

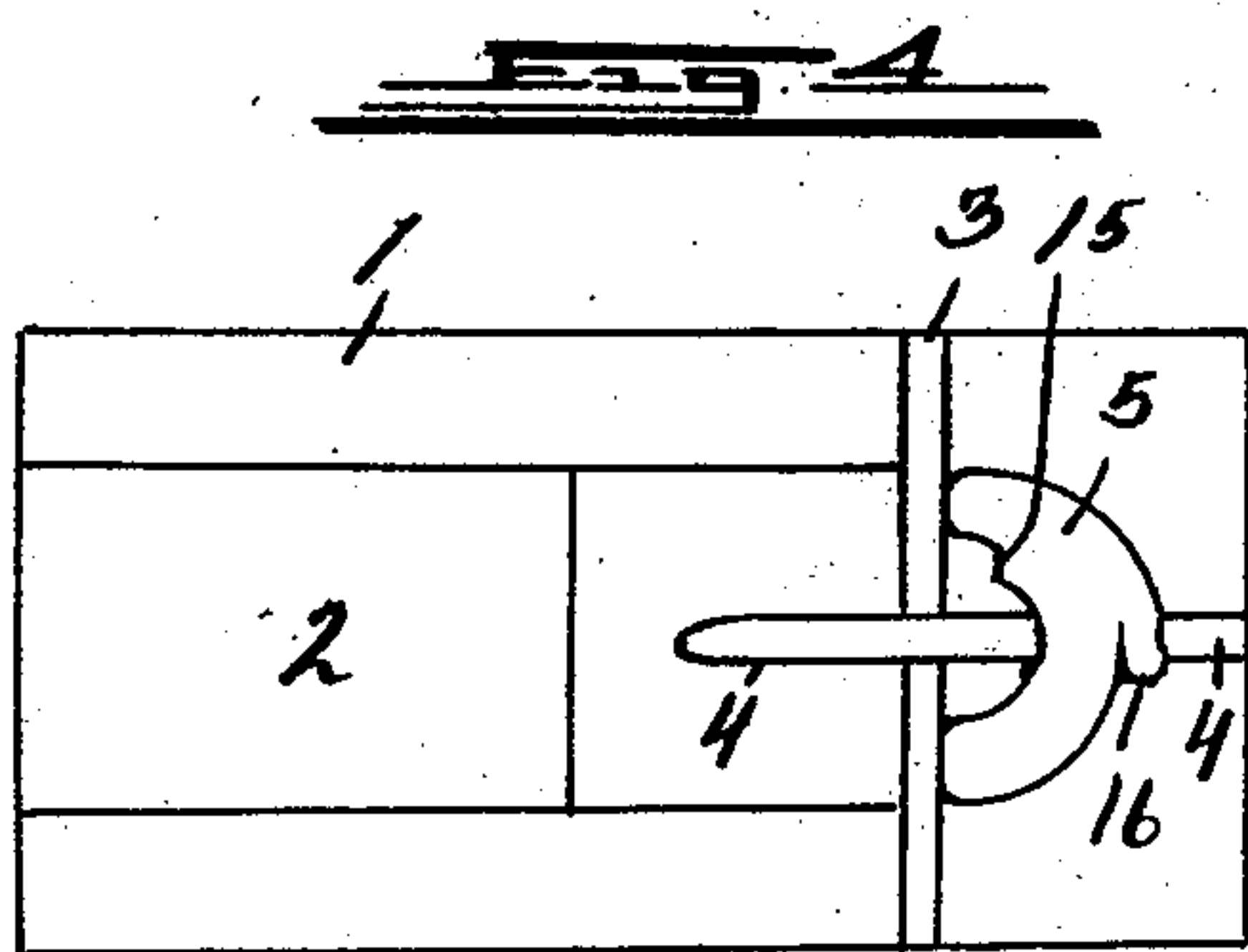
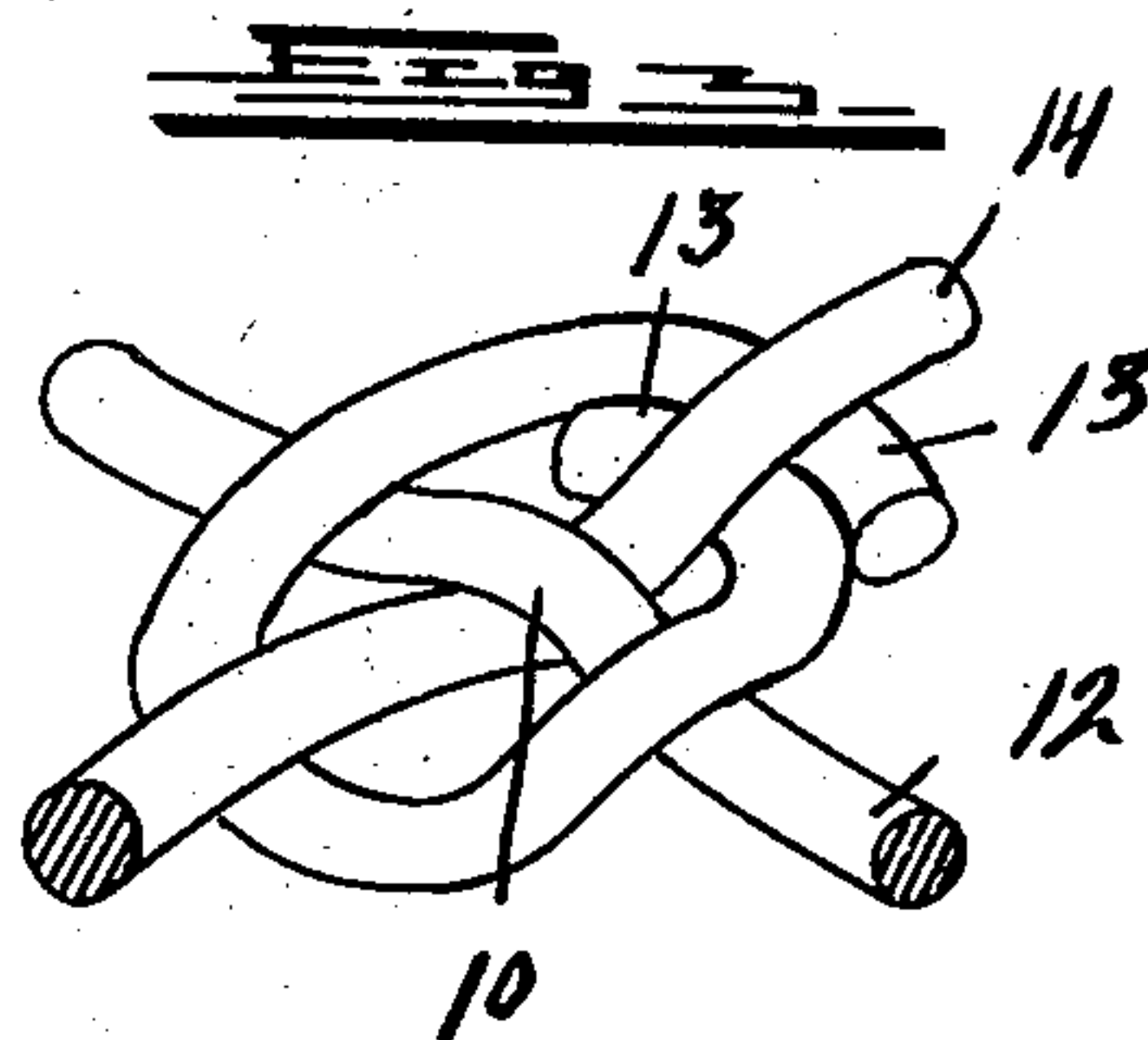
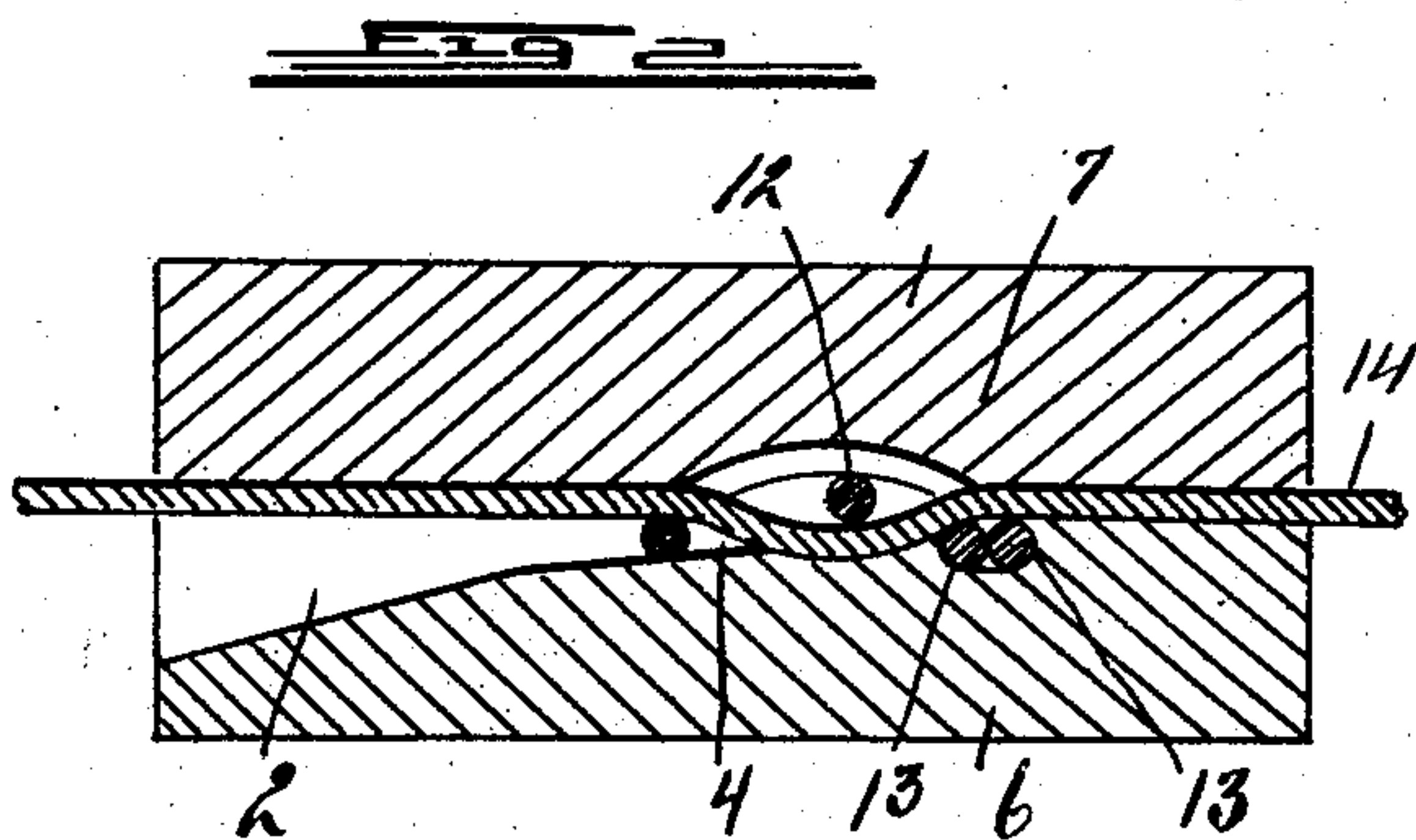
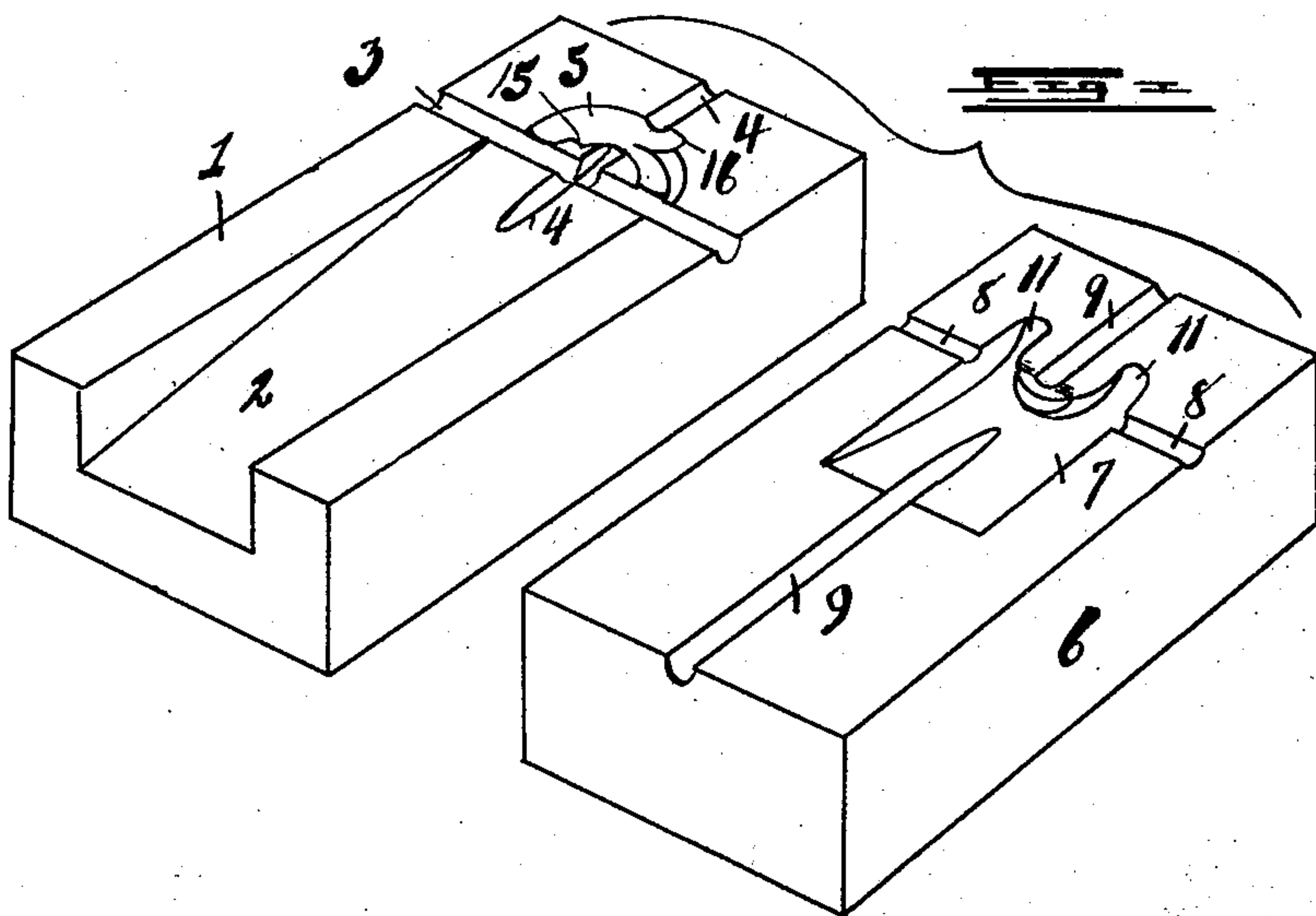
No. 755,187.

PATENTED MAR. 22, 1904.

G. S. TIFFANY.  
DIES.

APPLICATION FILED JUNE 19, 1903.

NO MODEL.



Witnesses:

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By His Attorney  
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# UNITED STATES PATENT OFFICE.

GEORGE SYLVESTER TIFFANY, OF TECUMSEH, MICHIGAN, ASSIGNOR, BY  
MESNE ASSIGNMENTS, TO ADRIAN WIRE FENCE COMPANY, OF ADRIAN,  
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## DIES.

**SPECIFICATION** forming part of Letters Patent No. 755,187, dated March 22, 1904.

Application filed June 19, 1903. Serial No. 162,189. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE SYLVESTER TIFFANY, a citizen of the United States, residing at Tecumseh, in the county of Lenawee, State of Michigan, have invented certain new and useful Improvements in Dies; 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 dies into which may be driven a staple and which will form said staple in the shape of a knot or tie upon crossed wires passing through the dies to unite said crossed wires, as in the making of wire fencing; and it consists in the construction and arrangement hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for forming the tie into a peculiar shape upon the crossed wires within the dies, the formation of the dies being such as to enable the staple or tie to be driven into the desired shape without necessitating an excessive amount of power and without liability of buckling the tie or staple, at the same time forming a tie which securely unites the intersecting wires. The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the working faces of the dies involving this invention. Fig. 2 is a sectional view through the dies in working position, showing the crossed wires passing therethrough and the staple or tie driven into position therein. Fig. 3 is a perspective view of the tie upon the intersecting wires. Fig. 4 is a plan view of the working face of one of the dies.

Referring to the characters of reference, 1 designates a suitable die having an inclined way 2 in the face thereof and having at the termination of said way the transverse channel 3 for the reception of one of the wires of the fabric. Crossing the channel 3 at right

angles is a second channel 4, adapted to receive the other of the wires of the fabric, said wires being adapted to cross each other at right angles between the faces of the dies. Also formed in the face of the die 1 is a semi-circular recess 5, the terminals of which extend from the channel 3 and the arc of which crosses channel 4 between channel 3 and the edge of the die.

Formed in the face of the companion die 6 is a concaved recess 7. Crossing said recess at right angles are the channels 8 and 9 for the crossed wires, which when the dies are placed together register with the channels 3 and 4 in the die 1, whereby the crossed wires are maintained in place and are crimped or kinked, as shown at 10 in Fig. 3, as the dies are brought into working relation. Leading from one end of the recess 7 and at opposite sides thereof are the concaved branches 11, which stand on each side of the channel 9 and are depressed below the plane of the transverse channel 8 and are adapted to register with the terminals of the recess 5.

When the working faces of the dies are placed together and a staple is forced into the dies by any suitable means, the inclined face of the way 2, which at its highest point is about the height of the diameter of the wire above the bottom of the channel 3, will direct the legs of the staple over the wire 12 lying in said channel, which passage of the staple's legs is permitted by the depth of the recess 7 in the die 6. A further inward movement of the staple causes the ends of the legs thereof to engage in the curved branches 11, leading from said recess 7, whereby they are deflected laterally and are caused to enter the semi-circular recess 5 in the die 1. The formation of this last-mentioned recess is such that the ends of the legs of the staple are caused to extend past each other in the arc of concentric circles in the same plane, as shown at 13 in Fig. 3, at the same time said ends are forced under the longitudinal wire 14, which lies in the channels 4 and 9, the end of the leg of the staple forming the smaller arc abutting against the shoulder 15 in said recess and the end of the



staple forming a larger arc abutting against the shoulder 16, as clearly shown in Fig. 4, whereby the staple or tie becomes securely fastened to the crossed wires, and said wires are  
5 firmly locked together, as clearly shown in Fig. 3.

It will be observed that the lapping ends of the staple or tie pass beyond the wire 14, under which they cross, whereby said ends are  
10 made secure against slipping off of said wire by any lateral movement thereof, while the tie passing over and under said wires 12 and 14, as shown, serves to firmly fasten them together. This form of tie, while firmly unit-  
15 ing the wires, is of a character to enable it to be easily driven, for in shaping it in the dies it is not caused to make abrupt turns from a general course of travel in forming the uniting knot.

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

1. Dies having transverse registering channels for the reception of the cross-wires, one  
25 of said dies having an inclined way and a semicircular recess, the other of said dies having a central concavity with curved branches leading from opposite sides thereof, which curved branches register with the opposite terminals  
30 of said semicircular recess.

2. The combination of the dies, one die having an inclined way and a transverse channel below the plane of the highest point of said way, a semicircular recess whose terminals  
35 abut upon said channel, the other of said dies having a central concavity crossed by a trans-

verse channel, said central concavity having curved branches which register with the terminals of the semicircular recess in the first-mentioned die, and a registering channel in  
40 the face of each die at right angles to the first-mentioned channel.

3. In a device for the purpose set forth, the combination of the opposed dies having registering channels in their inner faces which  
45 cross at right angles, one of said dies having concaved branches which cross one of the channels below the plane of the bottom thereof, the other of said dies having a semicircular recess which registers with the terminals of  
50 said branches to direct the ends of the tying-staple past each other and under one of the crossed wires.

4. The combination of the opposed dies having registering cross-channels in the meeting  
55 faces thereof, a semicircular recess in one of said dies crossed by one of said channels and depressed below the plane of the bottom thereof, the opposite die having a depression and concaved branches crossing one of the chan-  
60 nels therein, said concaved branches being adapted to lead the ends of the staple into the opposite terminals of said semicircular recess in the opposing die to direct said ends past each other and cause them to lie concentric in  
65 the same plane.

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

GEORGE SYLVESTER TIFFANY.

Witnesses:

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