

(No Model.)

J. ETZENSPERGER.

ORNAMENTAL CHAIN.

No. 295,117.

Patented Mar. 11, 1884.

Fig. 1.

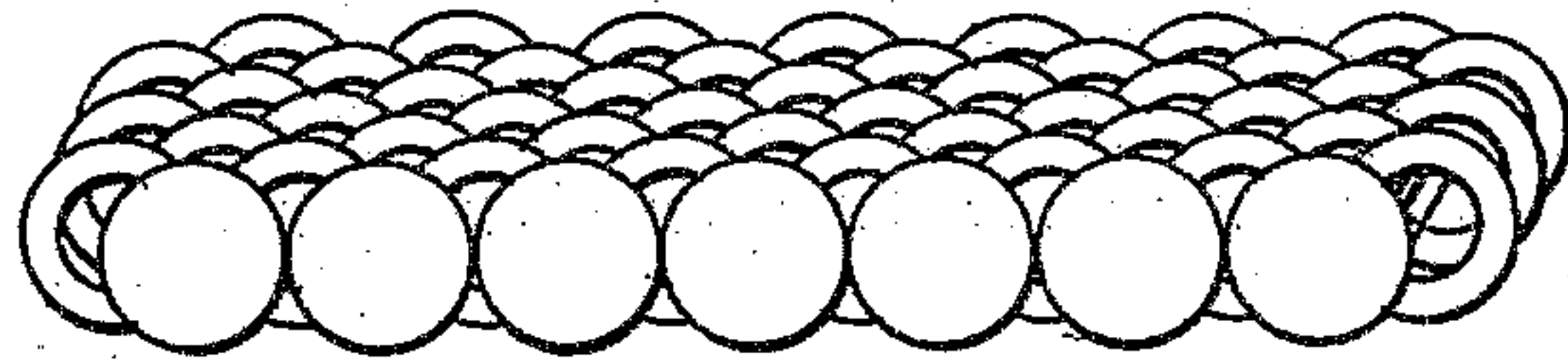


Fig. 2.

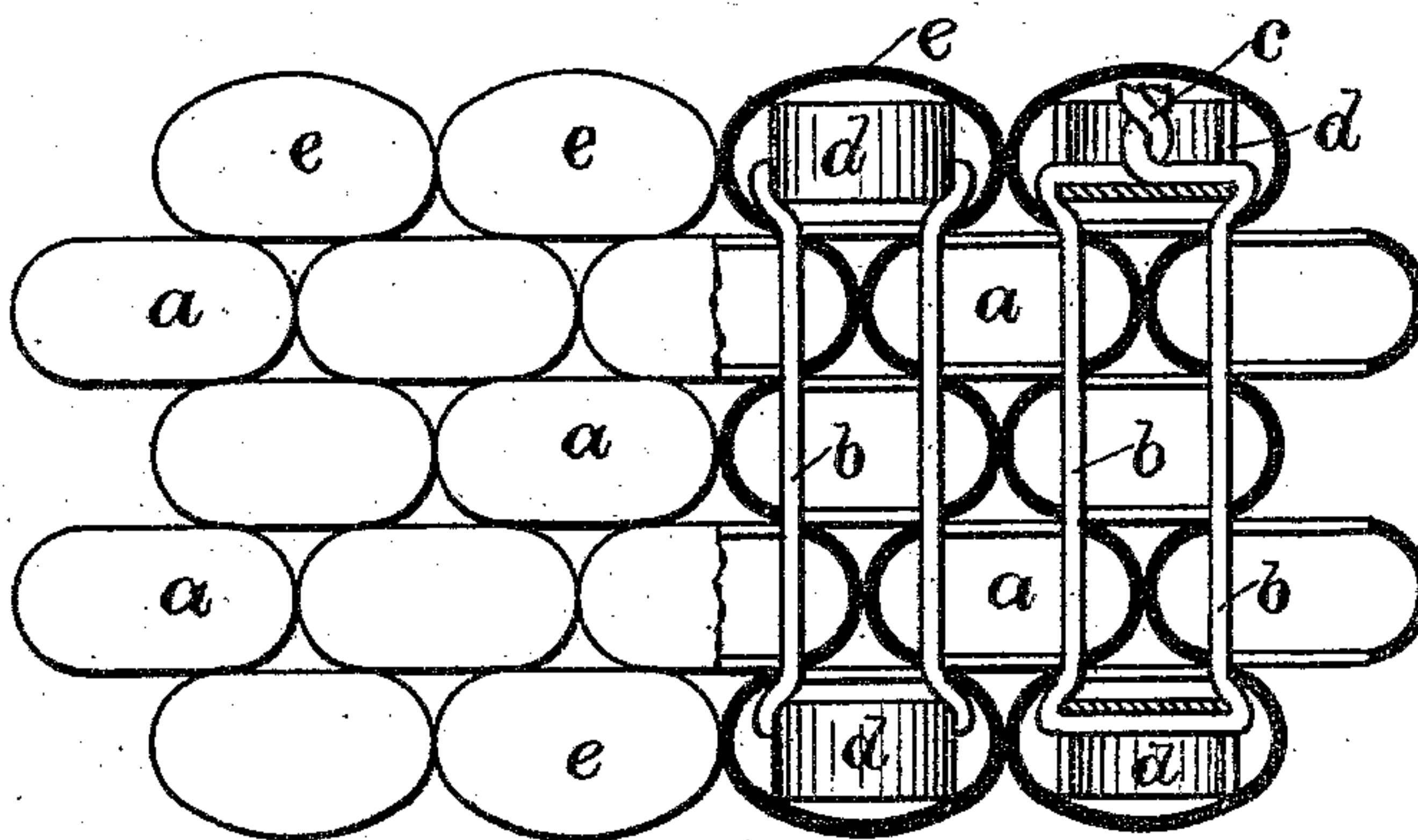


Fig. 3.

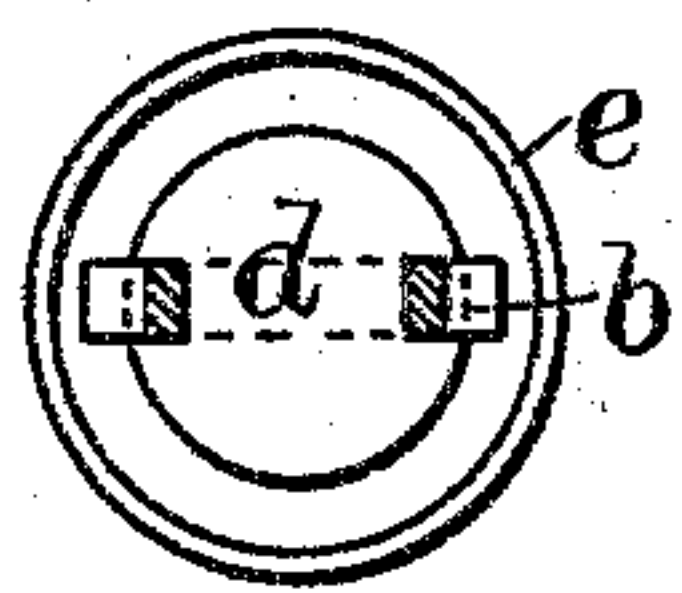


Fig. 4.



Fig. 5.



WITNESSES:

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JOHN ETZENSPERGER, OF NORTH ATTLEBOROUGH, MASSACHUSETTS.

ORNAMENTAL CHAIN.

SPECIFICATION forming part of Letters Patent No. 295,117, dated March 11, 1884.

Application filed January 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN ETZENSPERGER, of North Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Ornamental Chains; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in the class of ornamental chains known as "roller-chains," or chains composed of a large number of units secured together side by side, so as to overlap, by means of wire staples.

The invention consists in the peculiar and novel construction of the end washer and its connection with the staple and the covering-cap, by which a firmer support is secured for the staple and the end cap, as will be more fully set forth hereinafter.

Figure 1 is a perspective view of the roller-chain. Fig. 2 is an enlarged view, partly in section. Fig. 3 is a sectional view of the end cap, the washer, and staple. Fig. 4 is a view, and Fig. 5 a perspective view, of the washer.

In ornamental roller-chains as heretofore constructed, the staple has been secured to or bent over a washer, which washer has been pierced with two holes to receive the ends of the staple; and a tube has also been used, through which the ends of the staple were passed to be bent over the edges of the tubes. In all these constructions the staple ends had to be bent toward each other, so as to enter the holes or the tube. This is difficult, first, because the entering of the two ends of a staple simultaneously into two holes is a nice operation, requiring considerable skill; and, second, as the two holes in the two adjoining

units are farther apart than the distance between the two holes in the washer or the hole in the tube, the units were held so close together as to injure the same and destroy the flexibility of the chain.

In the drawings, *a a a* are the units of which the chain is formed. *b b* are the staples, and *c* is the twisted end of the staples. *d* is the washer. It is made cup-shaped, with two slits in the sides, and is formed of a strip of sheet metal the width of the diameter of the washer, but nearly twice as long, which strip is drawn in a die into the cup shape with open side. (Shown in Fig. 5.) *e e* are the outer caps, which are forced over and inclose the washer.

Several advantages are secured in the use of this improved washer: First, the washer is quickly and cheaply made; second, it forms a firm support for the staple, and also for the cap; third, the staple does not require to be contracted and bear too hard on the ends of the units. The chain is therefore more flexible, and both ends of the staple can be quickly and easily placed into the open sides of the washer, the end twisted, and the cap secured without the skill and time heretofore required.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a roller-chain, the combination, with the units *a a* and staples *b b*, of the washer *d*, having a closed end and open sides to receive the staples, as described.

2. The combination, with the units *a a* and staples *b b*, of the open-sided cup-shaped washer *d* and the end caps, *e e*, as described.

In witness whereof I have hereunto set my hand.

JOHN ETZENSPERGER.

Witnesses:

J. A. MILLER, Jr.,
M. F. BLIGH.