

No. 661,661.

Patented Nov. 13, 1900.

C. L. HOFF.  
CHAIN LINK.

(Application filed July 5, 1900.)

(No Model.)

Fig. 1.

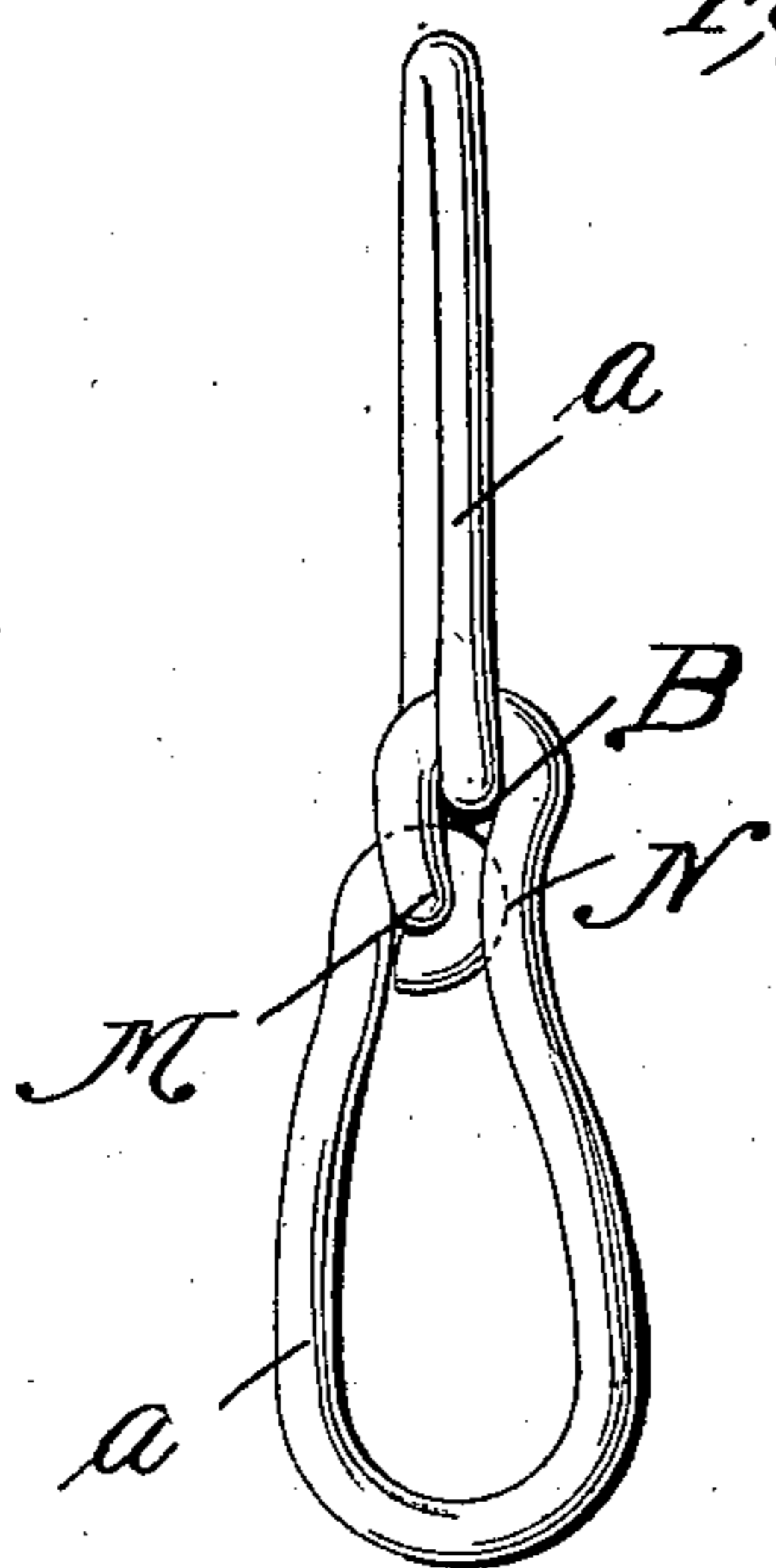


Fig. 2.

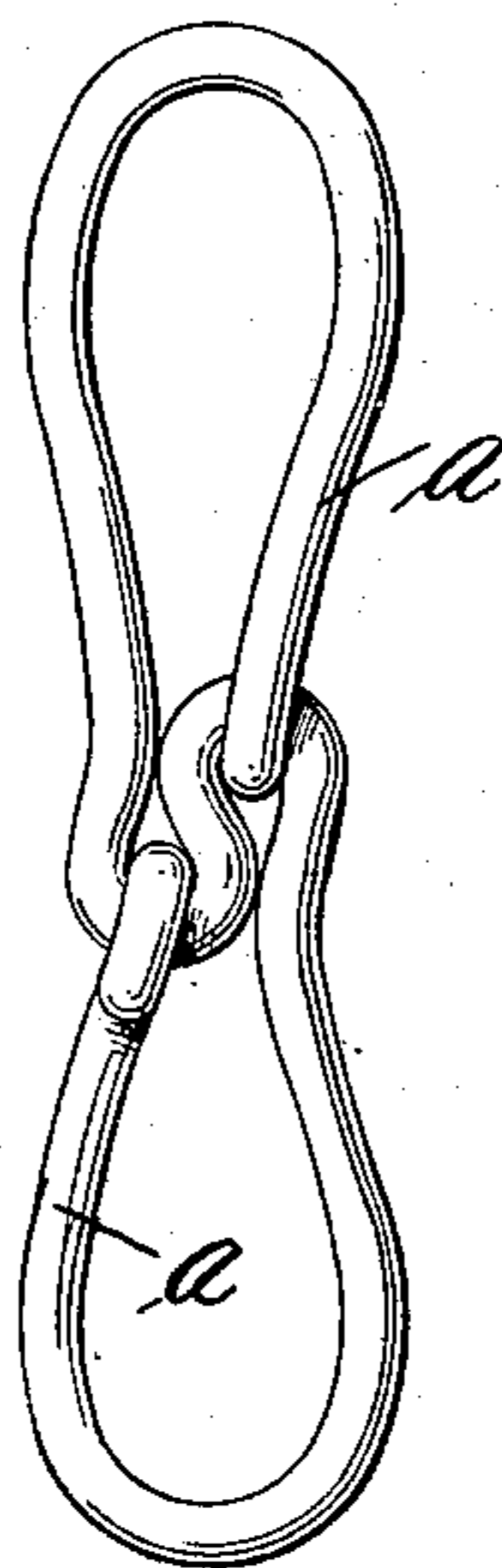


Fig. 3.

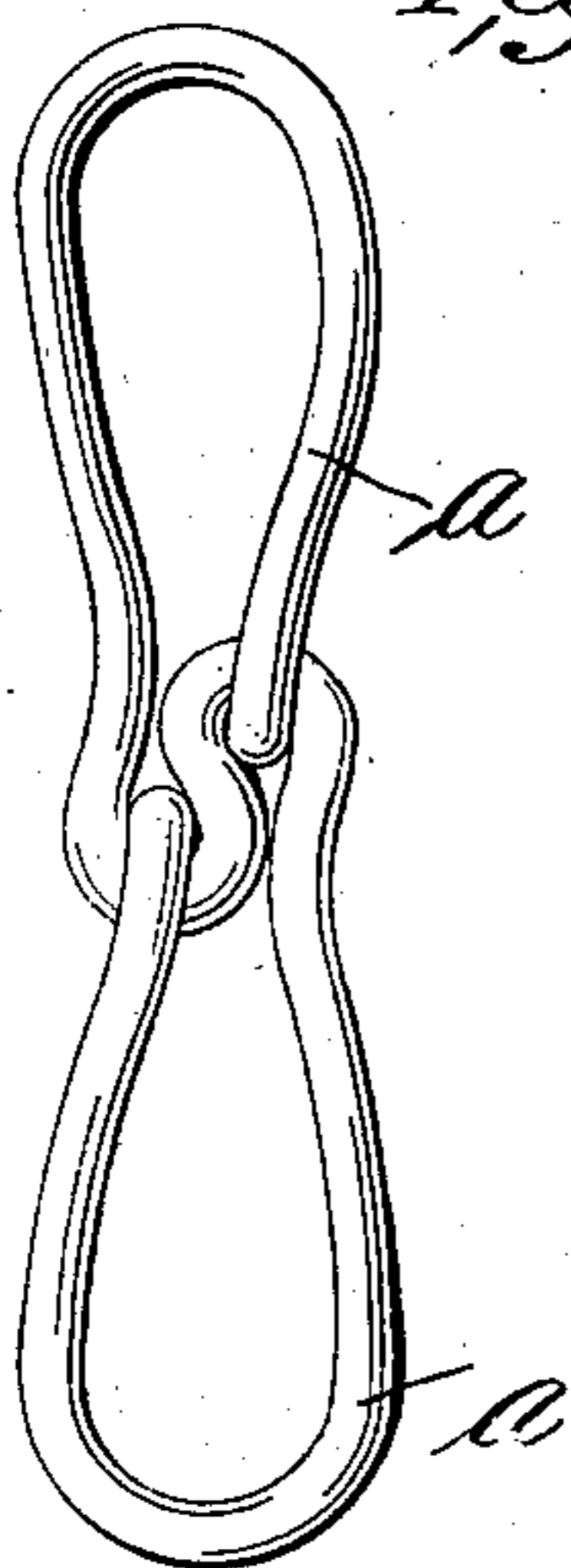
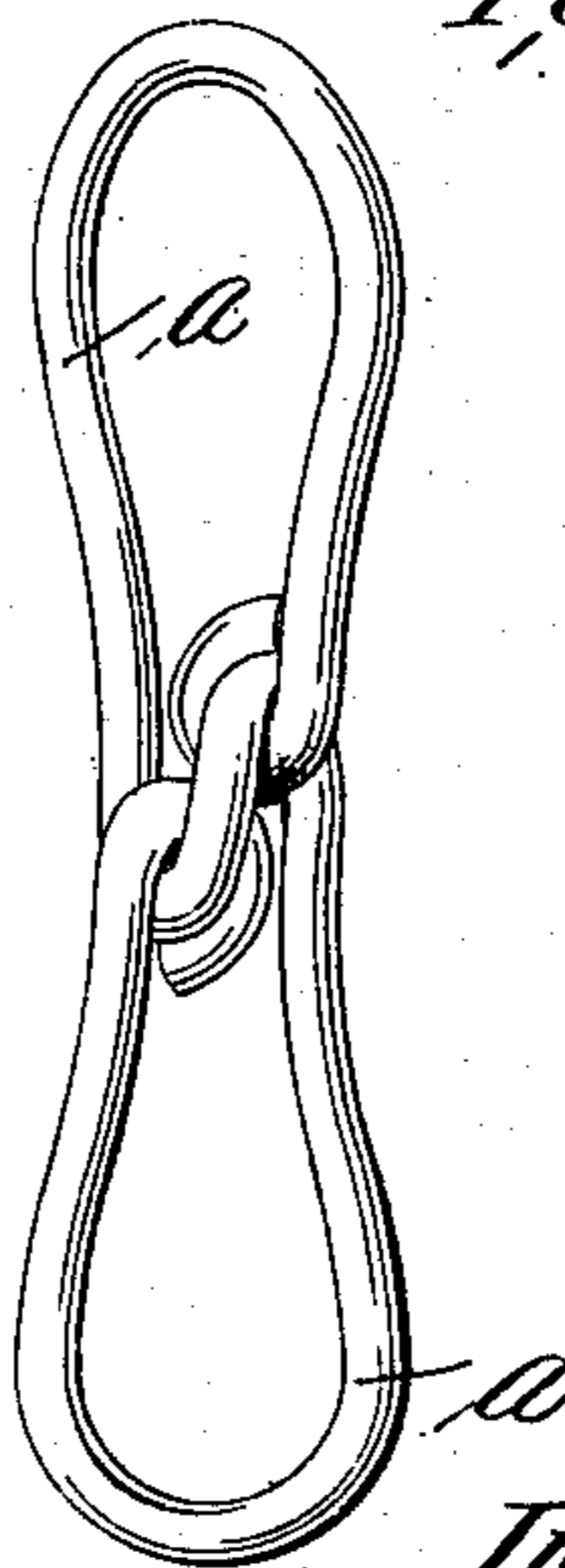


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## CHAIN-LINK.

SPECIFICATION forming part of Letters Patent No. 661,661, dated November 13, 1900.

Application filed July 5, 1900. Serial No. 22,628. (No model.)

*To all whom it may concern:*

Be it known that I, CARLTON L. HOFF, a citizen of the United States, residing at York, county of York, State of Pennsylvania, have  
5 invented certain new and useful Improvements in Chain-Links, of which the following is a specification.

My invention relates to links of the class used in making chains for traces and for a  
10 variety of purposes. These links are generally made of wire, and double links are formed of one piece of wire bent to different shapes, with the ends of the wire secured at a point  
15 centrally, or near the center, of the double link. I have aimed to produce a link of this character of very simple construction, so as to facilitate its manufacture and prevent the collapsing or crushing of the center of the  
20 link, by arranging the loops and eyes in such relation to other parts of the link as to sustain any lateral pressure and also to resist any severe tensile strain. In the principal form of my invention I have also aimed to present smooth sides without projections, so  
25 as to particularly adapt the link to be used as a trace-chain and to present nothing which would rub or abrade the side of the animal.

In the accompanying drawings, Figure 1 shows the principal form of my invention,  
30 while Figs. 2, 3, and 4 show modifications.

In Fig. 1 the double link is composed of one piece of wire and the single links are, as shown, arranged substantially at right angles to each other, these single links being  
35 indicated at *a*. The single links are joined by a curved central portion, forming a double loop, and the two loops thus formed are approximately at right angles to each other. In this double loop the free ends of the wire are  
40 bent to form eyes. As shown, these eyes are substantially at right angles to each other, and instead of projecting outwardly beyond the plane of the sides of the link, as is the case with most all the links of this kind, they  
45 are bent inwardly and are located within the lines of the walls of the link, and thus nothing is presented in the shape of a projection or obstruction to rub the side of the animal. Under severe tensile strain, owing to lateral

pressure, the tendency of all links is to col- 50  
lapse at the center of the link. This tendency to collapse causes the parts of the loops, as shown at N and M, to come together more closely, and thus binds more tightly the eyes engaged by them, and the greater the strain 55  
the more tightly will they bind. This relieves the strain on the eyes and gives rigidity to the structure, as well as preserves the integrity of the link. The eyes of the link abutting against each other, as shown at B, gives 60  
them greater strength, and thereby gives the link great resisting qualities.

In Fig. 2 the links are approximately in the same plane and the double loop in the center is approximately in the same plane with the 65  
links. The free ends of the wire engage the loops, being bent so as to form eyes, and the construction is such that any tensile strain upon the link will tend to more closely confine these eyes in the loops by means of the 70  
lateral pressure and at the same time, by reason of the several thicknesses of metal arranged practically parallel to each other, the collapsing of the center of the link is prevented. 75

Fig. 3 is identical with Fig. 2 except that while in Fig. 2 the eyes are passed through in reverse directions in Fig. 3 they are passed through in the same direction.

Fig. 4 differs from Figs. 2 and 3 in that the 80  
loose ends of the wire are passed through the loops in a lateral direction instead of from the top and bottom, and this tends to form a smooth link, as in the case of Fig. 1. The free ends of the wire may also engage the cen- 85  
tral portion of the double loop at *c*, the eyes formed being substantially at right angles to the adjacent part of the side of the link.

What I claim is—

1. A metal link comprising two single links 90  
joined by a curved central portion the free ends of the metal being formed into eyes which are independent of each other and which engage the loops formed, said eyes being in close proximity or contact with adja- 95  
cent portions of the link so as to prevent the collapsing of the center thereof.

2. A metal link comprising two single links

made of a single piece, said single links being  
arranged at right angles to each other, the  
eyes upon the free ends of the metal engag-  
ing a double-looped central portion and being  
5 turned inwardly and located within the line  
of the sides of the link, substantially as de-  
scribed:

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

CARLTON L. HOFF.

Witnesses:

GEO. M. RYNICK,  
HENRY C. ULMER.