

No. 686,216.

Patented Nov. 5, 1901.

C. EDGE.
CHAIN.

(Application filed Dec. 10, 1900.)

(No Model.)

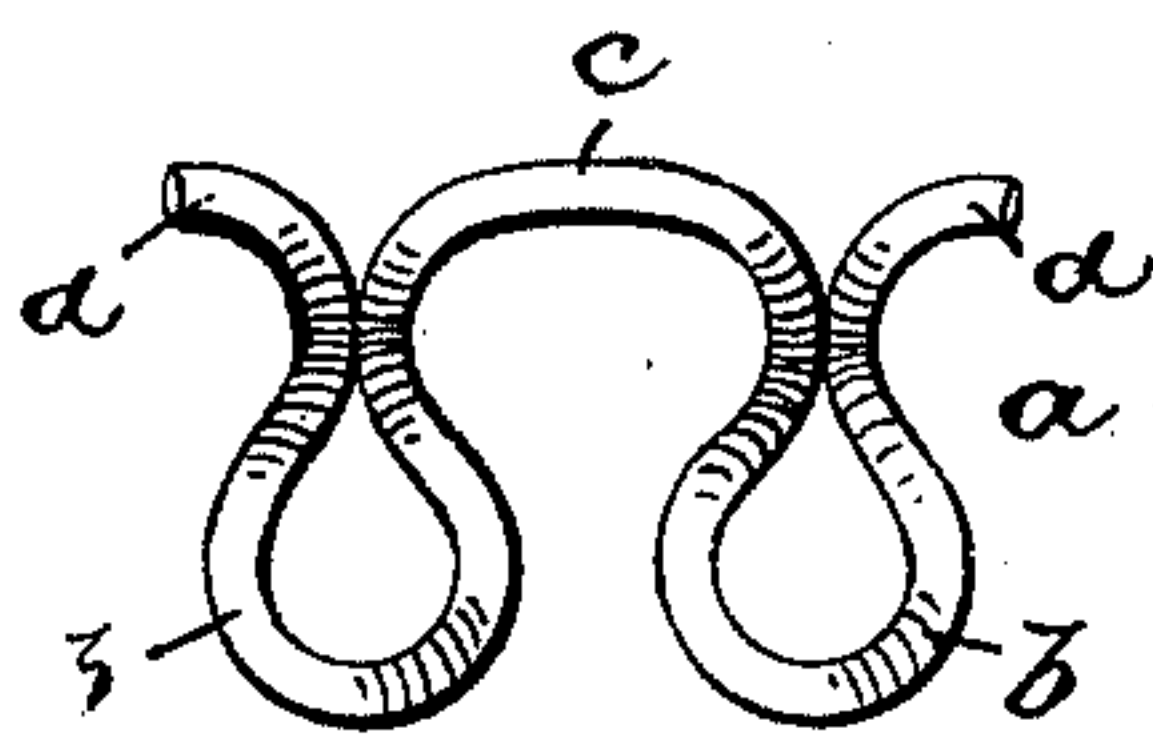


Fig. 2.

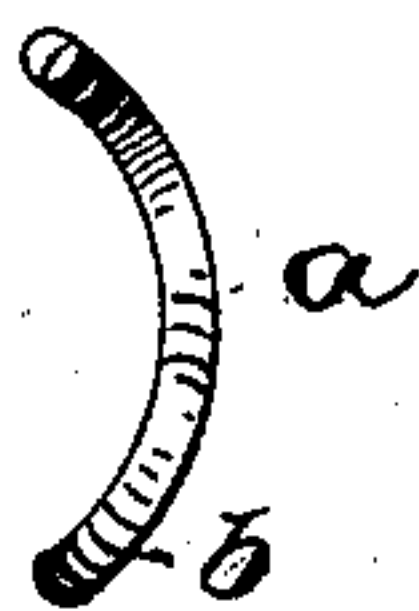


Fig. 3.

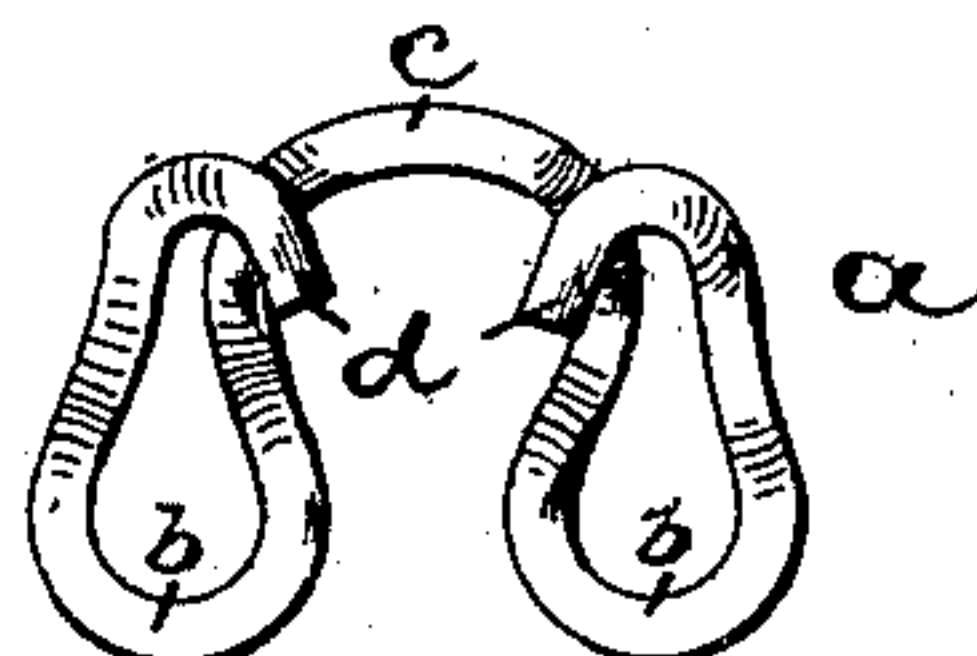


Fig. 4.

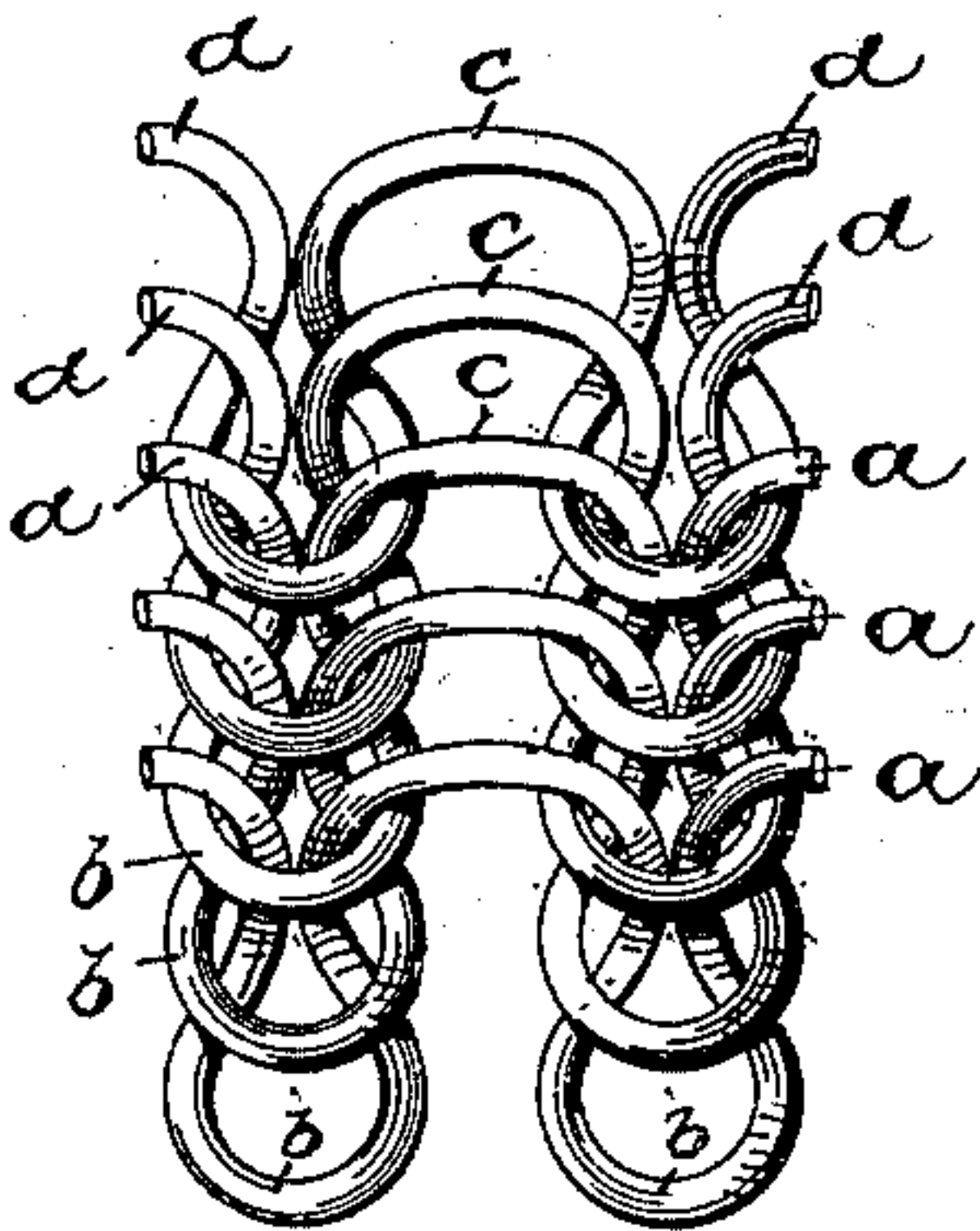


Fig. 1.

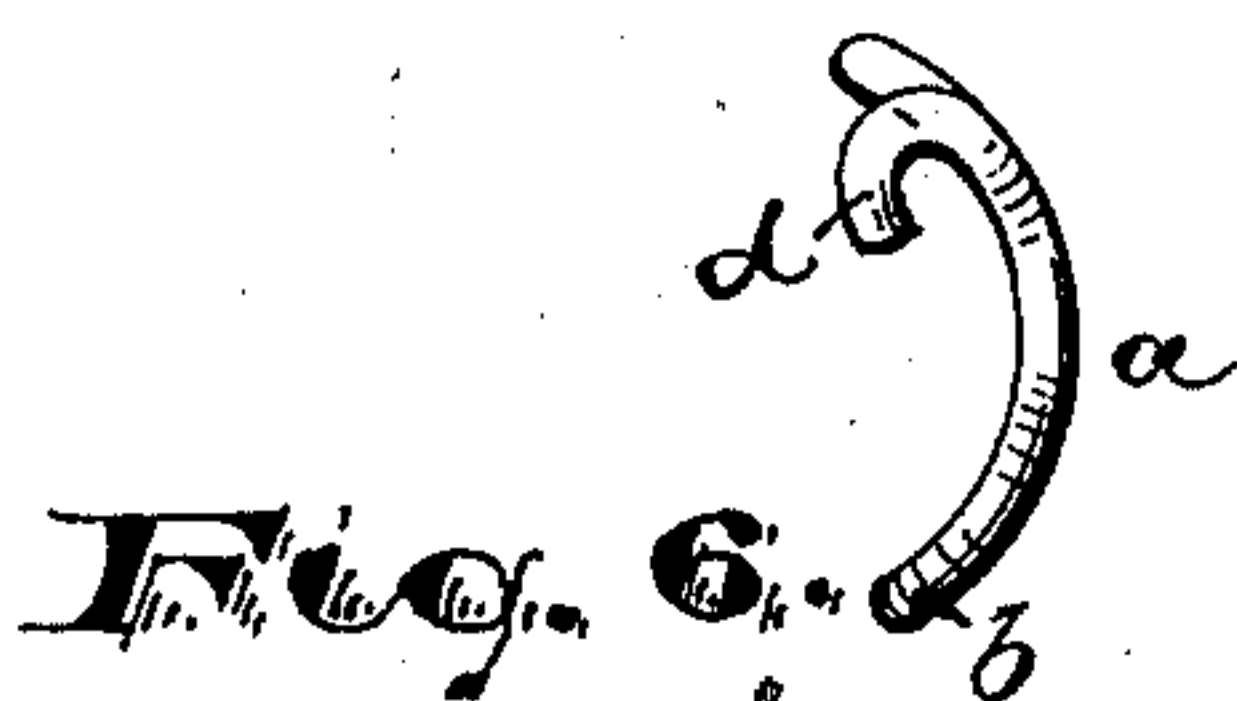


Fig. 6.

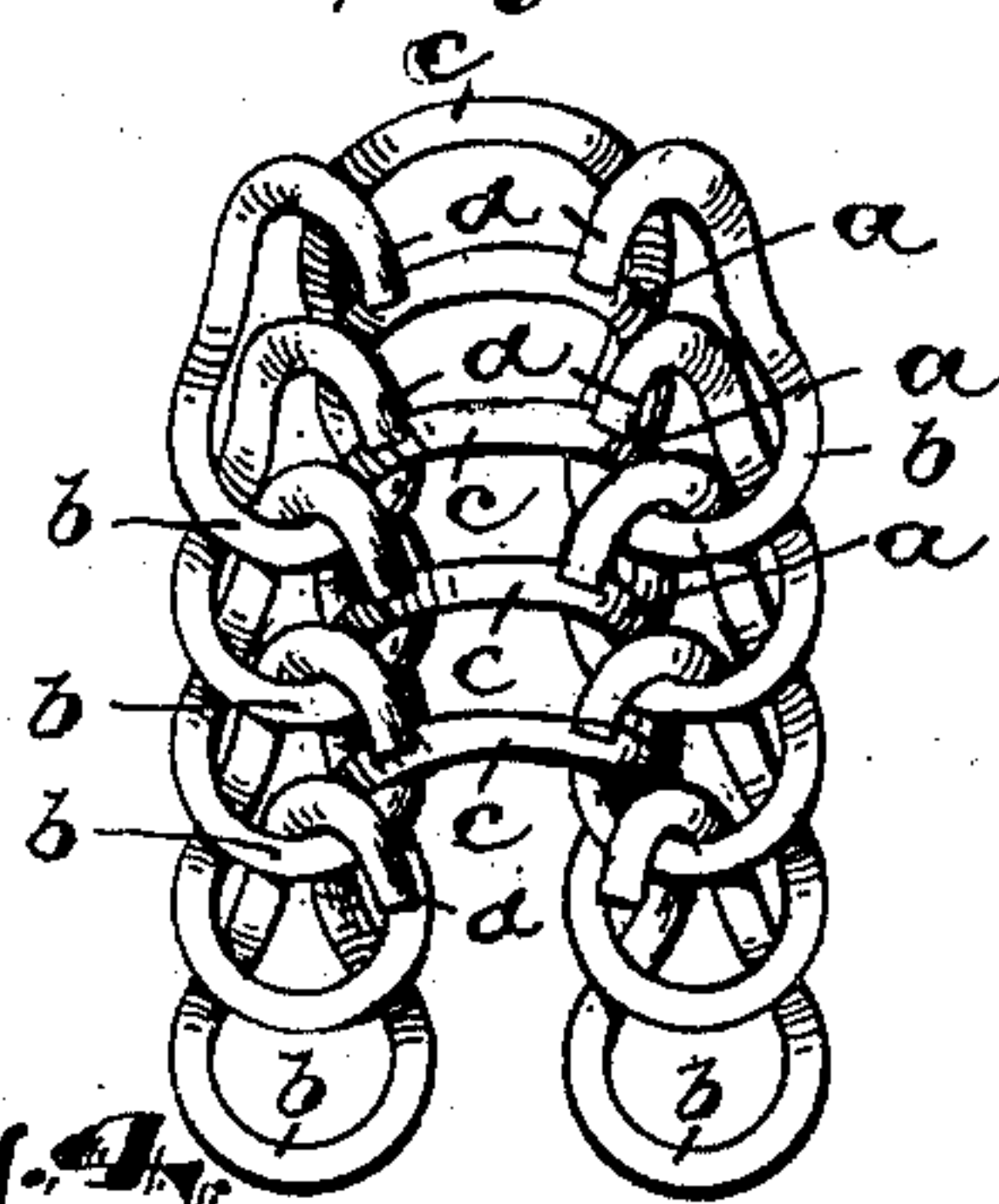


Fig. 5.

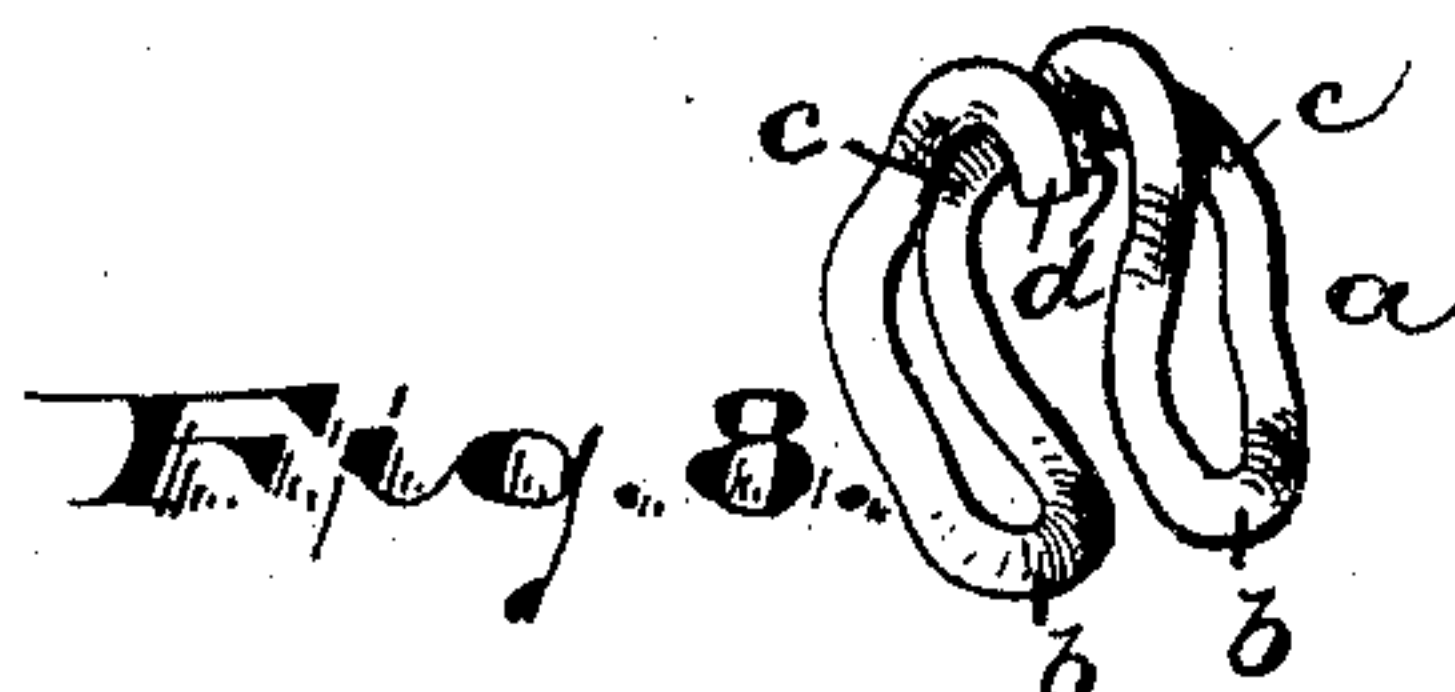


Fig. 8.

Fig. 7.

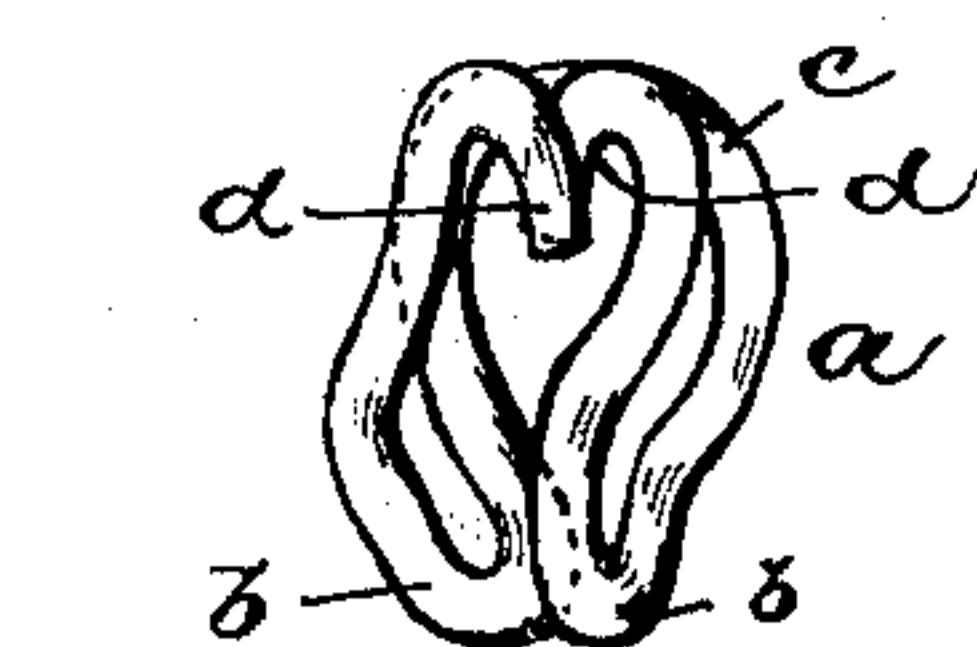
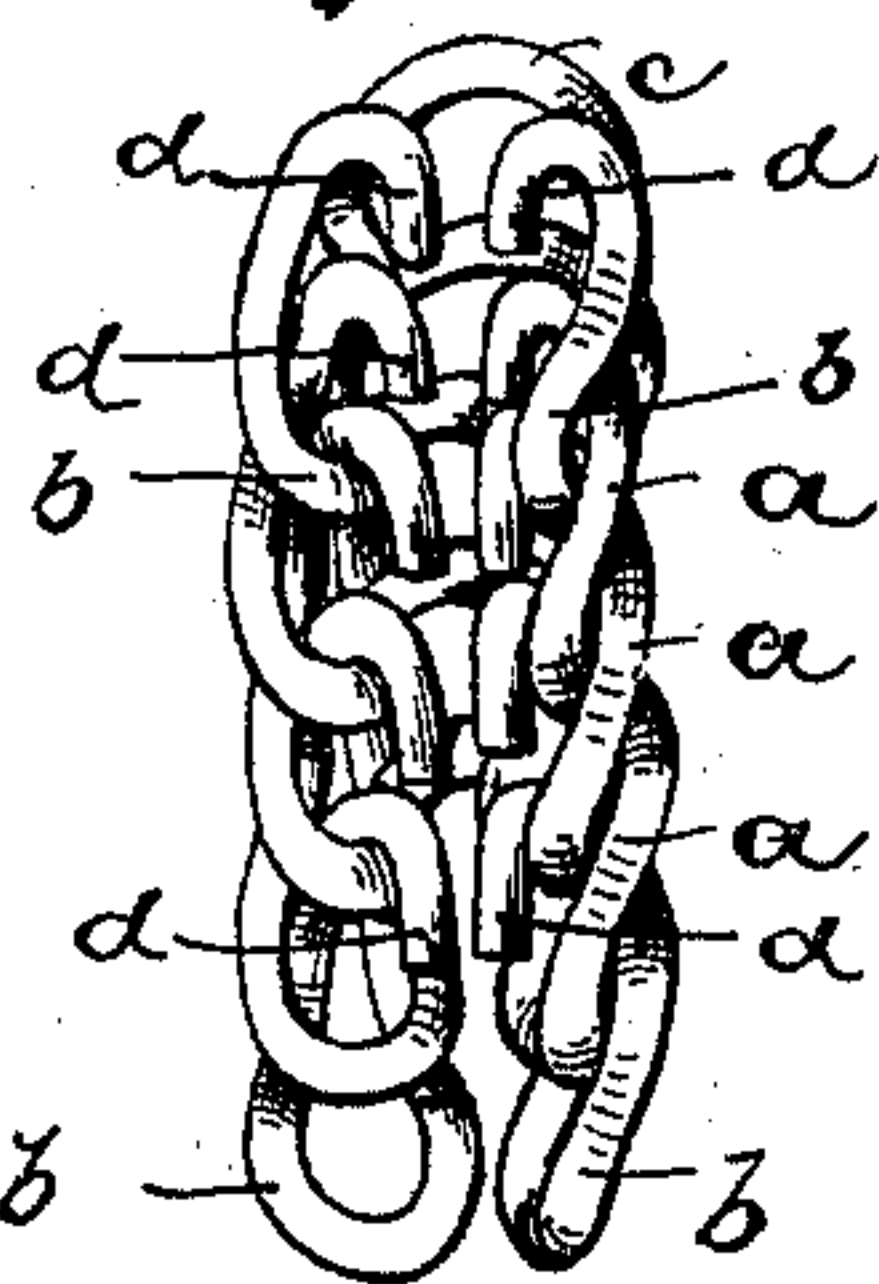


Fig. 9.

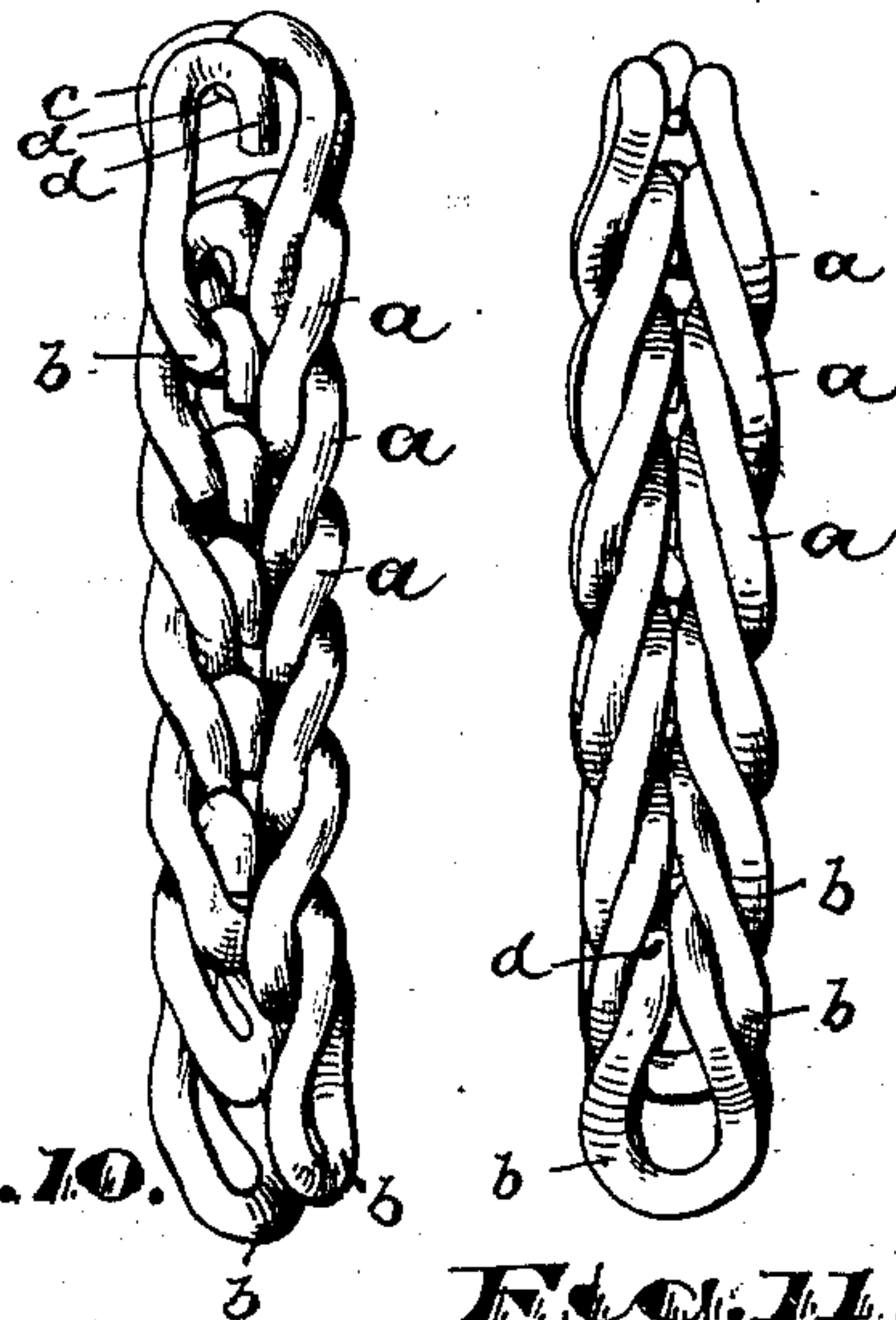


Fig. 10.

Fig. 11.

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UNITED STATES PATENT OFFICE.

CHARLES EDGE, OF NEWARK, NEW JERSEY.

CHAIN.

SPECIFICATION forming part of Letters Patent No. 686,216, dated November 5, 1901.

Application filed December 10, 1900. Serial No. 39,341. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDGE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Chains; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to reduce the cost of manufacture, to provide a chain which while compact in structure and durable will be flexible and less liable to "kink," and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved chain for personal wear and other purposes and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the figures, Figure 1 is a plan of the chain in one of its early stages of construction. Fig. 2 is a plan, and Fig. 3 is a side elevation, of one of the links thereof. Fig. 4 is a plan showing said chain in its next stage of construction. Figs. 5 and 6 are detail views of one of the links in said next stage. Fig. 7 shows a plan of the chain, and Fig. 8 is a perspective view of a link in a further advanced stage. Fig. 9 is a perspective of a link, and Figs. 10 and 11 are respectively a plan and side view of a chain in final forms of construction.

In carrying out the invention I draw a sheet of wire cloth of proper make through cutters such as I may describe in a contemporaneous application and cut the same into strips comprising a series of links *a a a*, as in Fig. 1. In cutting the cloth into strips the one piece of wire from which the said cloth or fabric is formed is cut into pieces, so as to form a series of separate interwoven links in each strip, each link of the series being shaped as shown

in Figs. 2 and 3. In side elevation each link is curved concentric with a segment of the surface of an imaginary cylinder, as in Fig. 3 and in plan. The wire pieces forming the links are bent back and forth in curved lines, as in Fig. 2, so that loops or eyes *b c b* are formed, which alternately extend in opposite directions to receive interlocking loops of co-operating links connected therewith in the chain. The chain thus started in construction is next drawn through suitable formers, and the ends *d d* of the links are bent, as shown in Figs. 4, 5, and 6, said ends being turned inward and in a direction nearly parallel with the longitudinal axis of the chain, the ends at one side of the chain being bent so as not to lie exactly symmetrical with those on the opposite side. The chain is then drawn through another die or former and is again bent, as indicated in Figs. 7 and 8. In this drawing of the chain the outside loops *b b* are turned so that the openings therein face one another, the said turned loops *b b* now lying in planes approximately at right angles to the plane of the intermediate loop *c* and the looped extremities *d d* being brought to lie more closely near to one another, one standing somewhat back from the other, as indicated in Fig. 8, and the rearward extremity lying in a plane between the plane of the forward extremity and the parallel plane of the loop or eye *c*. After another and final drawing of the chain the same is brought to the relation of the parts illustrated in Figs. 9, 10, and 11, where the parts are closed together, so that the hooked ends *d d* are more or less perfectly inclosed and protected by the bent loops *b c b*, and the said hooked ends *d* lie so that one series is more fully back of the other series or the one set of hooked ends lies between the other set of ends and the intermediate loops *c*, and thus in practice the chain is rendered more flexible after the fashion of ordinary chains and is without the disposition to kink in a manner common to chains of this class, inasmuch as the extremity of one link will not engage the opposite side at the top of the link next below it, and thus greater scope of action is permitted to the link ends without interference.

Having thus described the invention, what I claim as new is—

1. The improved chain comprising a series of interwoven links having the wires thereof bent back and forth in curved lines forming alternating loops or eyes, the side loops or
5 eyes being turned to lie out of the plane of the center loop, and the extremities of the links being turned toward one another and lying at the turned parts, one between the other and the said center loop, substantially
10 as set forth.
2. In a chain, the link herein described comprising a piece of bent wire having the alternating and oppositely - extending loops or
eyes *b, c*, the extremities of said wires being hooked and the said wires being bent to
15 bring the eyes or loops *b, b*, into facing relation, and the said hooks so that their extremities extend toward one another, substantially as set forth.

In testimony that I claim the foregoing I
have hereunto set my hand this 12th day of
November, 1900.

CHARLES EDGE.

Witnesses:

CHARLES H. PELL,
C. B. PITNEY.