April 5, 1927. 1,623,302

J. BUFFINGTON

CATCH

Filed Aug. 13, 1923

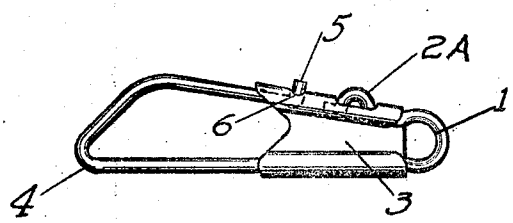


Figure I

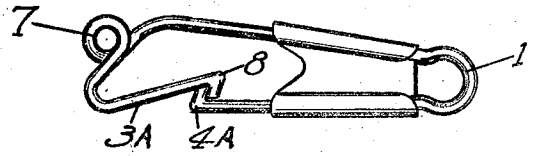


Figure II

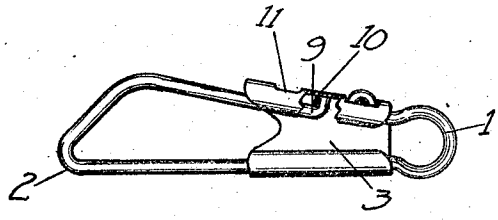


Figure III

Inventor
Joseph Buffington
By W. A. Darrah.
Attorney

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UNITED STATES PATENT OFFICE.

JOSEPH BUFFINGTON, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO CHARLES J. KIRK, OF NEW CASTLE, PENNSYLVANIA.

CATCH.

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This invention relates to a catch which may be applied for a wide variety of purposes, such as fishing tackle, hoisting equipment, articles of dress, and similar lines.

The construction which forms the basis of this invention is particularly useful in those instances where a simple, quick acting, inexpensive catch is required which may be rapidly opened or closed and at the same time will hold itself firmly in position when once closed. The latter property is advantageous in providing against accidental opening, with the attendant disadvantages.

Another object of this invention is to provide a catch which will hold more firmly the greater the tension which is applied to it. In other words, this invention overcomes those difficulties which are common with many present types of snaps, in that when great tension is applied the snap loosens and the hook member then straightens out.

Referring to the drawing Figure I shows one form of the catch which I have invented, the catch being in a closed position. Figure II shows a modified catch which comes within the scope of my invention. Figure III shows the form of my invention illustrated in Figure I, but with the housing partially broken away and the hook member in the process of being closed.

Referring to the drawing, (1) indicates the eye by means of which the snap can be conveniently fastened to the cord, buckle, rope, or other member to which it is engaged. This eye may be made of any desired contour and form, but will be described in this specification as an "eye."

A loop member indicated by (4) in Figure I or (2) in Figure III is attached to eye member (1). The loop is arranged to be unsymmetrical about its longitudinal axis having its point of greater extension at (4) in Figure I or (2) in Figure III. A body member (3) is shown engaging with eye (1) and loop member (2). Body member (3) is engaged with eye member (1) by means of hump (2^A) which engages with the side of body member (3). Body member (3) is formed with an opening (6) which engages with hook member (5) formed from one side of loop (4). In the process of engaging hook (5) in hole (6), it is pressed against wall (10) of body member (3) and then drawn backward until it falls into depression (11) as shown in Figure III. (9) indicates the angle or bend connecting hook member (5) and the loop.

In the alternative construction shown in Figure II an additional eye (7) is provided near the end of the elongated unsymmetrical loop. In this alternative construction leg (3^A) of the loop engages with leg (4^A) which is attached to eye (1). Engagement is accomplished by hook member (8). The body member in the case of Figure II serves merely to stiffen and reinforce eye member (1) and the loop.

One of the essential principles of my invention is the design of the loop which is unsymmetrical about its longitudinal axis in such a way that one straight continuous side or leg extends to the point at which the strain is applied.

The other side or leg of the loop carries the catch member and being off set from or unsymmetrical with the straight continuous side will carry a relatively small portion of the total load.

In other words, if a load is applied between the eye member (1) and the extremity (4) of the loop, the major portion of the load will be sustained by the straight continuous long side and only a very small portion by the short discontinuous side which contains the hook.

This arrangement naturally reduces the tendency of the catch to become disengaged and overcomes a difficulty which is fundamental with most catches of this class.

It will be apparent that to open the catch a slight pressure applied on the loop will release the corresponding members. On the other hand, when in service a direct pull would increase the firmness with which the catch is engaged.

It will be apparent the catch is simple to make, durable and easy to operate.

The device which I have invented serves to prevent longitudinal displacement of the catch members by reason of the unsymmetrical loading of the two legs of the loop while lateral displacement of the catch members is prevented by the body member (3). This construction results in a device which will hold itself engaged more firmly the greater the longitudinal strain.

Many modifications of the disclosed structure will be apparent to those skilled in the art and still come within the spirit of this invention. For example, the body member

may even be made of a small casting or forging instead of wire or sheet metal.

The body member may be likewise constructed integral with the eye member or loop. The eye member or loop may be made from a spring bent into shape, from wire or of other obvious materials all without departing from the spirit of my invention.

Having now fully described my invention what I claim as new and wish to cover by Letters Patent in the United States is as follows:

A catch consisting of a spring member formed in the shape of an unsymmetrical elongated loop with unequal sides, an eye member attached to the straight continuous side of said loop, a body member surrounding said eye member and a portion of said loop, an opening in said body member, and a hook on the curved leg of said loop arranged to engage with said opening in said body member.

JOSEPH BUFFINGTON.