May 29, 1962 A. L. MINUTOLI 3,036,353

CLASP FOR ARTICLES OF JEWELRY AND THE LIKE

Filed Jan. 11, 1961

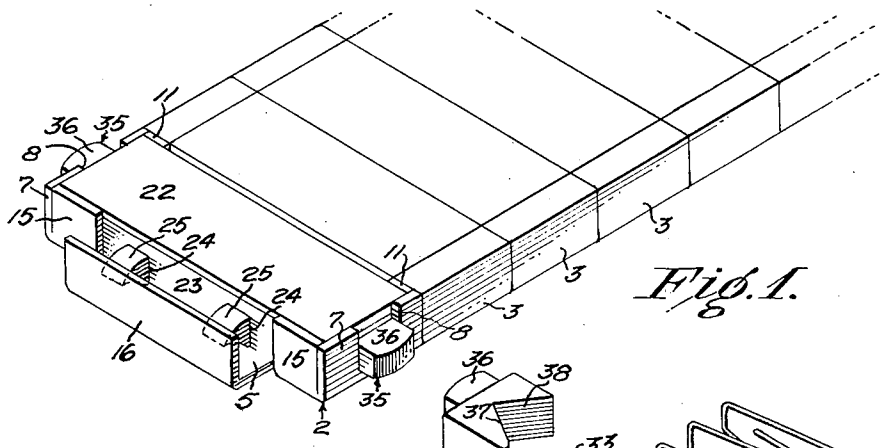


Fig. 1.

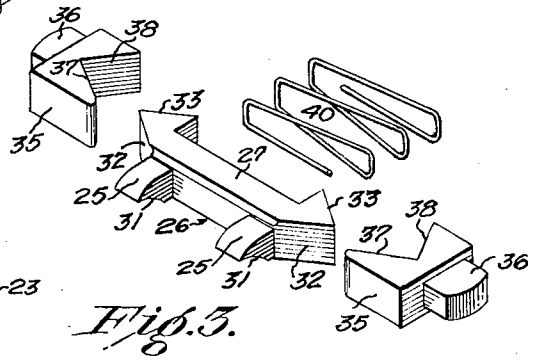


Fig. 3.

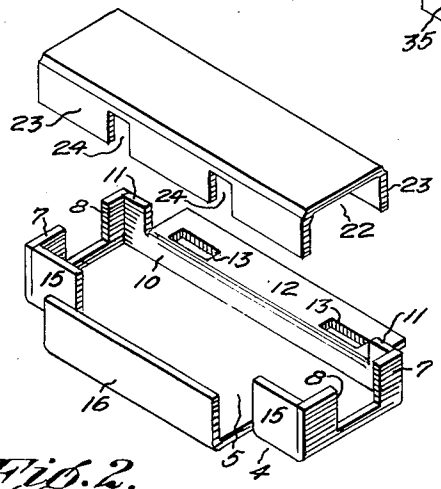


Fig. 2.

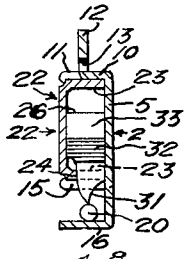


Fig. 8.

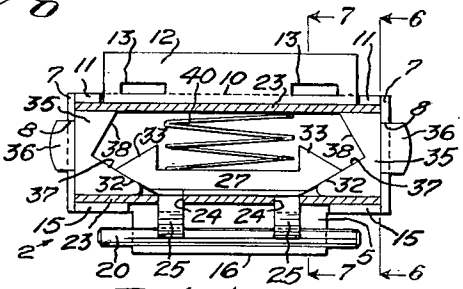


Fig. 4.

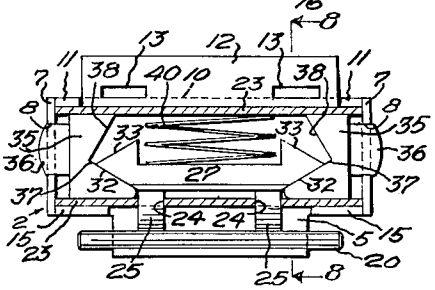


Fig. 5.

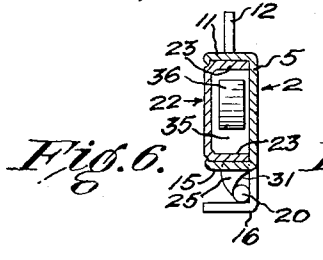


Fig. 6.

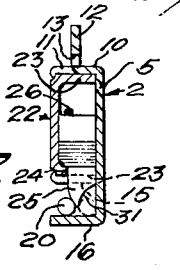


Fig. 7.

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CLASP FOR ARTICLES OF JEWELRY AND THE LIKE

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This invention relates to improvements in watch bracelets and particularly to that type of bracelet constructed of flexible metal bands of articulated link elements and having means for adjusting the length of the bracelet to fit the wrist of the wearer. In accordance with a conventional type of watch bracelet the band may consist of two overlapping sections having one end of each attached to the lugs or the bail on the side of the watch-case and a slider, so-called, adjustable along the underlying section of the band and connected to the end of the overlying section whereby the over-all length of the bracelet may be adjusted to fit the wrist of the wearer.

The present invention is concerned particularly in providing an improved clasp or connecting device for attaching the free end of the overlying section of the band to the slider on the underlying band section.

One object of the invention is to provide an improved clasp adapted for convenient attachment to a cross-pin or the like on the slider and for readily releasing it therefrom to disconnect the ends of the band sections when placing the bracelet on or removing it from the wrist.

Another object is to provide a clasp or connector of the type indicated having resiliently operated latching means for engaging the cross-pin on the slider with cam-actuated releasing means therefor operable manually by the pressure of the fingers.

Another object is to provide a hollow clasp member for attachment to one end of a section of the band with latching means engageable across the cross-pin on the slider by snapping the latches into connection therewith and also adapted for convenient release from the cross-pin by camming means having projecting finger-engageable members for manual operation thereof.

Another object is to provide a hollow clasp member having a hook-like ledge projecting therefrom for engagement around the cross-pin of the slider with latches slidable into position under the resilient pressure and retractable by cam-means operable by finger pressure at the ends of the clasp.

Another object is to provide a device of the type indicated constructed from sheet-metal parts assembled to present a neat and ornamental appearance in conformity to the design of the bracelet to which it is applied.

Another object is to provide a device of the type indicated of strong and rugged construction, proof against accidental release and disconnection and resistant to wear or dislocation of its parts.

Further objects of the invention are set forth in the following specification which describes one preferred form of construction of the improved clasp, by way of example, as illustrated by the accompanying drawings. In the drawings:

FIG. 1 is a perspective view of the under side of a conventional type of link-bracelet band shown with the present improved clasp attached to its end;

FIG. 2 is a perspective view of the casing sections of the clasp showing them in disassembled relationship;

FIG. 3 is a combination view in perspective of the disassembled operating elements of the clasp;

FIG. 4 is a plan view of the clasp shown partly in section to reveal the operating elements thereof and illustrating it as engaged with a cross-pin such as embodied in the adjustable slider on a watch-band;

FIG. 5 is a similar part-sectional plan view showing the cam-means as operated for releasing the latching elements of the clasp from the cross-pin;

FIG. 6 is a transverse sectional view through the clasp on line 6—6 of FIG. 4 showing the latching members in engagement with the cross-pin on the slider;

FIG. 7 is a similar view on line 7—7 of FIG. 4 illustrating the manner of engaging the latches with the cross-pin to retract them for inserting the pin is latched engagement with the clasp; and

FIG. 8 is a transverse sectional view on line 8—8 of FIG. 5 illustrating the latching elements released from the cross-pin by operation of the cam-means for disconnecting the clasp from the slider.

As previously indicated, the present improved clasp or connector is especially designed for use with flexible bracelet bands or straps having two overlying lengths or sections adjustable longitudinally relatively to each other by means of a slider for varying the length of the bracelet to fit the wrist of the wearer. Such a type of bracelet is shown, for example, in U.S. Letters Patent No. 1,820,-393, of August 25, 1931, in which the slider has means for fastening it in adjusted position consisting of a clamping member hinged to a cross-pin thereon and provided with detent projections engageable in slots or serrations along the marginal edges of the underlying length of the strap or band. In this type of watch bracelet the end of the overlying length of the band is permanently connected to the slider so that the latter must be released and slid along the underlying length of the band to lengthen the bracelet for passing its over the hand in placing it on or removing it from the wrist. In such case the original adjustment of the bracelet is disturbed and a new adjustment must be made each time it is replaced on the wrist. To avoid the necessity for this repeated adjustment in the length of the bracelet, my present improvement provides a clasp for readily attaching the end of the overlying length of the band to the slider while the latter remains in adjusted relationship along the underlying section of the hand while presenting convenient means for manually releasing the clasp therefrom when it is desired to lengthen the bracelet for passing it over the hand. As therein illustrated, the clasp 2 is constructed with a pair of latches 25, 25 for engaging the hinge-pin for the clamping member of the slider, or a separate cross-pin such as shown in U.S. Letters Patent No. 2,015,308 of Sept. 24, 1935, may be provided for the same purpose.

The present improved clasp is preferably constructed from sheet-metal in hollow form and of a shape and design appropriate to the design of the bracelet. As herein shown the clasp 2 is of rectangular shape in the form of a box-like casing or housing of the same size and proportions as the cross-links 3 of the flexible band illustrated in FIG. 1; it being understood that in the present drawing the bracelet and its several parts are shown in obverse relationship, or bottom side up.

As illustrated in FIG. 2 the box-like casing for housing the operating elements of the clasp 2 is constructed in two interfitting parts with its upper portion 4 comprising a flat top wall 5 and downwardly extending end walls 7, 7. The ends 7, 7 are formed by folding portions of the metal at right-angles to the top wall 5 and the metal is cut away at the center to provide rectangular openings 8, 8. Extending along the rearward edge of the top wall 5 is a backing strip 10 having vertical end portions 11, 11 with their edges abutting the end walls 7, 7 to form the corners of the casing. Projecting horizontally outward at the rear of the wall 10 is a strip 12 of the metal formed with slots 13, 13 for connecting the clasp 2 to the end link 3 of the bracelet band section in any usual manner, not

herein shown in detail. The top wall 5 of the member 4 is cut away at each end and the remaining portions of the metal folded at right-angles in wings 15, 15 with their edges abutting the end walls 7, 7 to form corners corresponding to those at the rear. Projecting forwardly beyond the end wings 15 of the casing section 4 is a folded strip of the metal which forms an elongated hook-shaped ledge 16 for receiving the cross-pin 20 of the slider, see FIGS. 4 and 6.

The bottom of the casing section 4 is closed by an interiorly fitting member 22 constructed with a flat bottom wall and flanges 23 folded at right-angles thereto along both its sides for insertion within the side walls of the upper member 4. The two complementary parts 4 and 22 of the casing are assembled in nested relationship with a snug fit and may be permanently fastened together by crimping or swaging their interengaging walls. The forward wall of the closure member 22 is cut away to provide two rectangular openings 24, 24 for receiving the pair of latches 25, 25 that are formed integral with a slidable cross-member 26 (FIG. 3).

The slidable latch-member 26 is constructed with a central horizontal bar-like portion 27 having the pair of integral latches 25, 25 projecting forwardly therefrom. The latches 25, 25 are of arcuate shape or rounded on the bottom with their upper sides formed with concavities 31; it being understood that the latch-bar as herein shown in FIG. 3 is in a position the reverse of that assumed when assembled within the clasp and turned other side up. The latch-bar 26 is formed at each end with triangular projecting portions having their opposite flat faces 32, 33 sharply beveled or inclined to each other. The angular forward faces 32, 32 on the slidable latch-bar 26 are adapted to be engaged by angular faces 37, 37 on dual cam-members 35, 35 slidable in the opposite ends of the casing of the clasp 2 for retracting the bar laterally thereof.

As shown most clearly in FIGS. 3 and 4, the cam-members 35, 35 are of generally rectangular shape or block-like construction to adapt them to fit closely within the sides of the casing of the clasp 2, normally in engagement with the end walls 7, 7 (FIG. 4), but slidable toward each other in the manner as later explained. The cam-members 35, 35 have projecting finger-pieces 36, 36 at their ends which protrude through the openings 8, 8 in the end walls 7, 7 of the casing 2 to render their rounded ends accessible for engagement by a person's fingers for manually operating the clasp. The facing portions of the members 35, 35 are cut away to form the cam-faces 37, 37 and also faces 38, 38 inclined at substantially right-angles to the faces 37, 37 which latter are of substantially the same angularity as the beveled faces 32, 32 at the ends of the latch-bar 26. On the other hand, the faces 38, 38 of the cam-members 35, 35 diverge at a greater angle or at substantially forty-five degrees to provide clearance for the faces 33, 33 on the latch-bar 26 when the latter is retracted.

A spring 40, preferably formed of rectangular coils as shown in FIG. 3, is inserted under compression in the casing of the clasp 2 (FIG. 4) with one end bearing against the rear wall 23 of the bottom section 22 and its forward end engaging against the latch-bar 26 within the opening between the triangular ends of the latter. The spring 40 thus tends to urge the latch-bar 26 forwardly (FIG. 4) to project the latches 25, 25 outward through the openings 24, 24 in the forward wall of the bottom housing section 22 for engaging their concaved under sides 31, 31 across the pin 20. FIG. 5 shows the cam-members 35, 35 as slid inwardly toward each other, which is accomplished by pressing against the finger-pieces 36, 36 to thereby cause the beveled cam-faces 37, 37 to act against the correspondingly beveled faces 32, 32 on the latch-bar 26 for retracting it to withdraw the latches 25, 25 from engagement with the pin 20. By this convenient manual operation the latches are released from the pin

20 for disconnecting the clasp 2 from the slider on the watch band as later explained. The construction and arrangement of the parts of the present improved clasp having been described in detail its method of operation in use is explained as follows:

Considering the clasp 2 as reversed in position with the bracket band section disposed right-side up, the clasp is connected to the slider on the underlying band of the bracket by engaging the latches 25, 25 against the pin 20 to cause the latter to slide over the rounded faces of the latches as it is inserted into the hook-shaped ledge 16 on the front of the clasp. Pressure of the pin 20 against the rounded upper faces of the latches 25, 25 acts to slide the latch-bar 26 rearwardly as indicated in FIG. 7 and during its retraction against the tension of the spring 40 the pin 20 will be seated in the ledge 16 (FIG. 6). Thereafter the latch-bar 26 will be slid forwardly by the spring 40 to engage the pin in the recesses 31 of the latches 25, 25 as indicated by the dotted line in FIG. 7. The pin 20 is thus locked securely in place in the clasp 2 to connect the overlying section of the band with the slider and thus attach the two sections of the bracelet in the required adjusted relationship.

When it is desired to unfasten the end of the overlying length of the band from the slider for removing the bracelet from the wrist, it is only necessary to press against the finger-pieces 36, 36 to slide the cam-members 35, 35 toward each other as indicated in FIG. 5. The cam-faces 37, 37 will thus be caused to act against the co-operating faces 32, 32 at the ends of the latch-bar 26 to slide it laterally against the tension of the spring 40 for retracting the latches 25, 25 and releasing the clasp 2 from the pin 20. With the clasp thus released from the pin on the slider the latch-bar 26 will slide forward again under the force of the spring 40. The clasp is then in condition for again connecting it to any desired object or article such as the slider on the strap or band bracelet by merely pressing its latches against the cross-pin to cause it to ride over the rounded faces of the latches 25, 25 and engage in their concavities 31, 31 to connect the clasp with the slider.

It will be observed from the foregoing specification that the present invention provides an extremely simple and efficient clasping device for securely attaching the end of the overlying length of the band of a watch bracelet to the slider or adjusting means thereof, while also adapted for convenient manual operation for releasing the clasp therefrom. The present improved clasp may be constructed of various shapes to conform to the ornamental links of a flexible bracelet band or to complement the design of other articles of jewelry. The present clasp is also of strong and sturdy structure with the clasping elements not liable to extreme wear or dislocation in use.

While the invention is herein shown as embodied in a preferred form of construction, it is to be understood that various modifications may be made in the structure and arrangement of the parts of the device without departing from the spirit of the invention or the scope thereof as expressed in the following claims. Moreover, the present improvement may be applied to other types of clasps or like devices and adapted for purposes besides that herein disclosed. Therefore, without limiting myself in this respect, I claim:

1. In a clasp for articles of jewelry and the like, a hollow casing having an opening in its front wall, a portion of said casing projecting forwardly and shaped to provide a recess extending longitudinally thereof, a latch-bar slidable within said casing and provided with latching means projecting through said opening at the front thereof, said latch-bar formed with oppositely inclined cam-faces at its ends, cam-members slidably mounted at the ends of said casing and having V-shaped reentrant openings forming cam-faces of opposite inclination for engagement with the cam-faces on said latch-

bar to slide it rearwardly in said casing, and resilient means for sliding said bar forwardly to engage it with a pin-like crossbar seated in said recess at the front of said casing, said cam-members having means projecting through the ends of said casing for manually sliding them to retract said latch-bar.

2. In a clasp for articles of jewelry and the like, a sheet-metal box-like casing having an opening in its forward wall with its top wall projecting therebeyond and shaped to provide a recess for receiving a pin or the like, a closure for said casing having a front wall provided with a pair of openings disposed opposite said recess, a slidable latch-member extending longitudinally of the interior of said casing and having a pair of forwardly projecting latches, said latch-member formed at its ends with angular cam-faces of opposite inclination, a pair of cam-elements in said casing slidable toward each other and having cam-faces for engaging said cam-faces on said latch-member to retract it, said cam-faces on said cam-members being formed by the sides of a V-shaped re-entrant opening in the front of each cam-element, said cam-elements having finger pieces projecting through openings at the ends of said casing to adapt them to be grasped on the outside thereof for sliding said cam-elements, and a spring held under tension in said casing to normally slide said latch-member forward for projecting its latches across the pin in the recess at the front of said casing.

3. In a clasp for articles of jewelry and the like, a rectangular box-like casing comprising a main section having a ledge extending longitudinally of its forward

side to provide a recess for receiving a pin or the like, a closure section for said casing fitted within said main section and formed with a pair of spaced openings in its forward wall opposite said recess in said main section, a latch-bar in said casing extending longitudinally of its interior and adapted to slide laterally therein, said latch-bar having a pair of latches disposed to project through the pair of openings in the forward wall of said closure section and formed with triangular ends having oppositely inclined cam-faces, a pair of cam-members slidably mounted within said casing at the ends thereof and formed with V-shaped openings providing oppositely inclined angular faces adapted to engage with the cam-faces on said latch-bar to slide it rearwardly in said casing, said cam-members having portions projecting through openings in the end walls of said casing adapted to be pressed by the fingers of an operator for sliding said cam-members toward each other, and a spring in said casing held under compression for normally sliding the latch-bar forwardly to project its latches across the ledge on said casing to engage said pin for holding it gripped in said clasp.

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