Dec. 1, 1970 H. D. ZIMMERMANN 3,543,356

CLASP

Filed Dec. 11, 1968

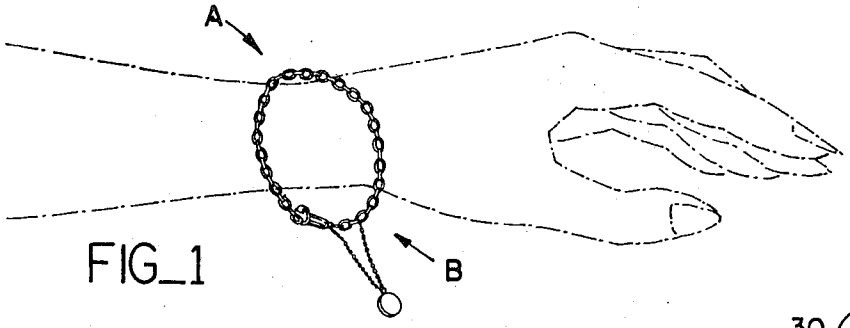



FIG_1

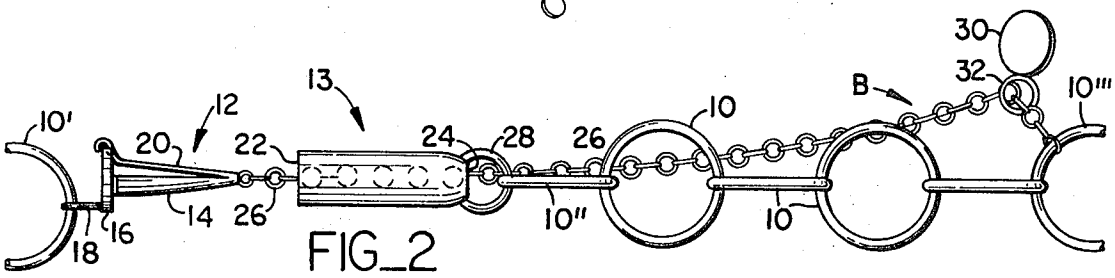



FIG_2

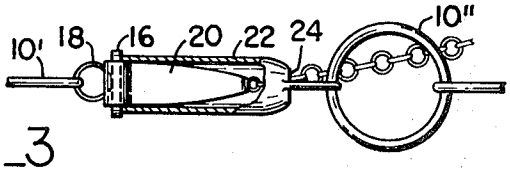



FIG_3

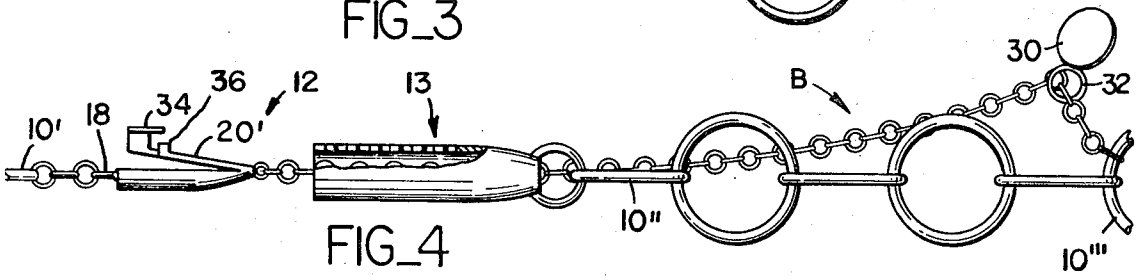



FIG_4

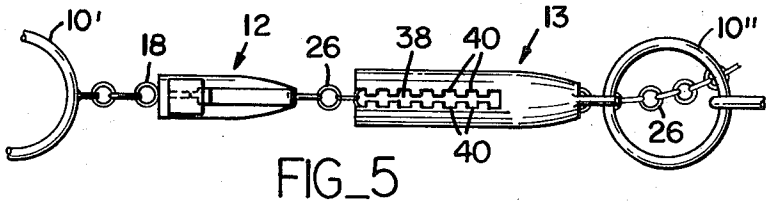



FIG_5

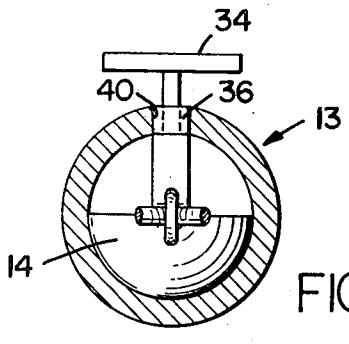



FIG_7

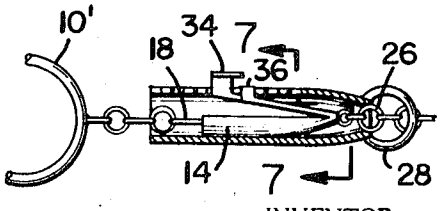



FIG_6

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3,543,356

# CLASP

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## ABSTRACT OF THE DISCLOSURE

A clasp for forming a closed loop by coupling portions of an elongated flexible strand through the use of a pair of interlocking members adapted to be engaged by applying a force to a chain attached at one end to a first of the interlocking members, slidably threaded through an aperture in the second of the interlocking members and affixed at its other end to a portion of the strand spaced from the second interlocking member.

This invention relates to a novel device for forming a closed loop by coupling portions of an elongated flexible strand. More particularly, the invention is directed to a clasp in which the abutting ends of a strand of jewelry are provided with engageable elements that can be interlocked by being drawn or pulled together as contrasted with being pushed together as in conventional clasps.

Jewelry of the type that is displayed upon the wrist of the wearer, whether it envelops the wrist as a solid-type bracelet, linked bracelet, or as the band of a wrist watch has heretofore been formed with abutting ends provided with interlocking latchforming members. Such engageable clasps or fasteners include the type wherein one end is forced into or coupled with an appropriate structure on the opposite end, i.e., where a first element is positioned in mating engagement with a second element. In these types of clasps the mating elements must be pushed together in order to affix them into the desired position. Unfortunately, when securing the jewelry on the wrist of one hand, the wearer can only use the fingers of the other hand to manipulate the engageable ends of the jewelry. For this reason, clasps used on jewelry and related articles are difficult and cumbersome to affix.

The present invention is directed to a novel jewelry clasp wherein the interlocking elements that comprise the fastener can be drawn together through movement of as few as one finger as contrasted with the usual multiple finger-pushing required to engage conventional clasps. Presently available jewelry often includes a chain, formed of short segments of fine, yet strong links, that is attached to portions of the bracelet at locations spaced from the engaging elements of the jewelry. By providing this chain in a limited length, it serves as a safety guard to prevent the jewelry from beig dropped and damaged and/or lost, should the fastener (or clasp) become detached. The present invention incorporates this segment of chain, hereinbefore utilized purely as a safety feature, to assist in drawing the ends of the jewelry strand together. This is accomplished by arranging an appropriate length of chain so that it is secured at one end to one of the engageable elements, freely extends through the other engageable element, and is secured at its second end to a portion of the jewelry spaced from the second engageable element. In this manner, by slipping the jewelry onto the wrist and pulling out on the safety chain, the second element is guided along the chain into interlocking engagement with the first element.

In a preferred aspect of the invention, the safety chain is provided with a tab connected to the chain by a link having an opening of sufficient size to allow the safety chain to freely pass therethrough. In this manner, and when



it is desired to draw the engageable ends of the jewelry into rigid interlocking alignment, it is merely necessary to grasp the tab between the thumb and index finger and draw the tab outwardly away from the piece of jewelry. Thus, the safety chain, which is attached at one end to one of the engageable elements and threaded through an aperture in the other engageable element causes the two engageable elements to be interlocked. By forming the chain of fine grade metal, for example, it lends artistic and aesthetic value to the jewelry as performing the dual function of being a safety guard. Furthermore, the tab as hereinafter described, can be formed so as to have an appealing configuration and be suitable for the inclusion of indicia such as initials.

The objects, features and advantages of this invention will become more apparent when reference is made to the following detailed disclosure, especially in view of the attached drawing wherein:

FIG. 1 is a schematic view of one embodiment of this invention disposed on the wrist of the wearer;

FIG. 2 is a fragmentary side elevational view of one embodiment of this invention;

FIG. 3 is a fragmentary partially cut away plan view of the embodiment shown in FIG. 2 wherein the engageable elements are interlocked;

FIG. 4 is a side elevational view of a second embodiment of this invention;

FIG. 5 is a top plan view of the embodiment shown in FIG. 4;

FIG. 6 is a side elevational view of the embodiment of FIG. 4 in a closed position; and

FIG. 7 is a sectional view taken along line 7—7 of FIG. 6.

For convenience of discussion, the following detailed disclosure will be directed to a strand of jewelry composed of precious metal and formed of a plurality of interconnected rings (or links) wherein the outermost links bear the engageable elements. However, it will be apparent to one skilled in this art that the strand can take other conventional physical forms of jewelry and the like. Furthermore, the engageable elements need not be attached to the outermost ends of the strand.

Turning now to the drawings wherein similar characters of reference represent corresponding parts in each of the several views, there is shown a strand of jewelry, bracelet A, having a plurality of interconnected rings **10** and including two external (terminal) rings **10'** and **10''**. Attached to ring **10'** is a resilient, compressible latch **12** for wedging engagement within sleeve **13**. Latch **12** includes a generally rigid base member **14** attached at one end to backing plate **16** which in turn is retained on ring **10'**, such as through rigid link **18**. Latch **12** also includes depressible lever arm **20** resiliently mounted for displacement with respect to base member **14**.

Chain B, which is affixed at one end through terminal link **26** to compressible latch **12**, is attached at its other end to internal ring **10'''** of strand A spaced from terminal ring **10''**. Chain B is formed of a plurality of links **26** and is of a length sufficient to enable strand B to be readily slipped over the wearer's hand and onto the wrist.

Sleeve **13** includes a first open end **22** for slidably receiving compressible latch **12**. The second end of sleeve **13** includes aperture **24** having a diameter in excess of the largest dimension of any link **26** in chain B. Sleeve **13** is secured to terminal ring **10''** in a conventional manner such as through link **28**.

Chain B is provided with a tab **30** including enclosed passage **32** having a sufficient diameter to freely slide over the plurality of links **26** of which chain B is composed. Although tab **30** can take any form as desired, it has been found desirable to fabricate it in the form of a

flat disc so that initials or other indicia can be readily applied thereto. Tab **30** is preferably formed of a precious metal corresponding to the metal of strand A and chain B.

In operation, the strand of jewelry is slipped over the hand and onto the wrist of the intended wearer. The wearer then grasps chain B, either directly, or through tab **30**, with the index finger and thumb of the opposite hand. Then, by pulling outwardly from the wrist, the engageable elements, latch **12** and sleeve **13** are drawn together. In other words, as force is applied to draw an intermediate portion of chain B away from strand A, sleeve **13** is forced along the links **26** of chain B into engagement with sleeve **13**. Tab **30**, which tends to center itself upon the free portion of chain B, because passage **32** allows tab B to freely slide over chain B, is especially convenient for drawing sleeve **13** onto latch **12**. Thus, as tab **30** is displaced further from ring **10'''**, sleeve **13** will ultimately ride up on the inclined surface of latch **12** until the resisting force of the resilient metal is equal to (or exceeds) the force being exerted upon tab **30**.

It will be appreciated by one skilled in this art that tab **30** is not essential to the operation of this invention as insertion of a finger into that portion of chain B forming the loop between sleeve **13** and ring **10'''** provides the same ultimate effect, i.e., a forced engagement of sleeve **13** upon latch **12**. FIG. 3 depicts latch **12** and sleeve **13** fully engaged. Conversely, when it is desired to remove the jewelry from the wrist, lever arm **20** is merely depressed, thereby releasing sleeve **13** for withdrawal therefrom.

Turning now to FIGS. 4–7, the embodiment therein depicted includes a latch **12**, including depressor **34** and upright rib **36**. Sleeve **13** includes an elongated groove **38**, extending inwardly from open end **22**, and having a series of rectangular-shaped notches **40** extending outwardly at spaced intervals along groove **38**. Notches **40** are formed of a width sufficient to receive and maintain upright rib **36** in a fixed location. Thus, rib **36** is of a width greater than the width of groove **38** but less than the width of notches **40**. Preferably rib **36** has a thickness that is about equal to the depth of the notches **40**.

In operation, the embodiment shown in FIGS. 4–7 is manipulated in a similar manner to that of the embodiment illustrated in FIGS. 2–3. However, in addition, and because of the spacing of notches **40**, alternate disposition of resilient latch **12** within sleeve **13** results for various alignments of upright rib **36** with notches **40**. In this manner, the particular piece of jewelry involved may be more or less tightly secured to the wrist, i.e., the ultimate circumference of the jewelry may be varied by modifying the position of rib **36** with respect to notches **40**.

Although the foregoing invention has been described in some detail by way of illustration for purposes of clarity of understanding, it will be apparent to one skilled in the art that certain changes and modifications can be practiced within the spirit of the invention as limited only by the scope of the appended claims.

What is claimed is:

**1.** A clasp for forming a closed loop from an elongated flexible strand, comprising a pair of engageable members



having means to interlock with each other, each secured to spaced apart portions of said strand, an elongated resilient element affixed at a first end to one of said engageable members and at a second end to said strand, said element being threaded through an aperture in the other of said engageable members whereby said other engageable member is caused to interlock with said one engageable member when a transverse force is applied to a portion of said resilient element intermediate with said other engageable member and said second end.

**2.** A clasp in accordance with claim **1** wherein said strand is adapted to be worn as jewelry about the wrist of a wearer.

**3.** A clasp in accordance with claim **1** wherein said interlocking is accomplished by the wedging of said one engageable member into said other engageable member.

**4.** A clasp in accordance with claim **1** wherein said resilient element is a chain formed of a plurality of interconnected rings.

**5.** A clasp in accordance with claim **1** wherein the portion of said element intermediate said other member and said second end includes a tab in slidable engagement therewith for transferring said transverse force to said element.

**6.** A clasp in accordance with claim **5** wherein sad tab comprises a flat disc including an aperture, said aperture being of sufficient internal diameter to freely slide over said resilient element.

**7.** A clasp in accordance with claim **1** wherein said other engageable member comprises a tubular sleeve having an open-ended elongated notched aperture extending generally parallel to the axis of said tubular sleeve, said one engageable member comprising a resilient depressible lever including an upstanding rib for insertion in and engagement with said notched aperture, whereby the ultimate length of said strand can be modified by varying the location of engagement of said rib with said aperture.

**8.** A clasp in accordance with claim **1** wherein said engageable members are attached to respective ends of said strand.

**9.** A clasp in accordance with claim **1** wherein said strand is a series of interconnected rings.


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