June 17, 1930. O. L. GAMMELL ET AL 1,764,440

EXPANSIVE MEMBER FOR INSEPARABLE BRACELETS

Filed Nov. 8, 1928

Fig. 1

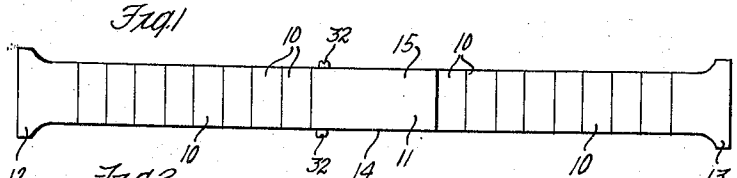


Fig. 2.

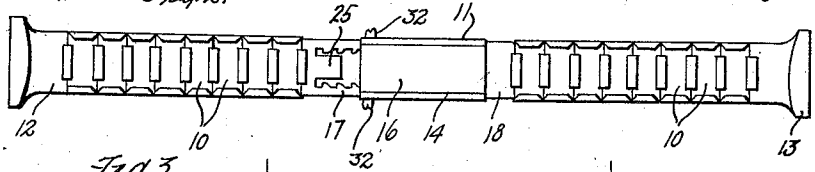


Fig. 3

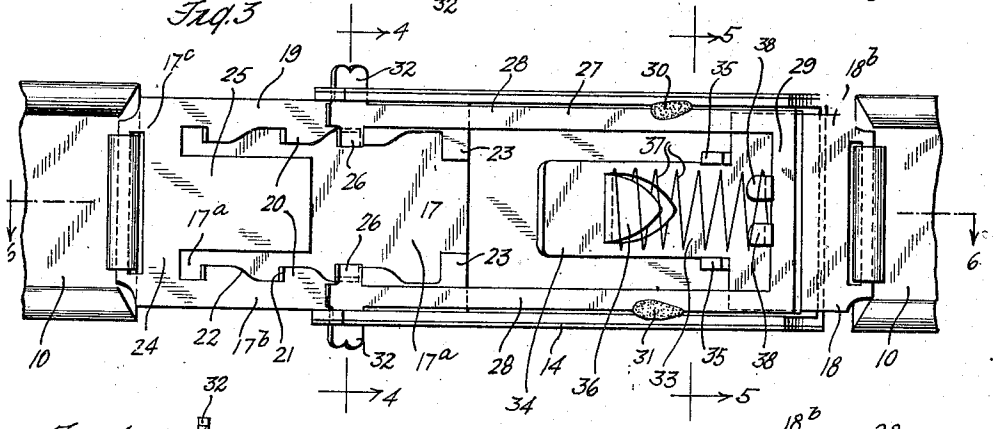


Fig. 4.

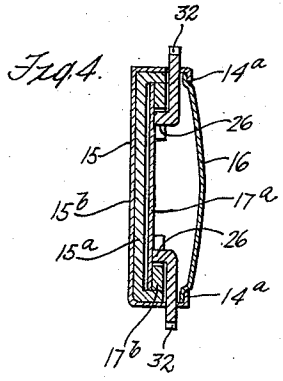


Fig. 5

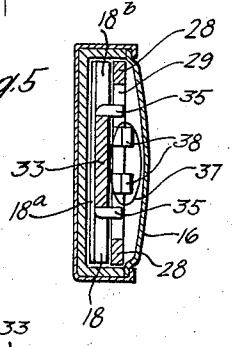
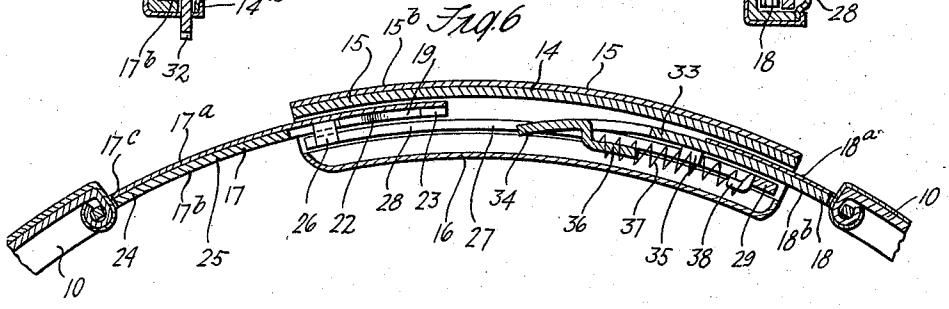


Fig. 6



Ove L. Gammell and R. W. Woodward INVENTORS

BY Robert S. Blair ATTORNEY

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UNITED STATES PATENT OFFICE

OVE L. GAMMELL AND ROLAND W. WOODWARD, OF ATTLEBORO, MASSACHUSETTS, ASSIGNORS TO SMITH & CROSBY, A COPARTNERSHIP COMPOSED OF ALFRED D. CROSBY AND GEORGE H. CROSBY, OF ATTLEBORO, MASSACHUSETTS

EXPANSIVE MEMBER FOR INSEPARABLE BRACELETS

Application filed November 8, 1928. Serial No. 317,967.

This invention relates to bracelet construction and more particularly to expansive members for inseparable bracelets.

One of the objects thereof is to provide a bracelet which is conveniently adjustable in length. Another object is to provide a snugly fitting bracelet which will resiliently expand or contract in response to movement of the wrist of the wearer. Another object is to provide a construction of the above nature which may be conveniently put on and adjusted in position upon the wrist and easily and conveniently removed therefrom. Another object is to provide a construction of the above nature which is strong and durable, of neat and attractive appearance, and of such simple construction as to facilitate its convenient and economical manufacture. Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, in which is shown one of the various possible embodiments of this invention,

Figure 1 is a top plan view of a bracelet with parts completely retracted;

Fig. 2 is a bottom plan view of the same, showing the parts drawn out to their full extent;

Fig. 3 is an enlarged bottom view of the expansion member in partly expanded condition with the bottom wall of the casing removed;

Fig. 4 is a cross section on line 4—4 of Fig. 3, but showing the casing complete;

Fig. 5 is a similar view on the line 5—5 of Fig. 3; and

Fig. 6 is a similar view on line 6—6 of Fig. 3.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now to the drawings in detail, and first to Figs. 1 and 2, there is shown a bracelet comprising a plurality of links 10, a center or expansion member indicated generally in Fig. 1 by the numeral 11, and end hooks 12 and 13 which provide means of attachment with a wrist watch or the like. It is to be understood, however, that the features of this invention are not limited to wrist watches and like constructions but are applicable to other types of bracelets as well.

As particular advantages are achieved when the invention is employed in a wrist watch bracelet or strap, this type of bracelet has been illustrated in Figs. 1 and 2. Also, it is to be understood that the character of the links 10 is unimportant as pertaining to the features of the present invention, the links 10 shown herein being illustrative simply of a preferred form of wrist encircling means.

Now referring to the other figures of the drawings, the expansion member 11 is shown to comprise a center link or casing 14 and slide members 17 and 18, each designed to be slidably received within an end of the casing member and to be partially overlapped and telescoped thereby. The casing 14 comprises a trough-like top member 15 open at its ends, and a bottom cover 16. The member 15 consists preferably of an inner relatively rigid section 15^a and a like ornamental section 15^b. The side walls of section 15^b extend beyond the side walls of section 15^a and are adapted to be turned inwardly upon the lateral edges of the cover 16 to clamp the latter down upon the side walls of section 15^a, as is shown at 14^a. It is to be understood that the sections 15^a and 15^b are fastened together as by soldering to form a unit structure. Similarly, the slides 17 and 18 are unit structures comprising outer ornamental plates 17^a and 18^a respectively, and inner distinctly shaped relatively rigid sections 17^b and 18^b. Parts 17^a and 17^b are substantially of the same length and width and are both cut through as at 17^c to form a slot by means of which the adjoining bracelet link 10 is pivotally attached thereto. Parts 18^a and 18^b are similarly slotted

for attachment to its adjoining link, but the plate 18[a] is much shorter than the shaped portion 18[b], being, in fact, of sufficient length merely to cover the exposed part of the slide 18 when the latter is fully drawn out.

The slide 17 is designed to slide substantially its full length within the casing 14 and to be releasably latched in any one of a plurality of fixed positions lying between its fully retracted and its fully expanded positions. It is furthermore designed to be freely movable from any fixed position in a direction to shorten the bracelet, while, on the other hand, it must be manually released before it can be drawn out from any fixed position. This is accomplished as follows: The shaped portion of the slide has elongated side portions 19 notched on their inner edges to provide a plurality of opposed teeth having outwardly directed stop surfaces and inwardly sloping shoulders 22. At their inner ends the sides 19 are turned toward each other as at 23 to provide abutment surfaces adapted to prevent the removal of the slide from the casing. At their opposite ends the sides are joined by an end wall 24. Projecting inwardly therefrom is a stiffening tongue 25.

Coacting with said teeth 20 to accomplish therewith the objects just mentioned are a pair of opposed detents 26 formed upon and turned up from a catch and guide member 27 which is made of flat sheet metal and comprises a pair of resilient spaced arms 28 and an end connecting portion forming an abutment 29. This guide member is spaced away from the top of the casing 14 sufficiently to furnish guideways in which the slides 17 and 18 are held in a longitudinally slidable manner. The member 27 is secured to the side walls of the casing adjacent the transverse portion or abutment 29 as by spot-soldering, as shown at 30 and 31. Transversely opposite the said detents 26 are finger projections 32 which pass through openings in the side walls of casing 14 so as to be readily pressed between the thumb and finger of the wearer of the bracelet to spring inwardly the resilient arms 28 and release the detents from latch engagement with the stop surfaces of the teeth 20.

The slide 18 is also held slidably in the guideway formed between the top of the casing and the member 27. Its shaped portion 18[b] is substantially of the same rectangular shape and size as its plate portion 18[a], as far as the inner edge of 18[a], whence it is continued inwardly and away from the abutment 29 in the form of a tongue 33 of a width conveniently to pass between the inturned portions 23 of the slide 17 when both slides are fully inserted.

The inner end of the tongue is turned downwardly as at 34 (see Fig. 6) so as readily to overlap the plate of the slide 17. Sprung downwardly adjacent the outer end of said tongue portion are a pair of abutment lugs 35 adapted to engage the end portion 29 of the guide member 27 when slide 18 is drawn out to prevent its removal from the casing 14. About midway between said lugs and the inner end of the tongue the latter has a lug 36 sprung downwardly from the body thereof, as is clearly shown in Figs. 3 and 6. The lug 36 is positioned and shaped to receive and hold one end of a coiled spring 37 which is disposed between it and the opposing lug or lugs 38 formed upon and sprung down from the transverse portion 29 of the guide member 27. The function of this spring is to offer resilient opposition to relative movement of the slide and casing in a direction to lengthen the bracelet and to return said parts to their innermost position when there is no force acting in the opposite direction.

In use, when it is desired to place the bracelet in position upon the wrist, the finger projections 32 are pressed inwardly and the slide link 17 drawn outwardly, when the bracelet may be slipped over the hand. To adjust the bracelet for size, the slide is simply pushed into the casing until the bracelet reaches a suitable tightness about the wrist, whereupon the detents 26 engaging the registering stop surfaces of the teeth 20 hold the parts in such position. To remove the bracelet from the wrist the detents are disengaged from the teeth and the slide drawn out as far as necessary.

As bracelets of this nature are often worn at times when the muscles of the wrist are being made to expand and contract, it is important if a tight fit is desired that the bracelet may expand and contract accordingly. The resiliently held slide 18 meets this condition of use simply and effectively by automatically slipping in and out of the casement member 14 as the necessity arises.

It is to be noted that the inside cover of the casement member presents a smooth and uninterrupted surface to the flesh of the wearer and protects the parts from dirt and moisture. The cover plates 17[a] and 18[a] have the same appearance as the other links of the bracelet so that the latter has a pleasing and uniform appearance in all positions of expansion and adjustment.

From the foregoing it will be seen that this invention is one well fitted to carry out the aims and objects thereof in a thoroughly simple, practical and reliable manner; that the bracelet may be conveniently enlarged so that no difficulty will be experienced in putting it on or off; and that it may then easily be adjusted to the desired degree of tightness and securely held in the position at which it is set but with a certain amount of elasticity to permit freedom

of movement of the wrist of the wearer without danger to the construction of the bracelet.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

We claim:

1. In bracelet construction, in combination, a pair of overlapping bracelet members relatively slidable in a direction to change the length of the bracelet, means adapted to limit the movement of said members, resilient means tending to hold said members in contracted relation, a third member telescoped by and relatively slidable within the exterior member of said pair in a direction to change the length of said bracelet, and means for selectively latching said third member and said exterior member together in a plurality of predetermined positions.

2. In bracelet construction, in combination, a casing having top and side walls, an abutment disposed in spaced relation to said top wall and extending between and attached to said side walls adjacent an end thereof, a slide member received between said top wall and said abutment and relatively movable longitudinally of said casing, said slide member having a tongue extending inwardly away from said abutment and resilient means retained between the inner end of said tongue and said abutment tending to oppose the relative movement of said parts in a direction to separate them.

3. In bracelet construction, in combination, a casing having top and side walls, an abutment disposed in spaced relation to said top wall and extending between and attached to said side walls adjacent and end thereof, a slide member received between said top wall and said abutment and relatively movable longitudinally of said casing, said slide member having a downwardly bent tongue extending inwardly away from said abutment, resilient means retained between the inner end of said tongue and said abutment tending to oppose the relative movement of said parts in a direction to separate them, and means for limiting movement in the said direction.

4. In bracelet construction, in combination, a casing having top and side walls, a catch member disposed within said casing in spaced relation to said top wall to form a guideway and comprising a transverse portion forming an abutment adjacent an end of said casing and elongated portions extending along the side walls of said casing to points adjacent the other end thereof, a slide member received within said guideway at the abutment end thereof and relatively movable therein, a second slide member received within said guideway at the other end thereof and relatively movable therein, means coacting with said abutment to permit resilient movement of said first slide member in a direction to lengthen said bracelet, and latching means on said second slide member adapted to coact with the elongated portions of said catch member to permit movement of said second slide member in a direction to lengthen said bracelet and to latch said second member in a plurality of extended positions.

5. In bracelet construction, in combination, a casing having top and side walls, a catch member disposed within said casing in spaced relation to said top wall to form a guideway and comprising a transverse portion forming an abutment adjacent an end of said casing and elongated portions extending along the side walls of said casing to points adjacent the other end thereof, a slide member received within said guideway at the abutment end thereof and relatively movable therein, a second slide member received within said guideway at the other end thereof and relatively movable therein, means coacting with said abutment to permit resilient movement of said first slide member in a direction to lengthen said bracelet, latching means on said second slide member adapted to coact with the elongated portions of said catch member to permit movement of said second slide member in a direction to lengthen said bracelet and to latch said second member in a plurality of extended positions, and means extending through the sides of said casing to be operated manually to release said catch member from engagement with said second slide member.

6. In bracelet construction, in combination, a casing having top and side walls, a catch member disposed within said casing in spaced relation to said top wall to form a guideway and comprising a transverse portion forming an abutment adjacent an end of said casing and elongated portions extending along the side walls of said casing to points adjacent the other end thereof, a slide member received within said guideway at the abutment end thereof and relatively movable therein, a second slide member received within said guideway at the other end thereof and relatively movable therein, means coacting with said abutment to permit resilient movement of said first slide member in a direction to lengthen said bracelet, latching means on said second slide member adapted to coact with the elongated portions of said catch member to permit movement of said second slide member in a direction to lengthen said bracelet and to

latch said second member in a plurality of extended positions, means extending through the sides of said casing to be operated manually to release said catch member from engagement with said second slide member, and means for limiting the outward movement of said slide members.

7. An expansion member for bracelets comprising, in combination, a center member and two end members slidable therein, means adapted resiliently to oppose the relative motion of one of said end members in a direction to expand the bracelet, and means adapted selectively and releasably to lock said second end member in a plurality of longitudinally spaced positions.

8. An expansion member for bracelets comprising, in combination, a center member and two end members slidable therein, means adapted resiliently to oppose the relative motion of one of said end members in a direction to expand the bracelet, means adapted selectively and releasably to lock said second end member in a plurality of longitudinally spaced positions, said first means comprising a fixed abutment within said center member, and a spring adapted to engage said abutment at one end and at the other end to engage an opposing abutment upon the first of said end members.

9. An expansion member for bracelets comprising, in combination, a center member and two end members slidable therein, means adapted resiliently to oppose the relative motion of one of said end members in a direction to expand the bracelet, means adapted selectively and releasably to lock said second end member in a plurality of longitudinally spaced positions, said first means comprising a fixed abutment within said center member and a spring adapted to engage said abutment at one end and at the other end to engage an opposing abutment upon the first of said end members, and said second means comprising a plurality of spaced teeth positioned upon said second end member, a spring-pressed catch member within the walls of said center member for coacting with said teeth, and a finger piece projecting outwardly through the walls of said center member to be operated manually to release said catch member from engagement with said teeth.

10. An expansion member for bracelets comprising, in combination, a center member and two end members slidable therein, means adapted resiliently to oppose the relative motion of one of said end members in a direction to expand the bracelet, means adapted selectively and releasably to lock said second end member in a plurality of longitudinally spaced positions, said first means comprising a fixed abutment within said center member and a spring adapted to engage said abutment at one end and at the other end to engage an opposing abutment upon the first of said end members, and said second means comprising a plurality of spaced teeth positioned upon said second end member, a spring-pressed catch member within the walls of said center member for coacting with said teeth, and a finger piece projecting outwardly through the walls of said center member to be operated manually to release said catch member from engagement with said teeth, said catch member being formed upon a resilient longitudinally extending arm of said fixed abutment.

11. In bracelet construction, in combination, a center link member having a top wall and a bottom wall connected thereto, said link being open-ended, a pair of end link members slidably received respectively into opposite ends of said center member in contact with the top wall thereof, one of said end members having formed on its under side a plurality of notches and the other of said end members having formed on its under side a downwardly sprung lug, and a flat guide member having at one end releasable detents for selectively engaging said notches and at the other end a fixed abutment disposed in opposition to said downwardly sprung lug to hold a compression spring therebetween.

12. In bracelet construction, in combination, a center link member having a top wall and a bottom wall connected thereto, said link being open-ended, a pair of end link members slidably received respectively into opposite ends of said center member in contact with the top wall thereof, one of said end members having formed on its under side a plurality of notches and the other of said end members having formed on its under side a downwardly sprung lug, and a flat guide member having at one end releasable detents for selectively engaging said notches and at the other end a fixed abutment disposed in opposition to said downwardly sprung lug to hold a compression spring therebetween, said guide member being positioned between said end link members and said bottom wall and having means projecting through the walls of said center link member for releasing said detents.

13. In bracelet construction, in combination, a center link member having a top wall and a bottom wall connected thereto, said link being open-ended, a pair of end link members slidably received respectively into opposite ends of said center member in contact with the top wall thereof, each of said end link members comprising an upper cover plate underlying the top wall of said center link and a lower distinctively shaped portion underlying its respective cover plate, one of said distinctively shaped portions

having thereon a longitudinally disposed series of teeth presenting abrupt surfaces toward the center of said center link and inclined surfaces in the opposite direction and the other of said distinctively shaped portions having an outwardly sprung lug, and a flat guide member underlying both of said shaped portions having at one end releasable detents for engaging the surfaces of said teeth of the one end link member and having at its other end a fixed abutment disposed in opposition to said lug on said other end link member to hold the compression spring therebetween, whereby the one end link member may be freely moved in a direction to shorten the bracelet and selectively locked in a plurality of positions against movement in the opposite direction and the other end link member is yieldingly held against movement in a direction to lengthen said bracelet.

In testimony whereof, we have signed our names to this specification this 30th day of October, 1928.

OVE L. GAMMELL.
ROLAND W. WOODWARD.