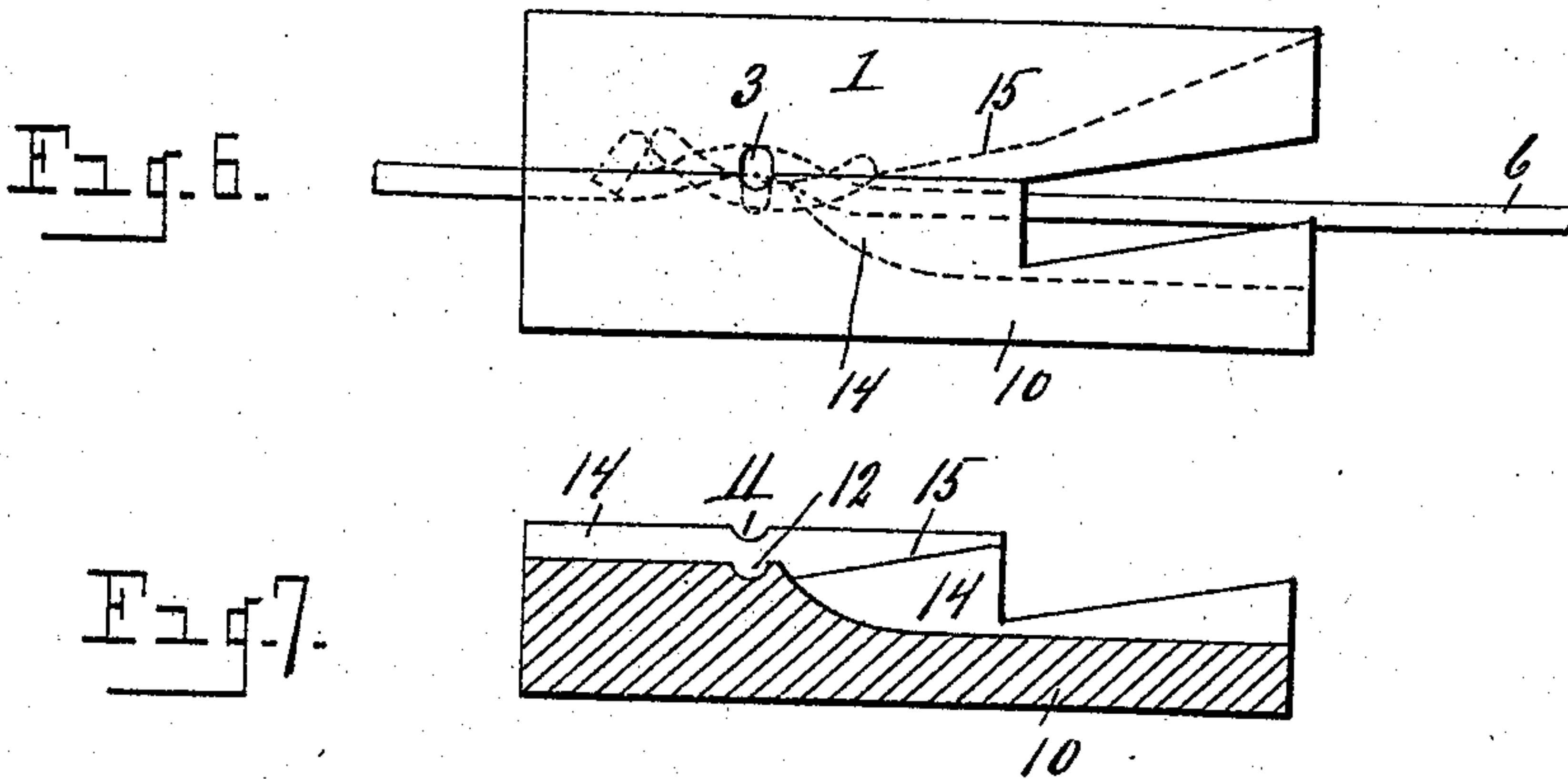
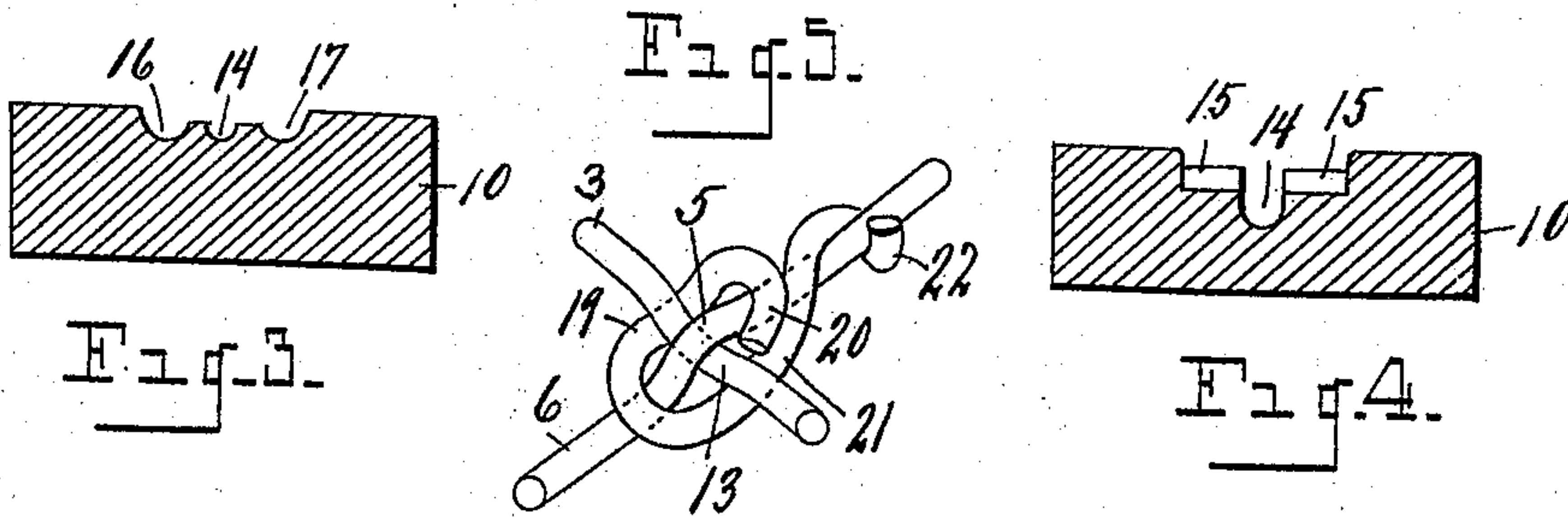
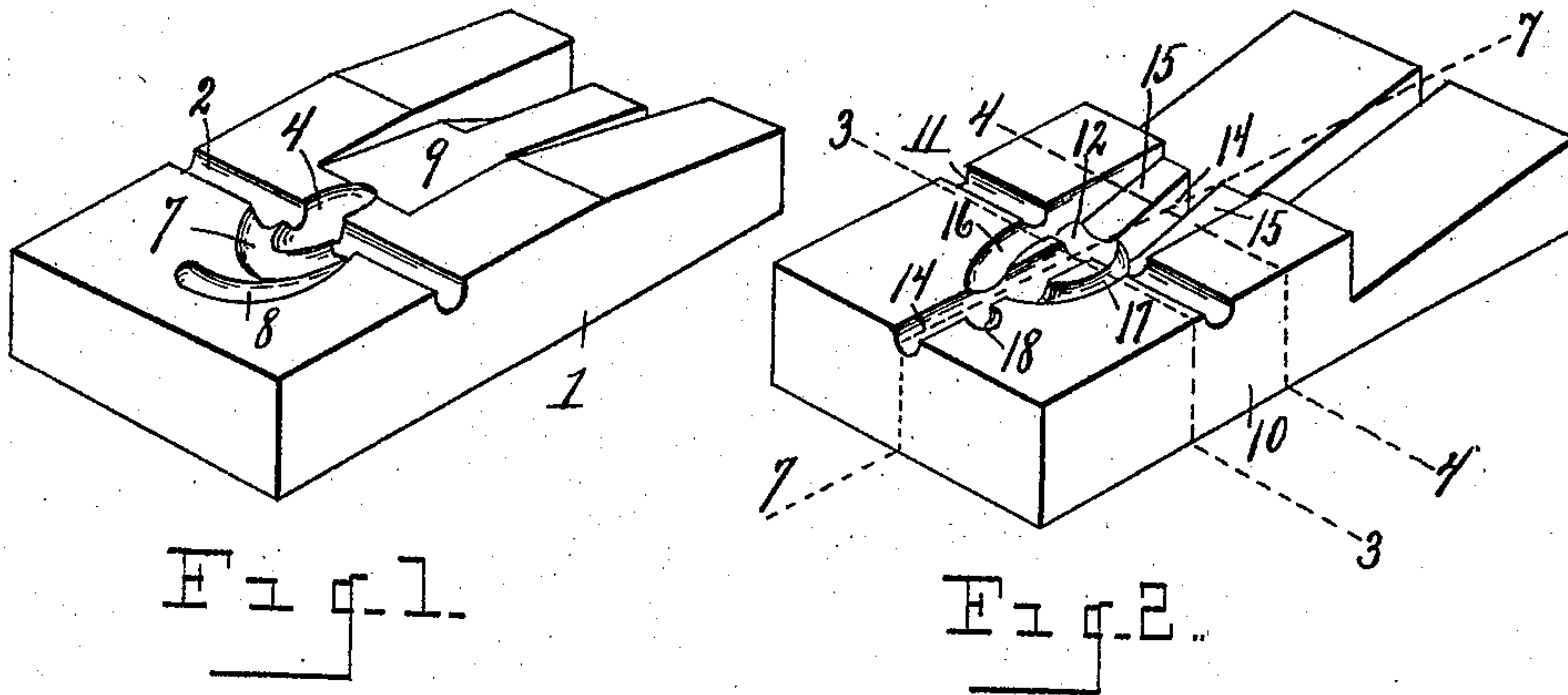
No. 814,885.

PATENTED MAR. 13, 1906.

O. S. STURTEVANT.

DIES FOR TYING INTERSECTING WIRES.

APPLICATION FILED NOV. 9, 1904. RENEWED AUG. 14, 1905.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## DIES FOR TYING INTERSECTING WIRES.

No. 814,885.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed November 9, 1904. Renewed August 14, 1905. Serial No. 274,239.

*To all whom it may concern:*

Be it known that I, ORANGE S. STURTEVANT, a citizen of the United States, residing at Adrian, in the county of Lenawee, State of Michigan, have invented certain new and useful Improvements in Dies for Tying Intersecting Wires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in dies for tying intersecting wires, especially designed for use in the manufacture of wire fencing; and it consists in the construction and arrangement of parts hereinafter more fully set forth and claimed.

The object of the invention is to produce dies of the character described having in the working faces thereof such an arrangement of channels, concavities, and depressions as to enable the binding-tie in the shape of a staple to be formed around the crossed strands of wire lying between the faces of the dies, so as to firmly tie said strands together.

The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figures 1 and 2 are perspective views of the working faces of the dies. Fig. 3 is a transverse section on line 3 3 of Fig. 2. Fig. 4 is a transverse section on line 4 4 of Fig. 2. Fig. 5 is a perspective view of the tie, showing it in position upon the crossed strands of the fencing. Fig. 6 is an elevation of the dies upon the crossed strands of the fabric in position for driving the tie. Fig. 7 is a longitudinal section through one of the dies as on line 7 7 of Fig. 2.

Referring to the characters of reference, 1 designates the former or back die, having formed in the face thereof a transverse channel 2 for the reception of the stay-wire 3. Said channel 2 is intersected by an oblong concavity 4, which crosses said channel midway between its terminals and which is adapted to form the crimp 5 in the longitudinal wire 6. Formed in the face of die 1, with its terminals resting upon the channel 2, is a curved way 7, which embraces one end of the oblong concavity 4. Also formed in the face

of the die and leading from the channel 2 adjacent one end of the curved way 7 is a second curved way 8, whose outer end diverges from the curve of the way 7 and terminates some distance therefrom. Leading from one end of the oblong concavity 4, upon the opposite side of the channel 2 from that occupied by the curved ways 7 and 8, is an inclined way 9 to allow of the entrance of a driving-plunger (not shown) to drive the tying staple into position between the dies.

The front die 10 has formed in the working face thereof a transverse channel 11, which is adapted to register with channel 2 in die 1 when the dies are placed together. Centrally between the ends of the channel 11 is a depression 12, adapted to form the crimp 13 in the stay-wire 3 when the dies are brought together. Crossing the depression 12 and extending longitudinally of the die 10 is a channel 14, adapted to receive the strand-wire 6. In the face of die 10 on one side of the channel 11 is formed an inclined way 15, which is divided by the channel 14 and which at its base is provided with the curved branches 16 and 17, leading from opposite sides thereof and crossing the transverse channel 11 below the plane of its bottom. The curved branch 17 terminates at the point of intersection with channel 14, while the curved branch 16 crosses channel 14 above the plane of the bottom thereof and terminates in a downwardly-extending portion 18 upon the opposite side of channel 14 and which partially embraces said channel.

In carrying out the operation of these dies they are suitably mounted in a machine, so that they may be alternately brought together and separated. When desiring to tie the crossed strands of the fencing or fabric, the working faces of the dies are caused to meet, so that the stay-wire 3 will lie in the registering channels 2 and 11 and the longitudinal wire 6 will lie in the channel 14 of die 10 and across the curved ways 7 and 8 in die 1; said strand 6 also lying longitudinally across the oblong concavity 4. As pressure is exerted upon said dies to force them together the strand 6 is carried into the concavity 4 and the stay-wire 3 into the depression 12, whereby they are kinked or crimped at their point of crossing. To tie the strands together, the tie-wire, in the form of a staple, is then introduced between the dies, so as to



occupy the inclined ways 9 and 15. As the tie is driven into place by a suitable plunger the leg 19 thereof is caused to enter the branch 17 under the stay-wire 3 in the channel 11 and is directed by said branch inwardly and upwardly over the strand-wire 6 lying in the channel 14, the end of said leg entering the curved way 7, into which it is directed across the strand-wire 6 and formed into a return-bend 20, which embraces said strand-wire. At the same time the leg 21 of the staple or tie-wire is directed into the curved branch 16, crossing the channel 14, and into the diverging curved way 8, which directs it around the strand-wire and causes its extreme end to enter the downwardly-extending portion 18 of the curved branch 16, which forms the end of said leg into a spiral eye around the strand-wire, as shown at 22, completing the tie. After the tie has been driven the dies are caused to separate, so that the fabric may pass therefrom to allow of a repetition of said operation.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Dies for tying intersecting wires, one of which is provided in the face thereof with a transverse channel, an intersecting oblong concavity, a curved way whose terminals communicate with said channel and which embraces one end of said concavity, and a diverging curved way leading from said channel at the point of its junction with said first-mentioned way, the other die having a transverse channel adapted to register with the

channel in the first-mentioned die and intersected by a central depression, a longitudinal channel crossing said depression, an inclined way having curved branches leading therefrom, one branch crossing the transverse channel and terminating at the longitudinal channel, the other branch crossing the longitudinal channel above the plane thereof, and terminating in a downwardly-extending portion which partially embraces said channel.

2. Dies for tying intersecting wires, one of which has in the face thereof a transverse channel, a central oblong concavity intersecting said channel, a curved way which embraces said concavity and whose terminals rest upon said channel, and a diverging curved way leading from one terminal of said first-mentioned way, the other die having a longitudinal and a transverse channel, an inclined way having curved branches leading from its base, one branch crossing below the transverse channel and terminating at the longitudinal channel, the other branch also crossing below the transverse channel and intersecting the longitudinal channel above the plane of its base, the end portion thereof crossing the longitudinal channel and terminating in a downwardly-extending part which partially embraces the longitudinal channel.

In testimony whereof I sign this specification in the presence of two witnesses.

ORANGE S. STURTEVANT.

Witnesses:

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