

(No Model.)

F. W. SMITH, Jr.
WIRE CHAIN LINK.

No. 435,327.

Patented Aug. 26, 1890.

Fig. 1.

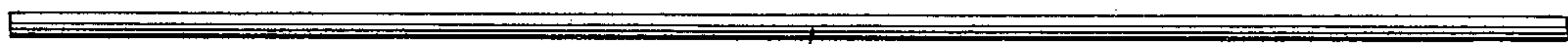


Fig. 2.

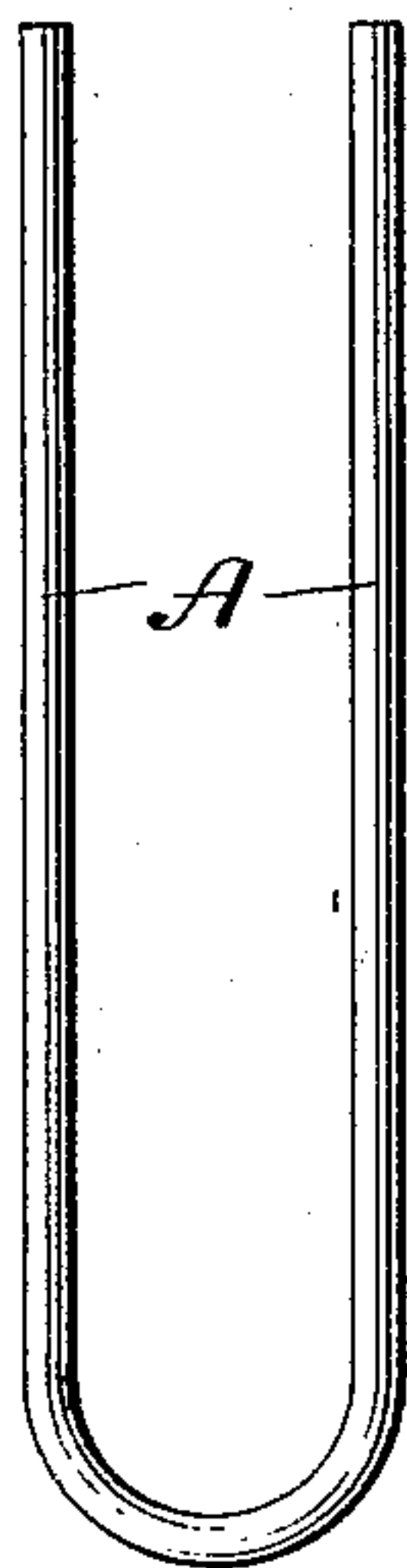


Fig. 3.

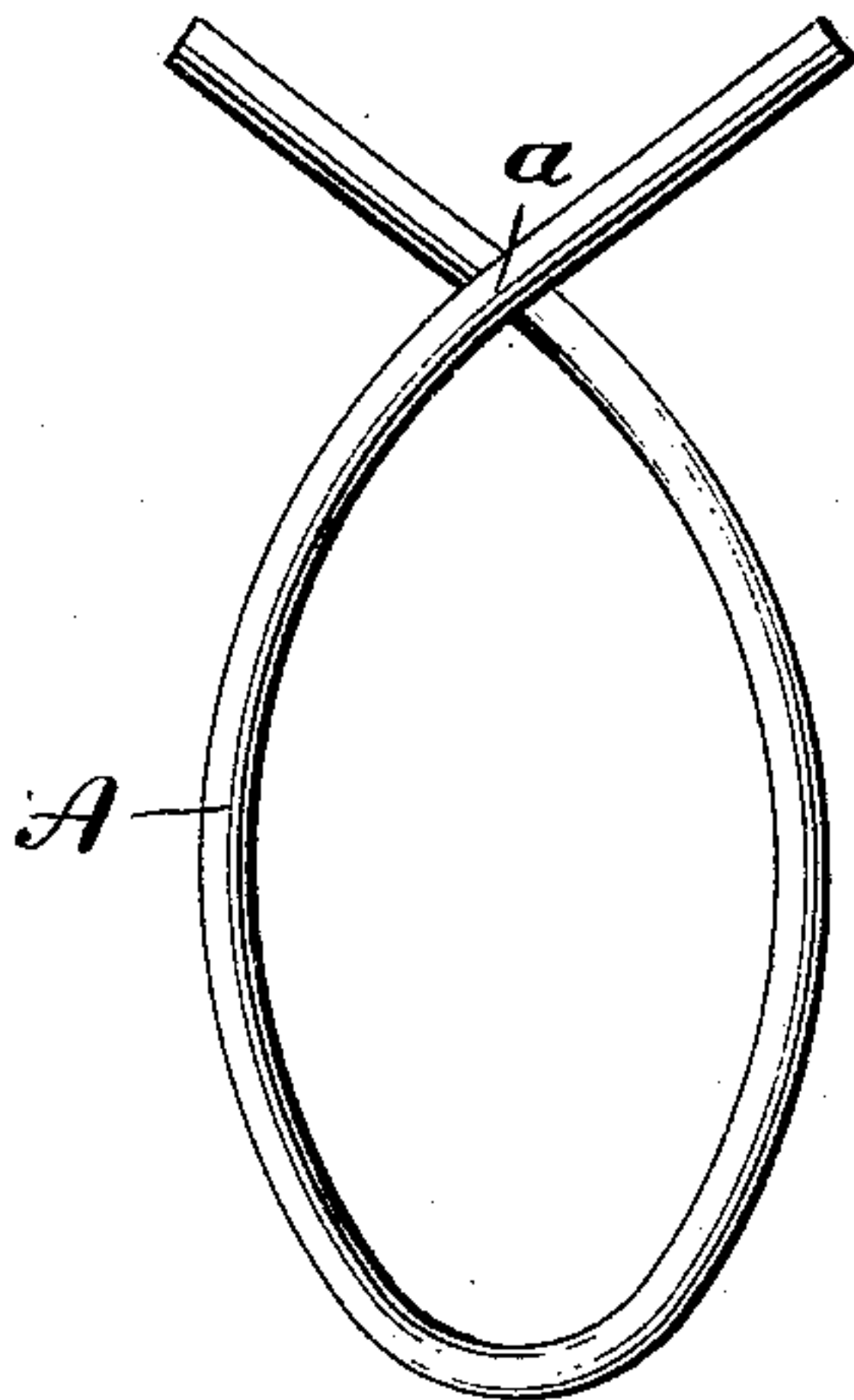


Fig. 4.

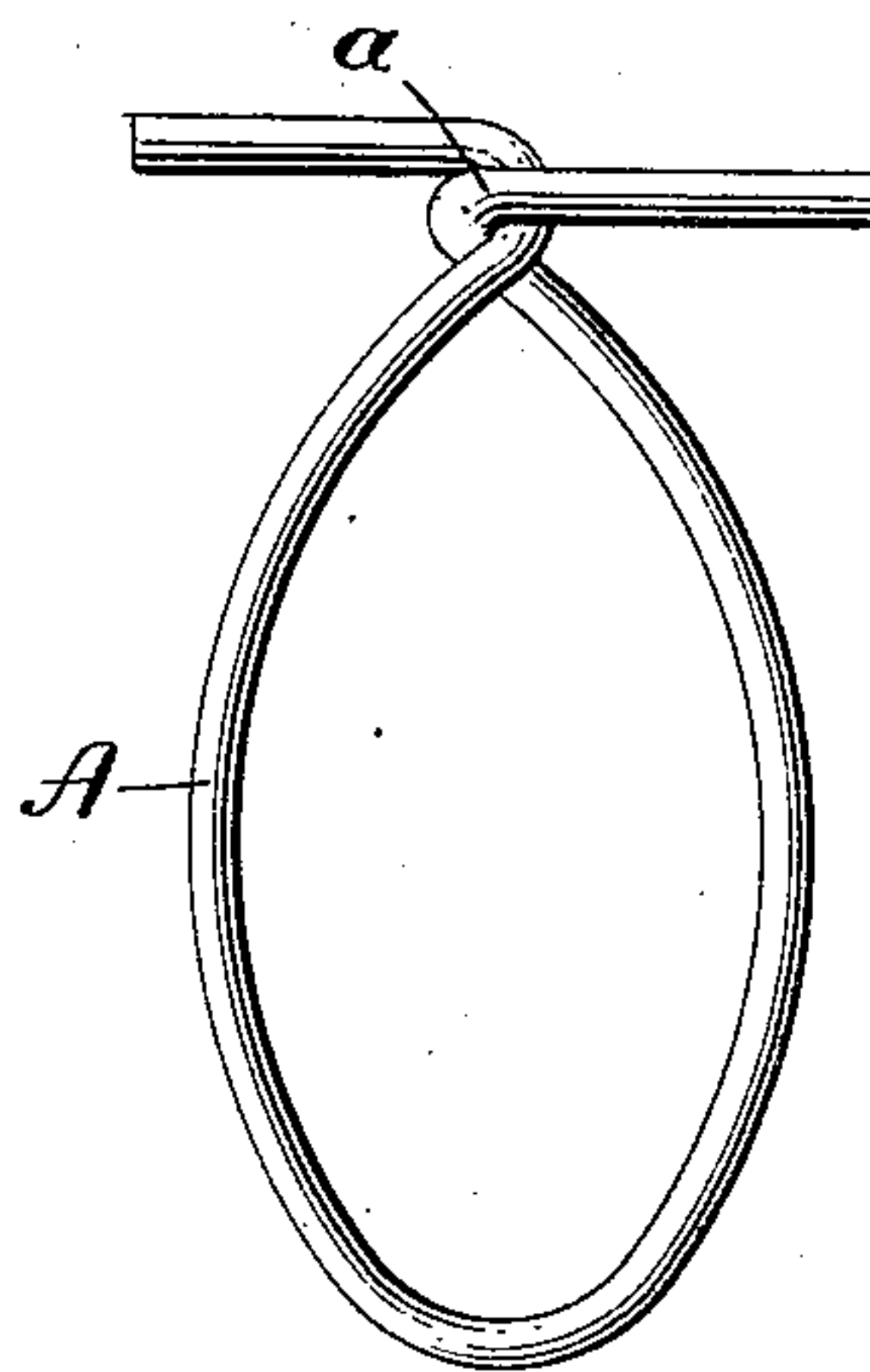


Fig. 5.

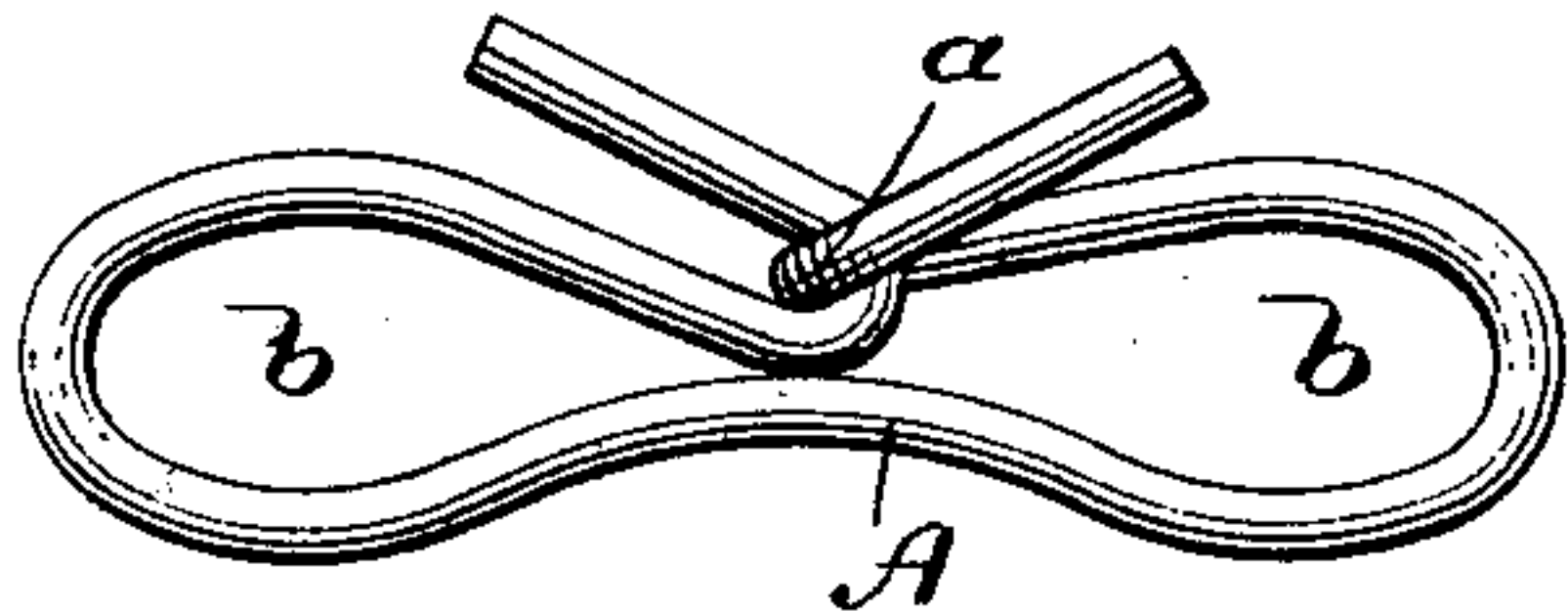


Fig. 8.

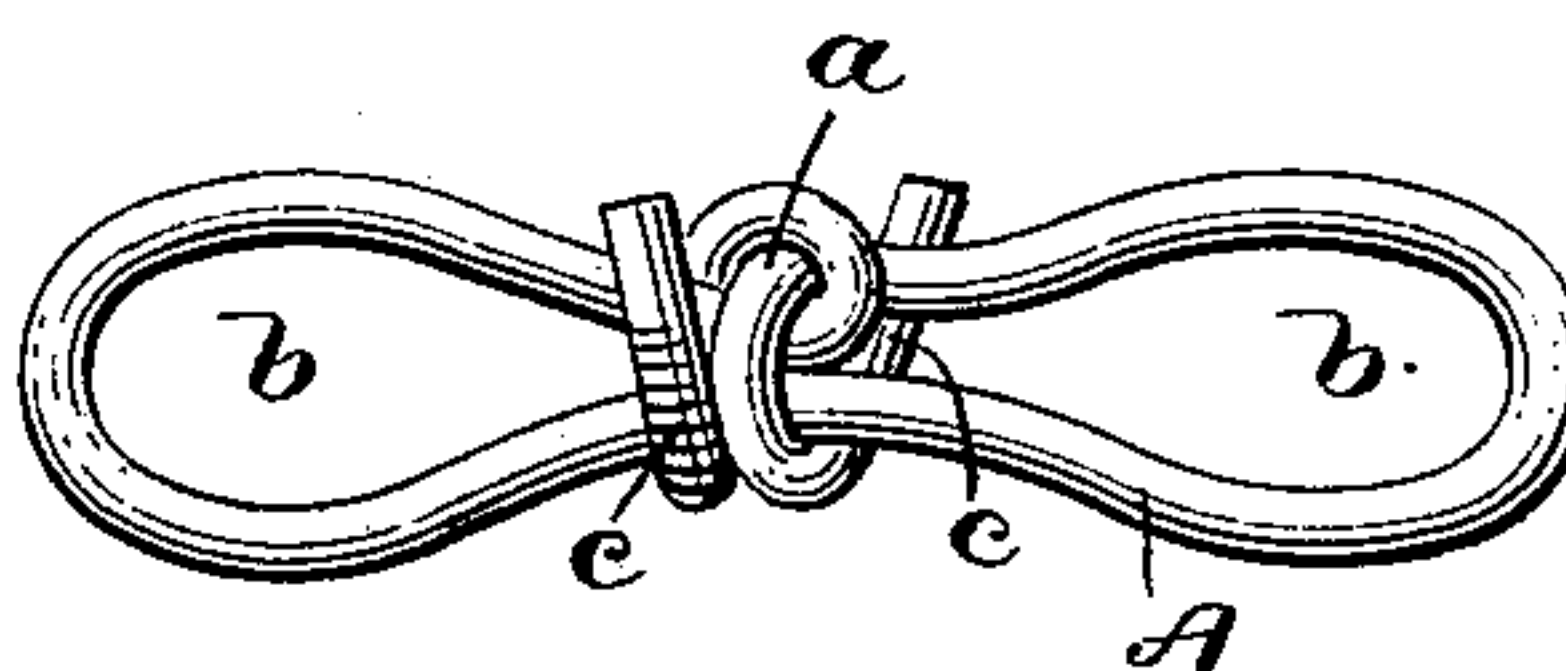


Fig. 6.

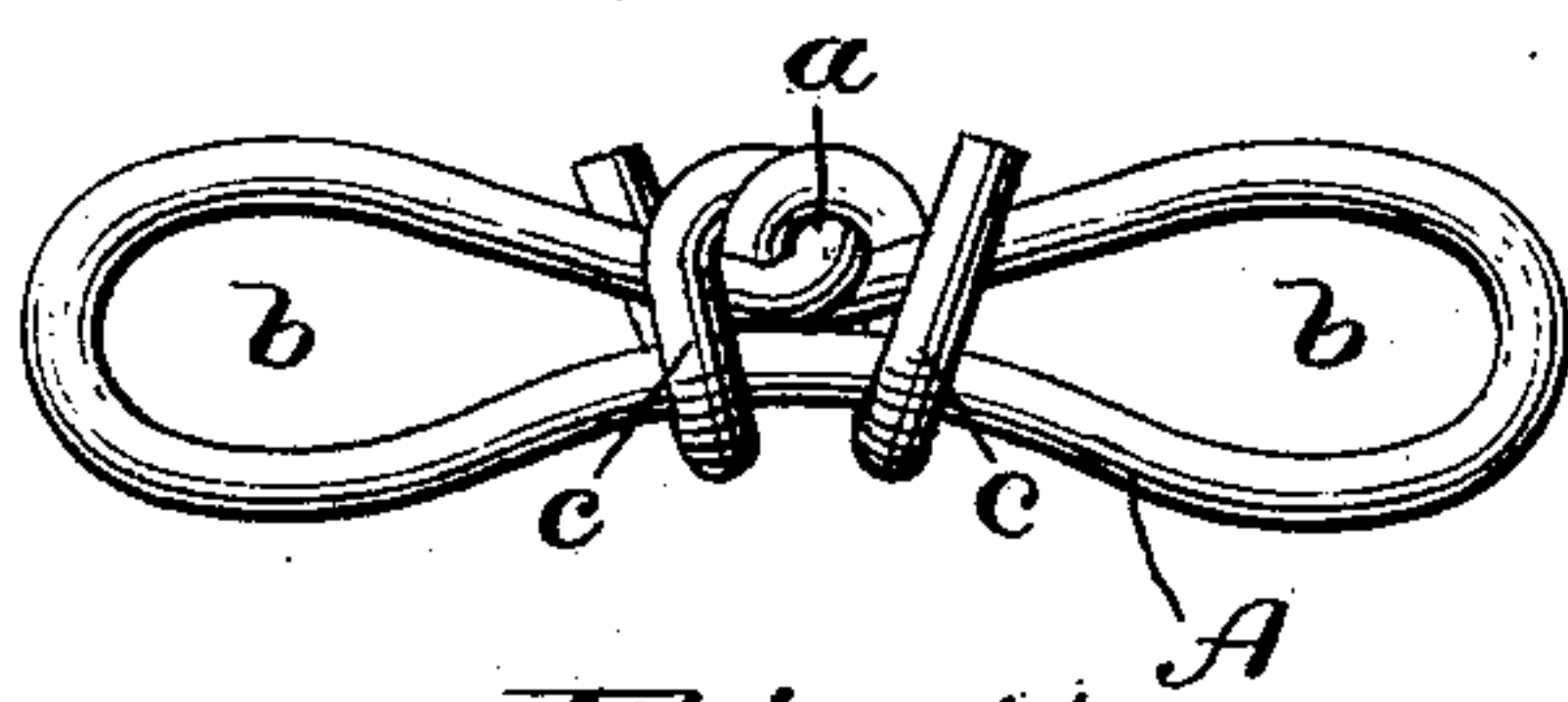


Fig. 9.

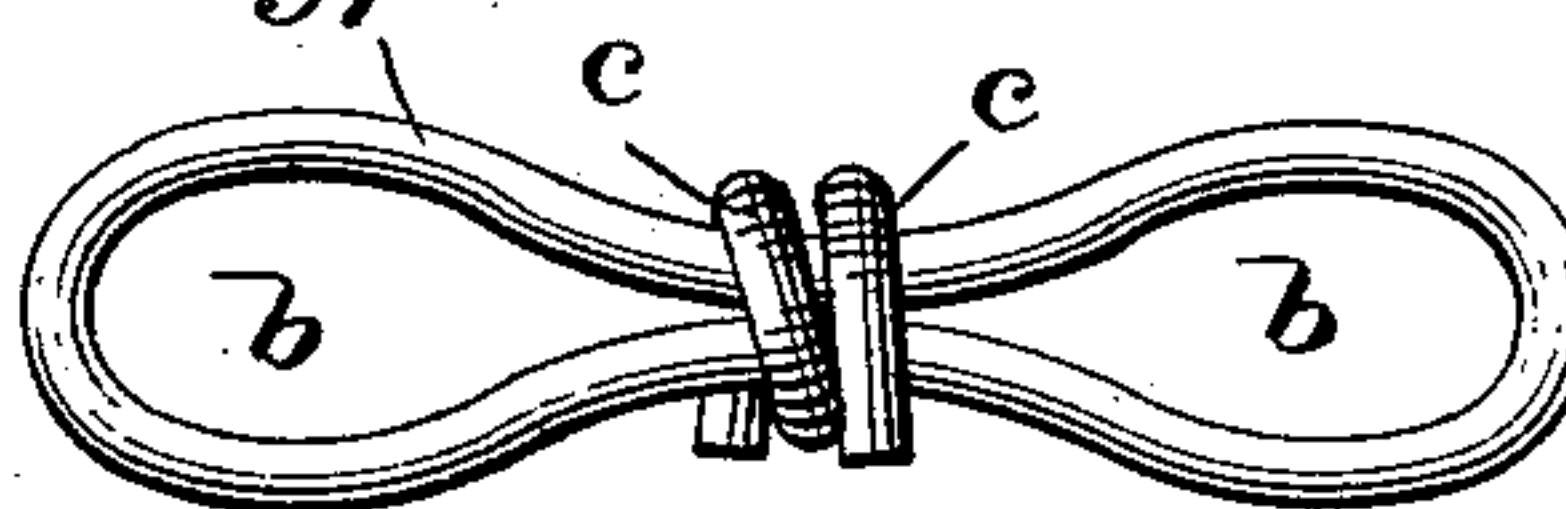


Fig. 7.

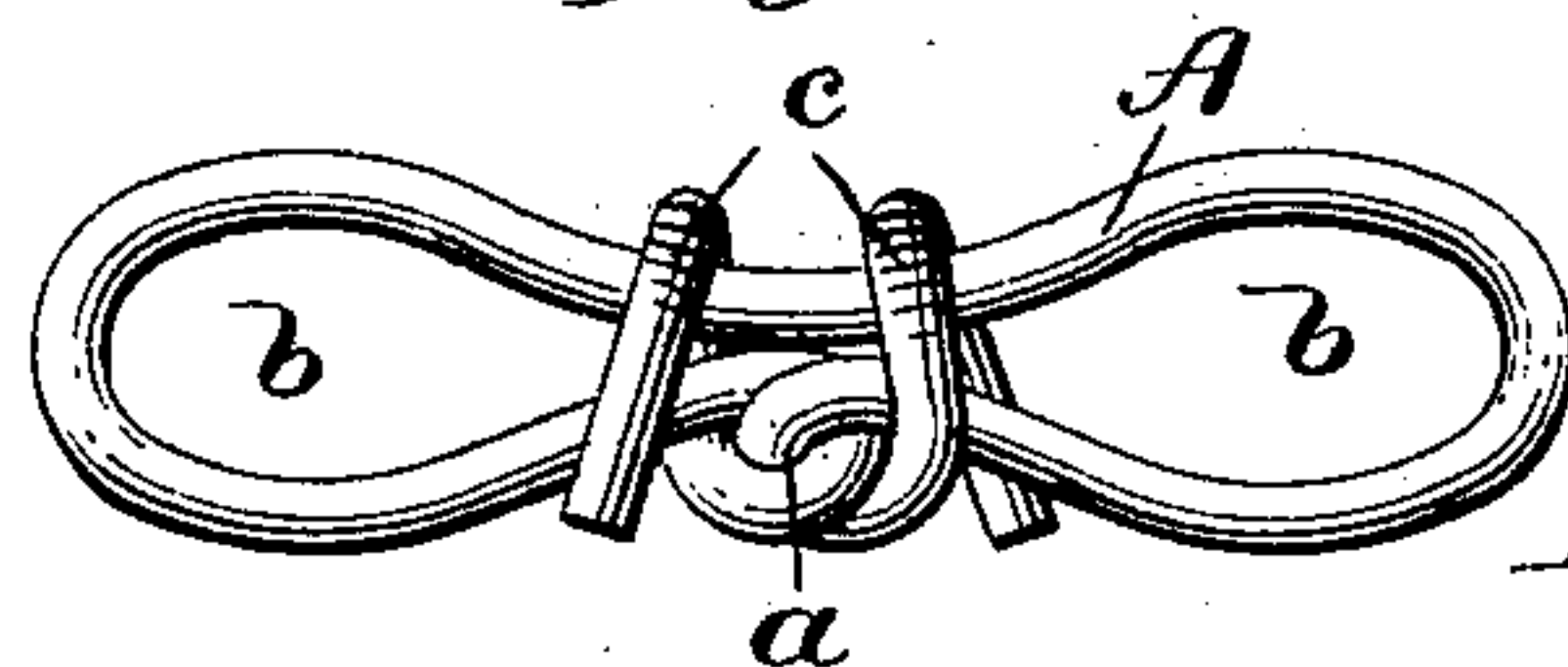


Fig. 10.

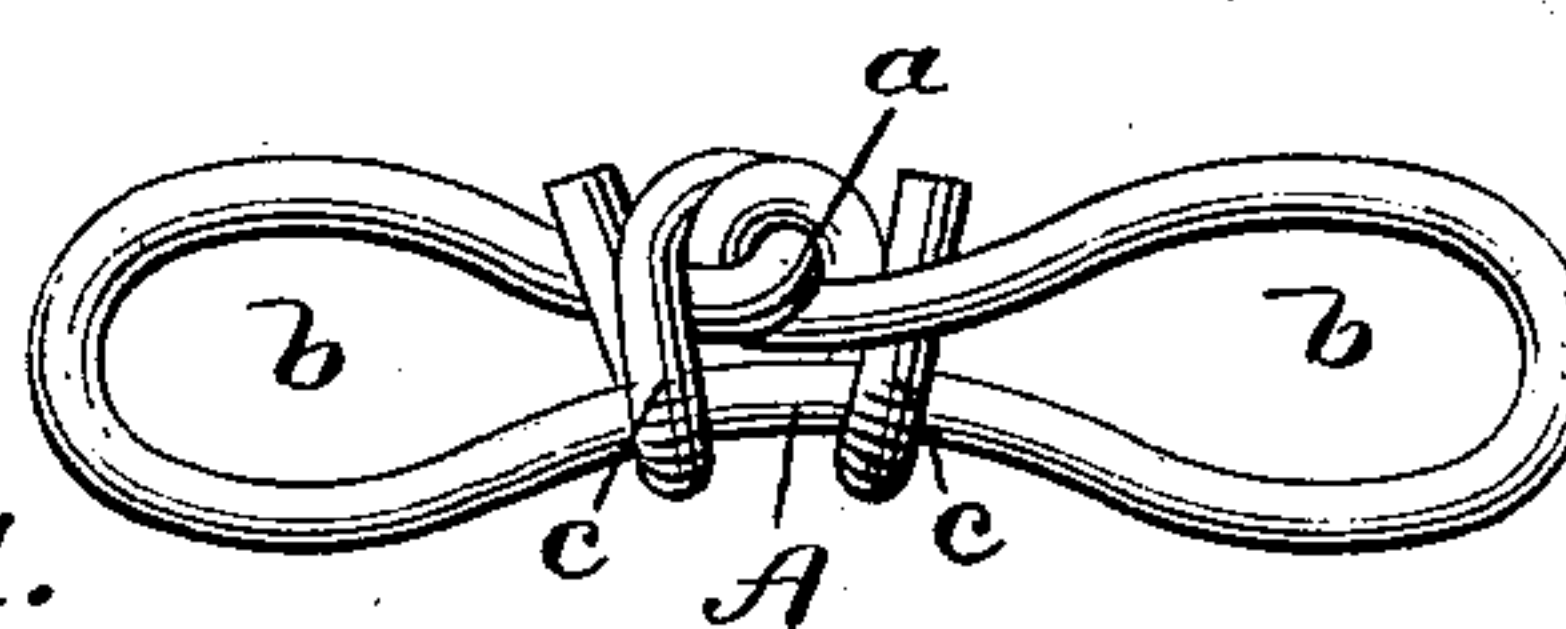
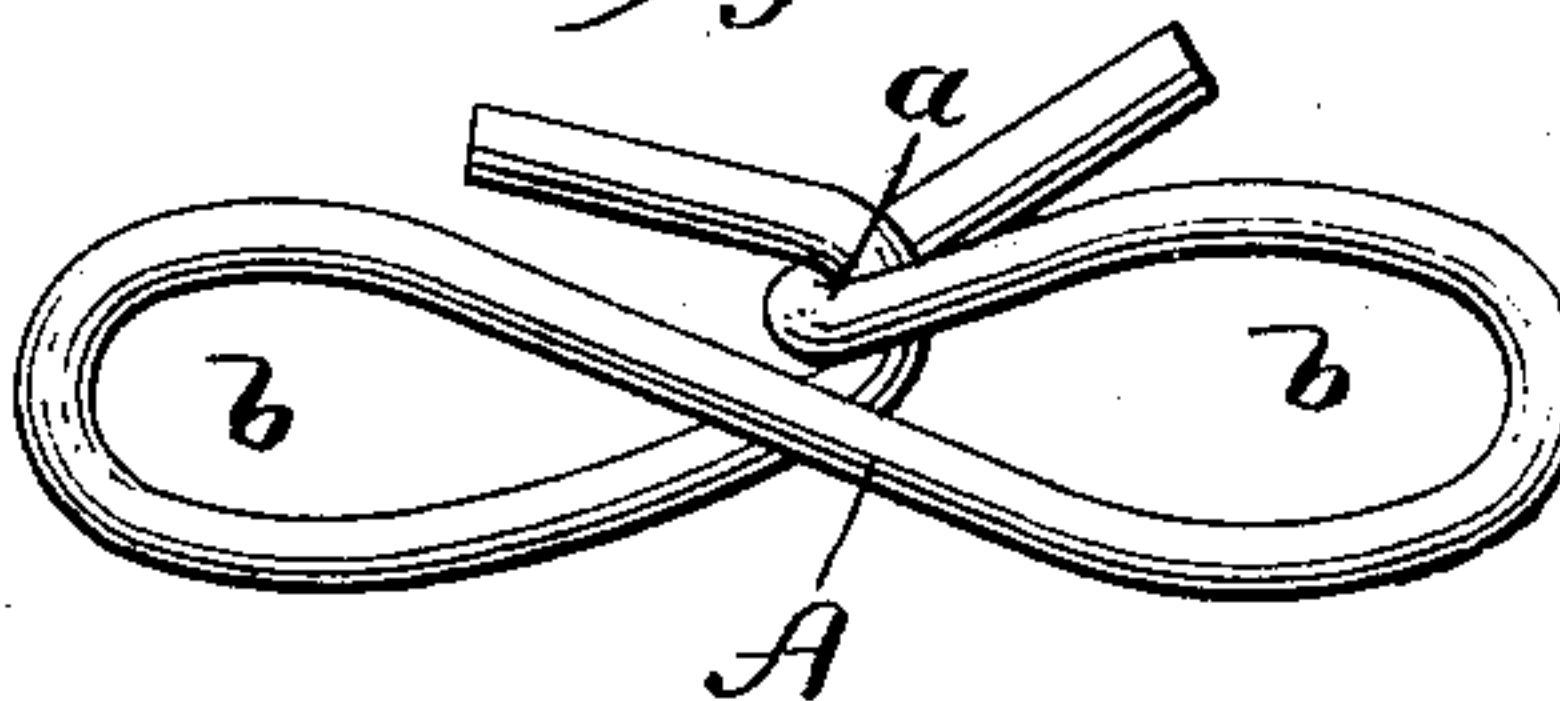


Fig. 11.



WITNESSES:

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FRIEND W. SMITH, JR., OF BRIDGEPORT, CONNECTICUT.

WIRE CHAIN-LINK.

SPECIFICATION forming part of Letters Patent No. 435,327, dated August 26, 1890.

Application filed May 10, 1890. Serial No. 351,298. (No model.)

To all whom it may concern:

Be it known that I, FRIEND W. SMITH, JR., a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Wire Chain-Links; and I do hereby 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.

My invention has reference to chain-links which are made wholly from a single piece of wire, but especially refers to the construction of a wire link such as is peculiarly adapted for use in the manufacture of what are commonly called "trace-chains."

The object of my invention is to so dispose of the ends of the wire in the manufacture of the link that they will be securely fastened as against yielding to any draft or tensile test on the link.

In the description of my invention I will refer to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is an elevation showing a plain straight piece of wire, from which my link is made. Figs. 2, 3, 4, and 5 illustrate the successive steps which are preferably followed in forming and shaping the link prior to the disposal of the free ends. Figs. 6 and 7 are elevations of opposite faces of my completed link. Figs. 8 and 9 are views similar to Figs. 6 and 7, but showing a slightly-modified way of disposing of the ends of the wire; Fig. 10, a view similar to Fig. 6, but showing the ends of the wire locked within the openings of the loops; Fig. 11, a view similar to Fig. 5, but showing the general shape of the link effected by bending the wire after the manner of an S-hook.

Similar letters denote like parts in the several figures of the drawings.

A is the wire from which the link is formed. I preferably bend the wire into U shape, as shown at Fig. 2, cross the ends, as shown at Fig. 3, bend back said ends so as to interlock, as shown at Fig. 4, and then bend the loop shown at Fig. 4 at the line xx to form the double-looped link shown at Fig. 5. Preserving the interlocked condition of the wire, as shown in Figs. 4 and 5, I finally give the free ends a turn or coil around the side wires of the loops, as shown at Figs. 6, 7, 8,

and 9. The steps illustrated in Figs. 2, 3, 55 and 4 are of course not essential, but merely show how my link can be formed, since I can readily bend the wire shown at Fig. 1 into the shape shown at Fig. 5 without going through the preliminaries shown in Figs. 2, 3, and 4. In fact, the generic method which I follow in making my link consists in bending a piece of wire so as to form two loops—one at each end—interlocking the free ends of the wire, and coiling or bending them around the loop-wires. The only difference between the link shown at Figs. 6 and 7 and the link shown at Figs. 8 and 9 is that the interlocked free ends of the wires are coiled in opposite directions around the side wires of the loops. Although actual tests have demonstrated it to be unnecessary, still, if desired, the extreme ends of the wire may be inserted through the inner narrow openings of the loops to afford additional security as against displacement, as shown in Fig. 10.

I will designate the interlocking point of the ends of the wire by a , the loops by b , and the coils by c .

In bending the wire A to form the general shape of the link it is immaterial whether the shape be as is shown in Fig. 5 or whether the wire is bent after the manner of an ordinary S-hook, as shown in Fig. 11, the gist of my invention resting in the broad idea of interlocking the wires prior to coiling them around the side wires of the loops, and not in the loops or the manner of forming them.

I claim—

1. A chain-link made from a single piece of wire bent to form loops, the free ends of said wire being interlocked and then coiled around the side wires of said loops, substantially as set forth.

2. In a chain-link made from a single piece of wire and having a loop at each end, the method of securing the free ends of the wire, consisting in interlocking said ends and then bending them around the loop-wires, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEND W. SMITH, JR.

Witnesses:

J. P. FINCH,
R. C. AMBLER.