Dec. 27, 1932. C. H. KESTENMAN 1,892,281

CLASP FOR BRACELETS, STRAPS, LINKAGES, OR THE LIKE

Filed Aug. 4, 1931

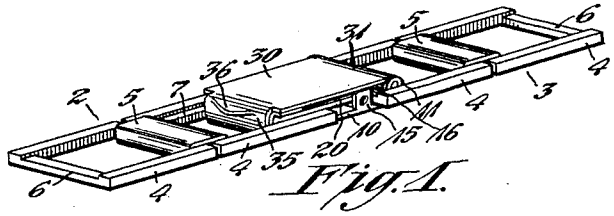


Fig. 1.

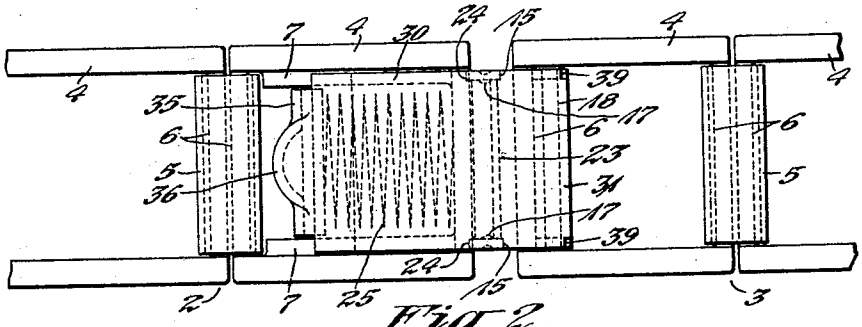


Fig. 2.

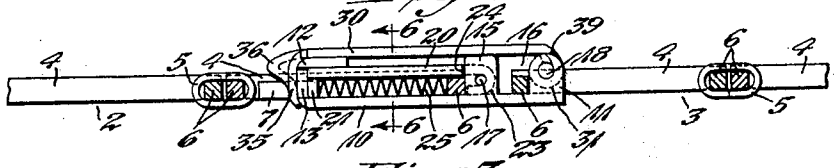


Fig. 3.

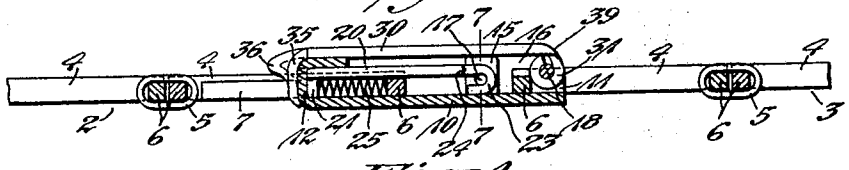


Fig. 4.

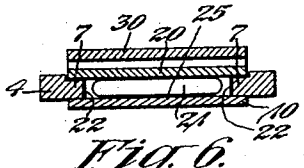


Fig. 6.



Fig. 7.

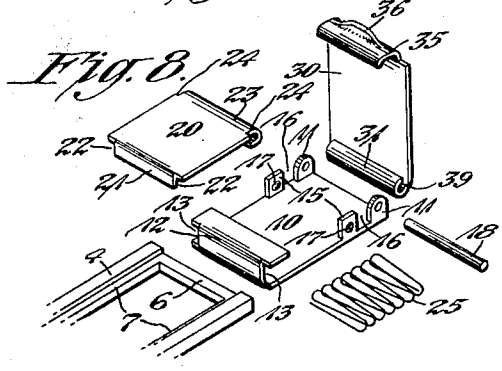


Fig. 8.

Fig. 5.

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UNITED STATES PATENT OFFICE

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CLASP FOR BRACELETS, STRAPS, LINKAGES, OR THE LIKE

Application filed August 4, 1931. Serial No. 555,003.

This invention relates to improvements in clasps or fastening-devices for connecting the ends of wrist-watch straps, bands, bracelets and other linkages.

One object of the invention is to provide a clasp or fastening-device of simple construction which effects a secure joinder of the ends of the linkage or bracelet, and which is proof against unwarranted or accidental unfastening.

Another object of the invention is to provide a clasping-device of the type specified having means for resiliently holding one end of the band or linkage whereby it may slide longitudinally therein to provide for expansion in the length of the bracelet, strap or other article in which it is incorporated.

Another object of the invention is to provide a clasping-device of the type specified having means for releasably securing the opposite end of the linkage or bracelet, whereby it may be disconnected to permit placing the bracelet on or removing it from the wrist.

Another object of the invention is to provide a clasp of the type specified which may be manufactured from sheet-metal parts struck up in dies and assembled with a minimum of hand operations.

Another object of the invention is to provide a clasp of the type specified wherein the mechanical elements are concealed from view and all unsightly joints or obtrusive projections eliminated.

Further objects of the improvement are set forth in the following specification which describes a preferred embodiment of the invention, by way of example, as illustrated by the accompanying drawing. In the drawing:

Fig. 1 is a perspective view representing the ends of a bracelet or linkage secured together by means of the present improved clasping-device;

Fig. 2 is an enlarged plan view of the same showing the parts in closed or clasped relationship, and illustrating the manner in which the bracelet or other linkage is contracted to normal length;

Fig. 3 is an edge view of the same;

Fig. 4 is a similar edge view illustrating the manner in which the end link of the bracelet slides in the clasp to expand the length of the bracelet or linkage to fit the wrist of the wearer;

Fig. 5 is a similar view showing the clasp opened to permit disconnection of one end of the bracelet or linkage to provide for placing it on and removing it from the wrist;

Fig. 6 is a cross-sectional view taken on line 6—6 of Fig. 3 and illustrating the slotted formation of one end of the clasp which permits longitudinal sliding movement of the end link of the bracelet therein;

Fig. 7 is a cross-sectional view of the clasp taken on line 7—7 of Fig. 4 and showing the means for securing the retaining-member within the device; and

Fig. 8 is a composite perspective view of the several parts of the clasp shown in disassembled relationship.

The present improved clasping-device comprises, in general, a base-member; an upper latch-member or cover hinged to the base-member at one end and adapted to releasably hold one end of the linkage; a plate or retainer for slidably holding the opposite end of the linkage in the clasp; and a spring held in place by the retainer in engagement with the end link of the bracelet to permit a sliding movement thereof whereby the bracelet may be expanded in length.

Referring to the drawing, Fig. 1 illustrates two sections 2 and 3 of a so-called "slave" bracelet which may be worn as an ornament or attached to a wrist-watch. The bracelet proper may comprise a suitable number of rectangular main links 4 connected by smaller loop-like links 5 folded around the adjoining end-bars 6 of the main links. Referring to Figs. 2 and 3 of the drawing, the end-bars 6 of the links are recessed at the top, being of less thickness than the side-bars 4 and preferably square in cross-section. The end link of the section 2 of the bracelet is slightly different in form from the other links, being constructed with reduced flanges or fins 7 projecting inwardly from its side-bars and of the same thickness as the end-bars 6. While only one style of linkage is herein shown and described, it is to be understood that the present improved clasp is adapted for use with

chains and bracelets of other types having end links provided with cross-members. The present invention is therefore not to be considered as limited as regards the type of bracelet with which it is used.

Referring now to Figs. 1 and 8, the base-member 10 of the clasp may be constructed from sheet stock, being constituted by a flat bottom-plate with a pair of opposite ears 11 bent up from its sides at one end. The ears 11 are perforated with circular holes for receiving a hinge-pin 18 on which a latching-member 30, to be later described, is pivoted. The opposite end of the base-member 10 is bent upwardly at right angles and folded over in spaced, parallel relation with the bottom-plate to form a hook 12. The right-angled portion of the hook 12 is cut away or notched at its ends to provide spaces or guideways 13 through which the lateral fins or splines 7 of the end link of the bracelet slide in the manner as later explained.

A second pair of opposite ears 15 are provided at the sides of the base-member 10, being spaced slightly apart from the ears 11. The spaces or openings 16 thus provided between the ears 11 and 15 are adapted to receive the end-bar of the section 3 of the bracelet or linkage. The ears or flanges 15 are punched or indented to form pintle-like projections or protuberances 17 on their inner faces adapted to engage the hooked end of a retaining-member or plate 20 in the manner and for the purpose as later more fully explained.

The retaining-member 20, above mentioned, is constructed as a sheet-metal plate having at one end a downwardly projecting flange or leg 21 bent at right angles to its main portion. The ends of the leg 21 are spaced away from the lateral edges of the plate 20 at 22 to provide a clearance for the side-fins 7 of the end link which slide in the openings 13 in the hook 12 of the base-member 10. At its opposite end the retaining-member 20 is bent downwardly and curled around to form a semi-circular hook 23, the ends of which are spaced inwardly from the lateral edges of the plate to form shoulders 24. The ends of the hook 23 are adapted to snap over the rounded protuberances 17 on the base-member 10 in the manner as illustrated in Fig. 7 and later more fully explained.

To resiliently secure the end of the bracelet-section 2 in the clasping-device, the cross-bar 6 of its end link is placed across the bottom portion of the base-member 10 at the rear of the hook 12. The retaining-member 20 is next placed thereover with its leg or abutment 21 positioned under the hook 12 on the base-member 10 as shown most clearly in Fig. 3. The rearward hooked end 22 of the member 20 is tilted or canted upwardly to permit the insertion of a flat, wire spring 25, shown in detail in Fig. 8, thereunder; the spring being compressed between the leg 21 of the member 20 and the cross-bar 6 of the end link of the bracelet-section 2. The hooked end of the member 20 is then pressed downwardly into position to snap into engagement with the projections 17 on the ears 15 of the base-member 10. The projections 17 being thus entered into the end portions of the hook 23 connect the two cooperating parts of the clasp together with the spring 25 confined therebetween. It will be observed by reference to Fig. 2 that the hooked end 23 of the member 20 fits snugly between the ears 15 on the sides of the base-member 10 to prevent its lateral displacement, while the hook 12 on the member 10 holds it against the pressure of the spring 25 and also prevents it from lifting. As shown in Fig. 3, the shoulders 24 on the edges of the member 20 engage with the edges of the ears 15 to prevent the rearward longitudinal movement of the member 20 on the base-member 10.

Referring now to Fig. 6, it will be observed that the fins or splines 7 on the inside of the end link of the bracelet-section 2 are slidable in the spaces or guideways 13 and 22 provided at the end of the members 10 and 20 to prevent the link from rocking or canting in the clasp. The spring 25, which is of substantially rectangular cross-section, is held against lateral displacement by the edges of the fins 7 of the end link which straddle the sides of the clasp, see Figs. 2 and 6. The tension of the spring 25 thus tends to normally maintain the end link withdrawn within the clasp with its end cross-bar 6 bearing against the edges of the ears 15 which serve as stops therefor, see Figs. 2 and 3.

To releasably attach the opposite section 3 of the bracelet to the clasp a hinged latch-member 30 is provided. Referring particularly to Fig. 8, the latch-member 30 comprises a sheet-metal top-plate formed at one end with a curled over cylindrical bearing 31 through which the hinge-pin 18 extends to pivotally connect this member to the ears 11 at the end of the base-member 10. The opposite end of the member 30 is bent downwardly to form a curved detent-lip or latch 35 adapted to snap over the hook 12 at the end of the member 10 as the parts are folded into closed relationship; it being understood that the end cross-bar 6 of the bracelet-section 3 is positioned within the openings 16 between the ears 11 and 15. The bottom curved lip of the catch 35 is adapted to engage under the similarly rounded bottom of the hook 12 of the member 10, see Figs. 3 and 4, to hold the members in clasped relationship while being readily releasable therefrom to open the clasp. To facilitate the manual operation of opening the clasp, a lip or projection 36 is formed on the member 30 to permit the insertion of the fingernail thereunder in lifting the latch-member 30 upward. The pro-

jection 36 may be formed by punching or extruding the stock outwardly as shown most clearly in Fig. 5.

Referring to Figs. 2 and 8, the ends of the bearing portion 31 of the member 30 are spaced inwardly from the edges of the member 30 to provide shoulders or stops 39 which are adapted to strike against the edges of the hinge-ears 11 of the base-member 10 as the member 30 is swung upwardly to limit its movement in this direction, see Fig. 5.

The clasp is designed to operate in the manner as next set forth: The bracelet-section 2 is attached to the clasp in the manner as hereinbefore explained with the spring 25 acting to hold the end link of the section 2 retracted within the base-member 10 with its end-bar 6 engaging against the ears 15. To clasp the bracelet around the wrist the latch-member 30 is first turned on its pivot 18 to a vertical position as illustrated in Fig. 5. The end link of the bracelet-section 3 is then placed over the member 30 and its cross-bar 6 engaged in the notches 16, after which the member 30 is folded down over the base-member 10 and the member 20 in the manner as illustrated in Fig. 4. A slight pressure of the fingers will snap the latch 35 under the end of the hook 12 on the base-member 10 to yieldably engage therewith, see Figs. 1, 2, 3 and 4, whereby to hold the parts of the clasp in closed relationship.

It will be observed that in addition to holding the bracelet-section 3 attached to the clasp, the latch-member 30 acts as a cover to conceal the mechanical elements of the device. It is also to be noted that the relatively wide latch-end 35 of the member 30 affords a long engaging surface with the hook 12 to insure greater security and a more positive clasping of the parts, whereby to guard against side-play or distortion thereof and unwarranted or accidental unfastening of the clasp.

Referring to Figs. 2 and 3, the end link of the bracelet-section 2 is normally maintained in retracted relationship with its end-bar 6 engaging against the ears or flanges 15. When the bracelet is applied to the wrist by securing the opposite section 3 within the clasp the end link of the section 2 is drawn outwardly to expand the length of the bracelet in the manner as illustrated in Fig. 4. This expansion may take place when the ends of the bracelet are being connected together so as to render the clasping operation more convenient to perform. After the ends are clasped the sliding of the end link in the clasp under the action of the spring 25 causes the bracelet to be fitted snugly to the wrist. Moreover, the resilient means for retaining one end of the bracelet in the clasp provides a certain amount of adjustment in the length of the whole bracelet to adapt it to fit wrists of different sizes.

To remove the bracelet from the wrist it is only necessary to insert the fingernail under the lip 35 on the end of the latch-member 30 to release the latch 35 from the hooked end 12 of the base-member 10 as shown in Fig. 5. The member 30 can then be swung upwardly to allow the end link of the bracelet-section 3 to be removed from the notches 16 in the base-member 10 by lifting it off over the end of the member 30. During the disconnection of the section 3 of the linkage from the clasp the opposite section 2 is slidably held within the device by the retaining-member 20.

If it is desired to detach the section 2 of the bracelet from the clasp for any reason the hooked end of the retaining-member 20 is pried upwardly to free the ends of its hook 23 from the protuberances 17 on the base-member 10. The member 20 may then be removed from the clasp by sliding its end from under the hook 12 on the base-member 10. The spring 25 is then removed and the end link of the section 2 may be unclasped by disengaging it from the hook 12.

It will be observed from the foregoing that one feature of improvement in the present invention consists in an arrangement of the clasping-means whereby each of the sections of the bracelet is independently clasped within the device. This feature provides that one section may be resiliently connected to the clasp with its end link adapted to slide longitudinally thereof, whereby the bracelet or linkage may be stretched or expanded in length to fit the wrist of the wearer. The opposite section of the bracelet is releasably held in the clasp to adapt it to be disconnected therefrom in removing the bracelet from or applying it to the wrist.

The present invention provides an extremely simple yet efficient device for the purpose specified, with the parts constructed from sheet-metal stampings to render them economical to manufacture. The various elements of the device may be assembled without the use of solder or screws, thus eliminating all parts liable to become loose and cause shackly joints. When in closed or clasped relationship the mechanical elements of the clasp are entirely concealed from view beneath the cover or latch-member 30. The member 30 may be suitably embossed, engraved or otherwise ornamented on its face to enhance the artistic appearance of the whole article.

While I have herein shown and described a preferred form of construction of the improved clasp, it is to be understood that various modifications may be made in the design and arrangement of its parts without departing from the spirit or scope of the invention. Therefore, without limiting myself in this respect, I claim:

1. In a clasp for connecting the end links

of a chain or linkage, the combination of a base-member across which one end link is adapted to rest, a spring held on the base-member engaging the cross-bar of said end link of the linkage to retract it within the clasp, means releasably attached to the base-member to retain the spring in place thereon, and a latch-member hinged to the base-member to adapt it to engage through the opposite end link of the linkage and provided with means to latch with the base-member to hold the parts in connected relationship.

2. In a clasp for connecting the end links of a chain or linkage, the combination of a base-member, a retaining-member overlying said base-member in spaced relation thereto to adapt the end link of the bracelet to be slidably received therebetween, means for releasably holding the retaining-member in place on the base-member, a spring held beneath the retaining-member engaging the end-bar of said link to retract the latter within the clasp, and a latch-member pivoted to the base-member to adapt it to engage through the opposite end link of the linkage and to close down over the base-member to secure the ends of the linkage in connected relationship.

3. A clasp of the type specified comprising a base-member having a hook at one end, a retaining-member mounted on the base-member with one end held beneath the hook thereof, releasable means on the base-member for engaging the opposite end of the retaining-member, a spring held between the retaining-member and the base-member in position to engage the end-bar of a link overlying the base-member, and a latch-member pivoted on the base-member to adapt it to close down across the top of the retaining-member.

4. In a clasp for connecting the end links of a chain or bracelet, the combination of a base-member having a relatively flat bottom-plate and a hook at one end having a portion overlying its bottom-plate, a spring held beneath the overlying portion of the hook to adapt it to engage the cross-bar of the end link of the chain extending across the base-member, means for retaining the spring in position on the base-member, and a latch-member hinged to the base-member and provided with means for releasably engaging the end thereof to secure the parts in connected relationship.

5. In a clasp for connecting the end links of a chain or bracelet, the combination of a base-member having a relatively flat bottom-plate with an upstanding hook at one end thereof and lateral ears at its opposite end, a retaining-member overlying the bottom-plate of the base and held beneath its hook to adapt the end link of the bracelet to be slidably received therebetween, a spring held between the retaining-member and the bottom-plate of the base-member to adapt it to act against the end link to slide the latter on the base-member, and a latch-member hinged to the ears at the end of the base-member and having latching means at its opposite end adapted to engage over the hook on the base-member.

6. In a clasp for connecting the end links of a linkage or bracelet, the combination of a base-member formed with a hook at one end and ears at its sides, said ears provided with projections on their inner faces, a retaining-member overlying the base-member with one of its ends held beneath the hook thereof, said member formed with openings at its opposite end adapted to receive the projections on the ears of the base-member, a spring held beneath the retaining-member in position to engage the end-bar of an end link of the linkage overlying the base-member, and a latch-member pivoted to the base-member to adapt it to engage the end link at the opposite end of the linkage and to close down across the top of the retaining-member.

7. In a clasp for connecting the end links of a chain or bracelet, the combination of a base-member having a flat hook at one end and pairs of lateral ears at its opposite end, the ears of one pair having projections on their inner sides, a retaining-member comprising a substantially flat plate having a leg portion engaging beneath the hook on the base-member and a hook-like portion at its opposite end adapted to snap over the projections on the ears of the base-member, and a latch-member hinged to the second pair of ears on the base-member and provided with means at its opposite end for releasably engaging the hooked end of said member.

8. In a clasp for connecting the end links of a chain or bracelet, the combination of a sheet-metal base-member comprising a substantially flat bottom-plate with a hook at one end and pairs of lateral ears at its opposite end, one pair of ears having protuberances projecting inwardly therefrom and the other pair of ears perforated with openings, a retaining-member comprising a flat plate having one end bent into a hook to adapt its lateral edges to engage the projections on the ears of the base-member and its opposite end folded downwardly in a leg adapted to be received under the hook of the base-member to support the retaining-member in parallel spaced relation with respect to the bottom-plate of the base-member, a relatively flat coiled spring held between the retaining-member and the bottom-plate of the base-member to adapt it to engage the end link of the bracelet placed across the base-member beneath the retaining-member, a pin extending through the perforations in the second pair of ears on the base-member, and a latch-member comprising a flat top-plate having a cylindrical bent portion at one end surrounding the pin and a latch at the opposite end

adapted to engage over the hook on the base-member.

9. In a clasp for connecting the end links of a chain or bracelet, the combination of a base-member, a retaining-member on the base-member in overlying spaced relation thereto, snap-engaging means for releasably attaching the retaining-member to the base-member, and resilient means held between the retaining-member and base-member for engaging the end link of the bracelet to normally maintain it in retracted relationship within the clasp.

10. A clasp for the purpose specified comprising a base-member having a hooked end, a retaining-member provided with a depending leg at one end positioned within the hook on the base-member and releasably secured thereto at its opposite end, and resilient means held between the retaining-member and the base-member to act on the end link of the bracelet to normally maintain it retracted within the clasp while permitting longitudinal sliding movement thereof.

11. A clasp of the type specified comprising a base-member adapted to receive the end link of a bracelet, a retaining-member having an abutment, snap-engaging means on the retaining-member and base-member for releasably securing them together, and resilient means positioned between the abutment and the end link of the bracelet to act on said link to normally maintain it retracted within the clasp while permitting longitudinal sliding movement of the end link whereby the bracelet may be expanded in length.

12. A clasp for the purpose specified comprising a base-member having means at one end for receiving one end of a linkage, a retaining-member, means for removably securing the retaining-member to the base-member to hold the end of the linkage in connection therewith, resilient means held by the retaining-member to act against the end link of the linkage to maintain it in contracted relationship within the clasp, and a latch-member hinged to the opposite end of the base-member and foldable across the top of the retaining-member in position to connect the opposite end of the linkage to the clasp.

13. A clasp for the purpose specified comprising a base-member, a retaining-member removably attached to the base-member to adapt it to retain one end link of a bracelet within the device, resilient means between the base-member and retaining-member for normally maintaining the end of the bracelet in retracted relationship while permitting sliding movement thereof to adapt the bracelet to expand in length, a latch-member hinged to the base-member and foldable across the retaining-member to attach the opposite end of the bracelet to the device, and latching-means for securing the latch-member in closed relationship.

14. In a clasp for connecting the ends of a linkage having an end link provided with splines on its sides, the combination of a base-member for receiving the end link of the linkage, a retaining-member provided with an abutment, means for connecting the retaining-member with the base-member, resilient means acting between the abutment and the end link of the linkage to yieldingly retain the end link within the device, and guideways formed in the sides of the base-member and the retaining-member to receive the splines of the end link whereby the latter may slide therealong without canting or flexing.

In testimony whereof I hereunto affix my signature.

CHARLES H. KESTENMAN.