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CHAIN LINK OR COUPLING.  
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Fig. 1.

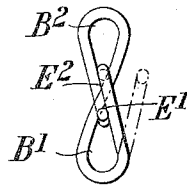


Fig. 2.

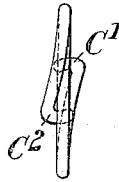
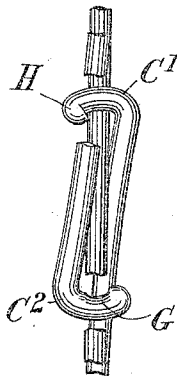


Fig. 3.



Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## CHAIN LINK OR COUPLING.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed February 20, 1906. Serial No. 302,073.

1,000,710.

To all whom it may concern:

Be it known that I, CHARLES BRYANT, a subject of the King of Great Britain, residing at 61 Drakefield road, Balham, London, England, have invented new and useful improvements in Chain Links or Couplings, of which the following is a specification.

The object of my invention is to provide a chain link which is formed of a single piece of wire, or rod, bent into the form of a double loop, and having each of the end portions constructed to detachably engage the loop at the opposite end of the link, so that it can be readily detached, to open the link at either end for connection with other links or devices.

In the accompanying drawing, Figure 1 represents a plan view of a link embodying my invention. Fig. 2 is an edge view of the same. Fig. 3 is a view similar to Fig. 2, of a link in which both the end locking portions are bent in the same direction. Fig. 4 is an edge view partly broken away showing another slight modification of the link.

In the form of link shown in Figs. 1 and 2 the link is formed of a single piece of metal wire or rod, bent into double loop form by bending the end portions in opposite directions, the loops being designated B<sup>1</sup> and B<sup>2</sup> respectively. For convenience of description I will term the portion of each loop adjacent to the end of the said wire or rod the "outer arm" of the loop and the portion adjacent to the center of the wire or rod the "inner arm" of the loop. In bending the wire or rod the inner arms of the loops form continuations of each other and merge directly into each other. Each end of the rod or bar is provided with a portion which I term the "lock end" which is constructed to detachably engage the inner arm of the loop of the opposite end of the link, without surrounding the same. These lock ends are designated at C<sup>1</sup> and C<sup>2</sup> respectively and they may be formed as shown in Figs. 1 and 2 by simply bending the end portion of the rod or bar into an open hook form which will give it a secure hold upon its inner arm of the opposite loop, but at the same time permit it to be readily disengaged, by springing the outer loop arm of which it forms an integral part, and without bending the lock-end itself, as will be clearly apparent from the drawing. The rod or bar from which the link is formed may be made

of metal of a springy nature, although this is not necessary.

It is obvious that either or both of the lock ends of the link can be readily removed from the portions which they engage, thus opening the link at either or both ends, to facilitate the insertion of another link or to enable the link to be connected with any other device, and thereafter the lock ends can be replaced in engagement, and this operation can be performed repeatedly without affecting the shape or integrity of the link.

In Figs. 1 and 2 each of the lock ends C<sup>1</sup>, C<sup>2</sup> engages the inner arm of the loop at the opposite end of the link, and lies within a recess E<sup>1</sup> (or E<sup>2</sup>) formed between the inner and outer arms of the loop as there shown. I term this recess the "bight" of the loop, and each of the lock ends in this form of the link engages the "bight" of the loop at the opposite end of the link. In Figs. 1 and 2 the lock ends are bent in opposite directions with respect to the plane of the link. Fig. 3 shows a link substantially like that shown in Figs. 1 and 2 with the exception that the lock ends are bent in the same direction. It will be seen that in both these forms of link, while the lock ends are detachable and do not surround the inner arms of the loops which they engage the longitudinal strain upon the link will merely cause the lock ends to press tighter upon the engaged parts and tighter into the "bights" of the loops, thus giving the link the required strength.

In Fig. 4 I have shown a form of link in which one of the lock ends C<sup>2</sup> is provided with a grooved portion G to enable it to fit upon, without surrounding its contiguous loop arm, and the lock end C<sup>1</sup> is shown as provided with a head or enlargement H for the same purpose, this being merely illustrative of variations in the form of lock ends within the scope of my invention.

I am aware that links of various kinds have been formed from pieces of rod or wire by bending them into double loop form and permanently securing the end portions by bending them around portions of said loops. Such constructions I do not claim. I am not aware, however, that it has ever been proposed, prior to my present invention, to form a link by bending a single piece of rod

or bar into double loop form and providing the end portions with means for detachably engaging portions of the loops or for detachably engaging the inner arm of the loop  
5 at the opposite end of the link, or for detachably engaging the loop at the opposite end of the loop, and lying in the "bight" of said loop, and these constructions I claim as my invention.

10 Having described my invention, what I claim and desire to secure by Letters Patent is:—

15 A link comprising a continuous wire or rod having its end portions bent in opposite directions and overlapping the central portion so as to form two pear-shaped loops, the extremities of the end portions being pro-

vided with locking portions, each of the said locking portions detachably engaging the central portion, and lying respectively within the angular bight formed by the opposite end portion overlapping the central portion, the said locking portions extending less than three-fourths way around the central portion of the wire or rod forming the link, whereby the greater the longitudinal strain on the link, the more firmly the locking portions are gripped and wedged in the angular bights of their respective loops.

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Witnesses:

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