(No Model.)

R. A. BREUL.

CHAIN AND CHAIN LINK.

No. 581,844. Patented May 4, 1897.

Fig. 1.

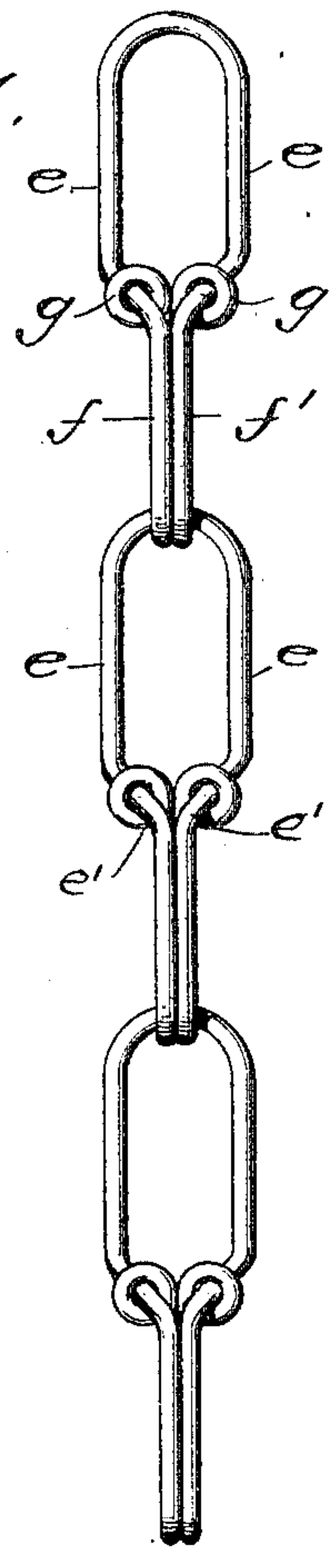


Fig. 2.

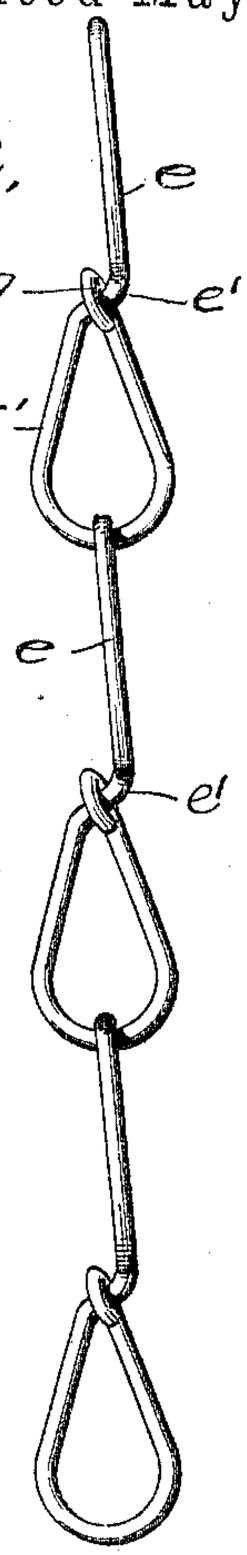


Fig. 3.

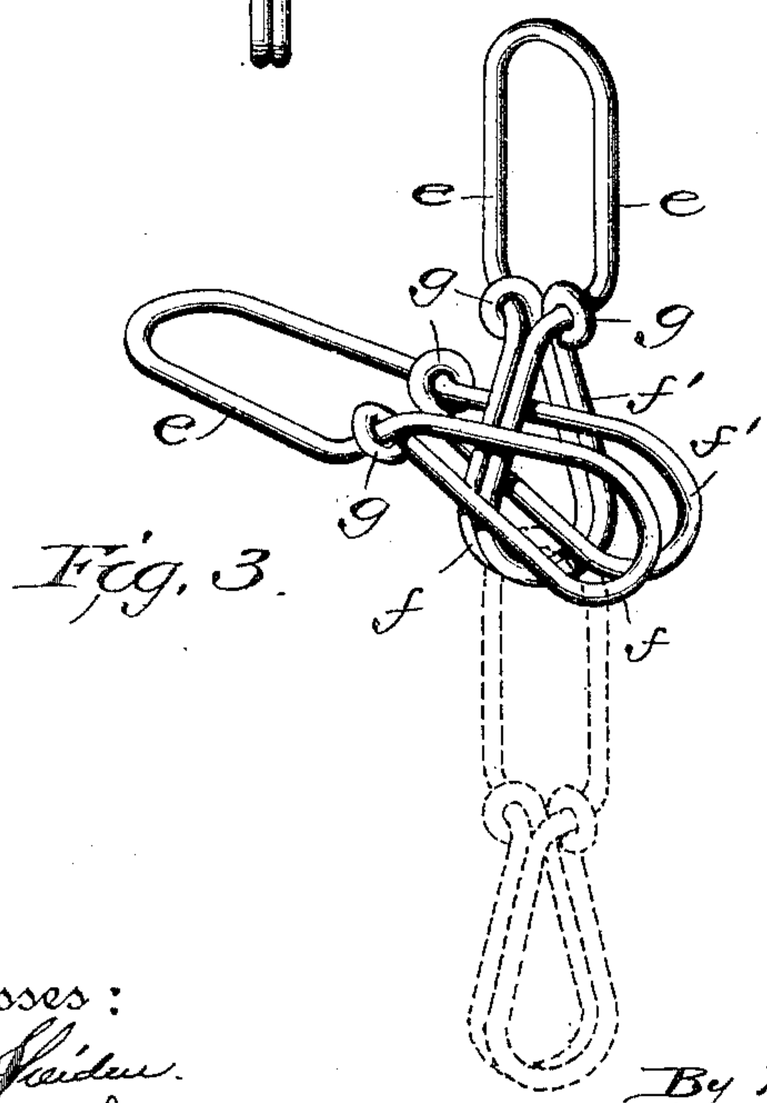
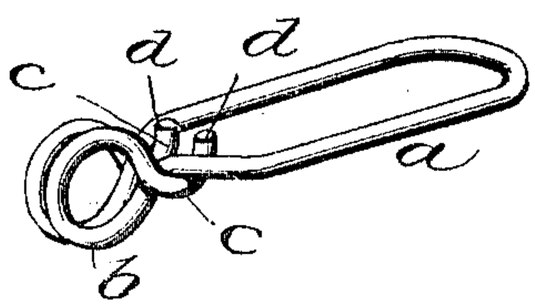


Fig. 4.



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By his Attorneys,
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UNITED STATES PATENT OFFICE.

RICHARD A. BREUL, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE BRIDGEPORT CHAIN COMPANY, OF SAME PLACE.

CHAIN AND CHAIN-LINK.

SPECIFICATION forming part of Letters Patent No. 581,844, dated May 4, 1897.

Application filed June 12, 1894. Serial No. 514,308. (No model.)

To all whom it may concern:

Be it known that I, RICHARD A. BREUL, 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 Chains and Chain-Links, of which the following is a specification.

Each link of my improved chain is composed of a single piece of wire bent to form a loop and an eye, the ends of the wire being inserted in the loop and bent outwardly to encircle or substantially encircle the side wires of the loop and point toward the eye, the entire encircling portion of the two ends of the wire being arranged to lie approximately in the same plane.

The length of the eye of each link is preferably made greater than its width in order that when necessary any desired number of links may be added to the chain or removed therefrom to lengthen or shorten it in the manner hereinafter described.

The chain constructed in accordance with my present invention is an improvement on the wire chain shown in my Patent No. 359,054, dated March 8, 1887.

My object is to improve the construction of chains of that class, and remove from the loops the sharp ends of the wire, so that they shall not scratch or chafe the hands of the user or other objects or catch into things with which the chain comes in contact.

In the accompanying drawings, Figure 1 shows a front elevation of a short length of chain embodying my improvements. Fig. 2 shows a side elevation thereof. Fig. 3 shows a perspective view of two links made in accordance with my invention and illustrates how two such links may be joined or separated. Fig. 4 shows a perspective view of a link such as shown in my Patent No. 359,054, hereinbefore referred to.

The link shown in Fig. 4 is made of a single piece of wire bent to form a bow or loop *a* and an eye *b*, the ends of the wire being provided with hooks *c*, which engage the wire at the end of the loop near the eye. In these respects the link of my before-mentioned patent resembles my improved link, but the link shown in Fig. 4, it will be observed, has the ends of the wire bent only partially around the outside end portion of the loop and terminate in the loop. The extreme ends *d*, which lie side by side, project slightly from the loop and have sometimes been found to be objectionable for the reason already stated.

My improved link, as shown in the drawings, is formed of a single piece of wire bent centrally to form a loop *e*, bent or offset at *e' e'* to bring the parts of the wire together or toward each other, bent again at *f f'* to form the two members of the eye, and then passed into the end of the loop and bent in opposite directions around the side wires of the loop, as at *g g*, in substantially the same plane, so as to encircle the side wires of the loop and point toward the eye and to encircle such side wires to such extent as to substantially cover, protect, or conceal the sharp ends of the wire. Thus an exceedingly strong link is formed which cannot possibly loosen or open where the ends of the wire are engaged, and the link is smooth and even at all points.

As in my former patent the links are joined by causing the wire of the loop of one link to extend through the eye of the next adjacent link, and the two members of the eye lie close together on opposite sides of the longitudinal axis of the link as heretofore.

The chain thus far described contemplates links having eyes of the usual form—such, for instance, as that shown in Fig. 4—but I preferably make the length of the eye greater than its width, in order that links may be added to or taken from the chain. As indicated in Fig. 3, the two members of the eye of one link may be spread apart and one member may be passed through the eye of another link, as indicated. The eye members may then be allowed to spring together and the two links may be readily brought into line, as indicated by dotted lines. Obviously any desired number of links may be joined in this way or any desired number of links may be removed from a chain in the manner indicated.

I claim as my invention—

1. A chain-link composed of wire bent to form a loop and eye and the extreme ends of the wire inserted in the loop and bent outwardly to encircle the side wires, the entire

encircling portion of the two ends lying approximately in one and the same plane, substantially as described.

2. A chain the links of which are each composed of a single wire bent to form a loop and eye and the extreme ends inserted in the loop and then bent outwardly around the side wires to substantially encircle said side wires, substantially as described.

3. A chain the links of which are each composed of a piece of wire bent to form a loop and eye, the extreme ends of the wire terminating outside of the loop and pointing toward the eye, substantially as described.

4. As a new article of manufacture, a chain consisting of links each made of a single piece of wire bent centrally to form a bow, then offset and brought together at the end of the bow, such wires passing through the bow of the next link and curved to form the double eye of greater length than width, and the ends of the wire running to their respective offsets and extending completely around the same forming the round eyes, substantially as set forth.

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

RICHARD A. BREUL.

Witnesses:
FRANK SCHÖNER,
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