June 15, 1926. 1,588,533

E. P. ELZEY

OPEN OR ATTACHABLE LINK

Filed Nov. 13, 1920

Fig. 1.

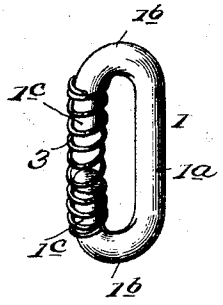


Fig. 2.

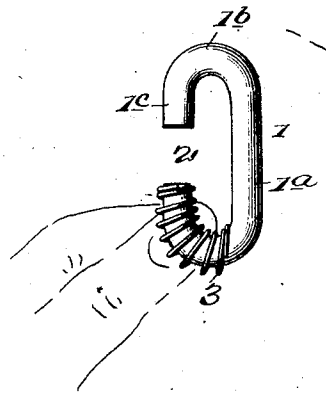


Fig. 3.

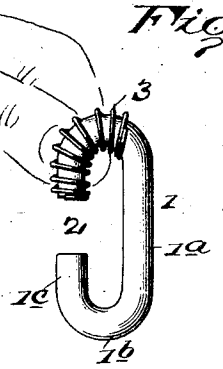


Fig. 4.

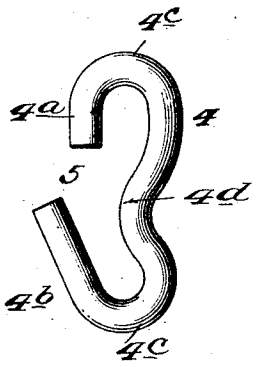
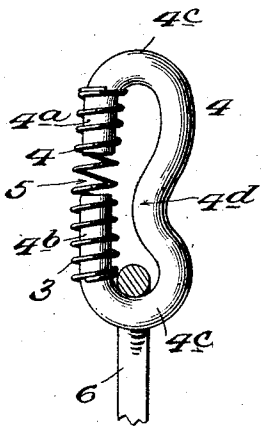


Fig. 5.



INVENTOR.

E. P. Elzey

BY

Hubert E. Cooke

ATTORNEY.

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UNITED STATES PATENT OFFICE.

EDGAR P. ELZEY, OF PARKERSBURG, WEST VIRGINIA.

OPEN OR ATTACHABLE LINK.

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This invention relates to certain improvements in open or attachable links; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawings illustrating what I now believe to be the preferred embodiment or mechanical expression of my invention from among other forms and constructions within the spirit and scope thereof.

An object of the invention is to provide exceedingly simple and easily operated means for attaching chains or for coupling into chains or for attaching connections or other means to chains or the like with the end in view of improving open-side or attachable links and the like.

With this and other objects in view my invention consists in certain novel features inconstruction, arrangement, or combination, as more fully and particularly set forth and specified hereinafter.

Referring to the accompanying drawings:

Fig. 1 shows in perspective, a link embodying my present invention, the parts thereof appearing in normal operative position.

Fig. 2 is a side elevation showing the link open for coupling to the link of a chain, or to a hook, eye, ring or other device to which it is desirable to attach a chain or other connection of which my said link may form a part.

Fig. 3 is a view similar to Fig. 2 but showing the guard moved to expose the opposite end of the link from that shown exposed in Fig. 2.

Fig. 4 is a side elevation of a different form of link or hook adapted to receive the guard in accordance with my invention.

Fig. 5 is a side elevation of the member of Fig. 4, bent to operative form and having the guard applied thereto, a chain link, appearing in section, being shown in the closed end of the member.

The particular example illustrated, as what I now believe to be the best embodiment of my invention, consists of a flat or elongated link 1, having side opening 2 normally closed and guarded by a coiled compression spring 3.

In the particular example illustrated, I show a longitudinally elongated (so-called) flat link formed by a single bar or length of metal bent to form the straight or unbroken side bar 1^a, the opposite curved transverse link end or hook portions 1^b, and the two broken side bar portions 1^c, spaced apart at their extremities to provide said side opening 2. In this example, the side opening 2 is located mid-way between the opposite similar link ends 1^b, and the two bar ends 1^c are longitudinally alined, straight and of approximately the same length although as at present advised, I do not wish to so limit all features of my invention.

It will thus be noted, that this particular example, in effect provides two oppositely arranged hooks, the bar ends 1^c forming the bills of the hooks, respectively, the bar length 1^a forming a common stem for the two hooks.

The device (chain link, eye, hook, ring, loop etc.) to which the link is to be coupled, passes into the link through side opening 2 and can be received at either end 1^b. In fact, one element can be received at one end of the link and another element at the other end of the link, as where the link is used to repair a chain or to attach a chain to an eye or ring or to attach one chain to any link of another chin.

The open side of the link is guarded by the more or less flexible tube-like spring 3 arranged longitudinally on the two bar ends 1^c so as to normally bridge the side opening 2. This spring is preferably so formed as to be longitudinally slidable on either bar end 1^c to uncover the other bar end and the opening 2. In other words, the spring is preferably slidable in either direction to uncover the side opening 2 from either side or end thereof.

The spring is usually composed of a single length of spring wire coiled into cylindrical or tubular form to provide a tube of sufficient length to approximately seat at its opposite ends against the opposite link ends 1^b and extend throughout the lengths of the two bar ends 1^c with the central portion of the spring tube bridging the link side opening 2. The spring tube preferably forms a compression tube so that it can be longitudinally compressed from either end to uncover the link side opening and be thus held until the link has been coupled or attached to the device to be coupled thereto. Then when the spring is released, it will expand to normal position bridging the opening 2 and extending onto the other bar end.

The flexible tubular guard spring can be

manipulated in various ways to expose the link side opening and then return the spring to normal guarding position. If so desired, the spring when compressed, can slide back a distance on either curved cross end of the link, or the free end of the spring when the spring is forced back, can be bent laterally in the link side opening to permit entrance or exit of the device to which the link is being detached or from which it is being detached.

In the form of my invention disclosed by Fig. 5, the link or hook is composed of a single bar or piece of metal or other material suitable for the purpose, formed to provide the unbroken longitudinal side bar 4, and the opposite broken longitudinal side bar consisting of straight alined ends 4^a, 4^b, spaced to provide inlet or side opening 5, and joined to the bar 4 by curved end cross portions 4^c.

In this embodiment of the invention, the side bar 4 is formed with an inward hump or offset 4^d approaching the end 4^b of the opposite longitudinal side of the link or hook to provide an eye or loop at one end of the link or hook in which a chain link or other connection 6 can be confined.

In this arrangement, the compression spring guard 3, is longitudinally arranged on the two bar ends 4^a, 4^b, and bridges the side opening 5, and performs the functions and is operated as hereinbefore described, except for the fact that the spring is preferably so arranged as to be slidable and compressible to uncover the short end 4^a and opening 5, and usually not in the opposite direction to uncover the long end 4^b. With this arrangement, the short end 4^a constitutes the bill of a hook formed by the upper end portion (with reference to the position of the device Fig. 5) of the device.

By compressing and sliding the spring on the long end 4^b, the hook can be readily applied to and released from various connecting or coupling devices, and the structure can be utilized as a snap hook.

The link of Fig. 5 can be made as shown by Fig. 4, with the long bar end 4^b bent outwardly to afford ample room for the entrance of the link 6 past the hump 4^d and into the lower end of the link. After the link is thus applied, the end 4^b is bent inwardly into alinement with end 4^a to confine the link 6 to the lower end of the device. The guard spring can then be applied.

It is evident that various changes and variations in form and arrangement might be resorted to without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact disclosure hereof.

What I claim is:

1. A repair link consisting of a rod of uniform diameter throughout its entire length bent to form a back and two return portions, the latter each having opposed faces spaced apart to permit the passing between them of the links to be connected, characterized by the provision of an inwardly directed hump in the intermediate portion of said back.

2. A repair link consisting of a rod of uniform diameter throughout its entire length bent to form a back and two return portions, the latter each having opposed faces spaced apart to permit the passing between them of the links to be connected, characterized by the provision of an inwardly directed hump in said back and spaced from the ends thereof, and a coiled flexible guard spring on and slidable longitudinally of said two return portions.

EDGAR P. ELZEY.