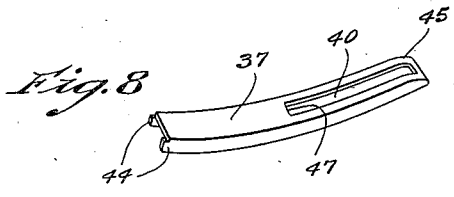
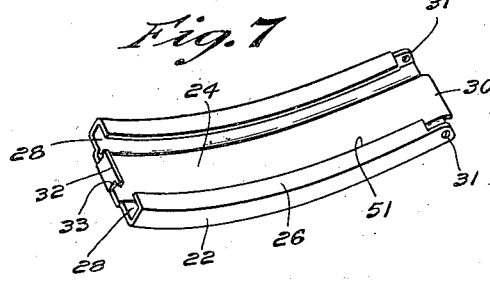
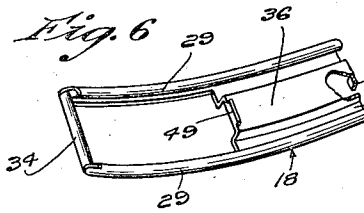
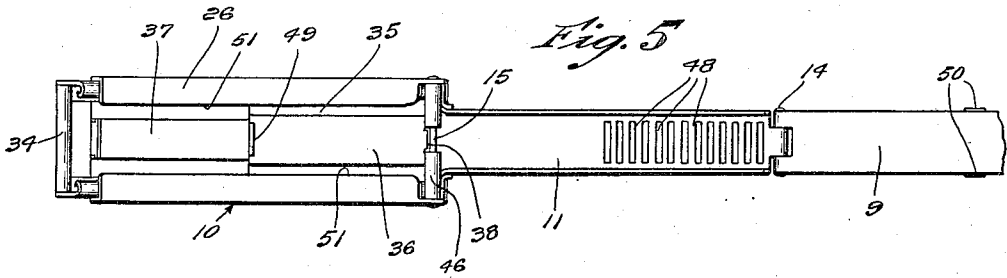
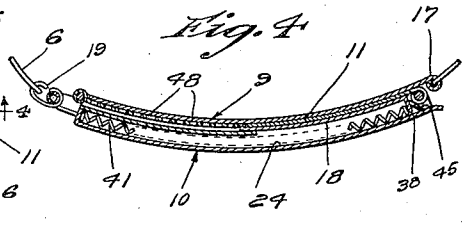
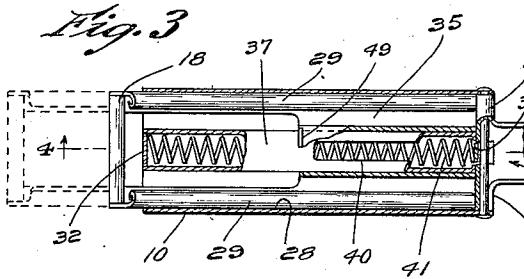
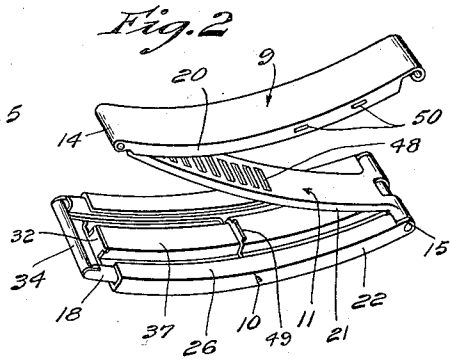
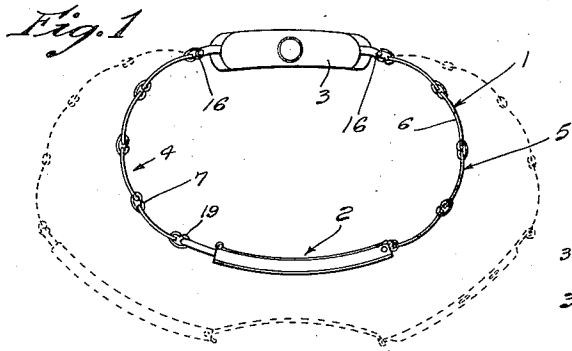


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E. G. CARLSON  
BRACELET STRUCTURE  
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2,138,570



*Inventor*  
*Edwin G. Carlson.*  
*By Percy H. Plant,*  
*Attorney*

# UNITED STATES PATENT OFFICE

2,138,570

## BRACELET STRUCTURE

Edwin G. Carlson, East Providence, R. I., assignor to Speidel Corporation, Providence, R. I., a corporation of Rhode Island

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6 Claims. (Cl. 24—71)

This invention relates to an improved bracelet structure and more particularly to a novel form of take-up means comprising plates pivotally connected together and adapted to be folded into interfitting relation with each other for regulating the length of the bracelet to conform with the wrist of the wearer.

One object of the invention is the provision of a self-adjusting automatically locking take-up means for adapting the length of the bracelet to the size of the wrist.

Another object of the invention is the provision of a novel form of spring housing whereby the spring is supported out of contact generally with the movable surfaces of the adjustable telescoping members and protected against wear and the frictional resistance to its operation which ordinarily occurs in devices of this character.

A further object of the invention is the provision of a novel form of telescoping adjustable members having a separately attachable spring housing adapted to serve as a guide housing for the spring and at the same time be held in proper position by means of one of the telescoping members.

Another object of the invention is the provision of a housing for the spring member adapted to serve as a stop for limiting the movement of the adjustable telescoping members in one direction and at the same time limiting the degree of compression to which the spring may be subjected.

A further object of the invention is the provision of a novel form and arrangement of the telescoping members with relation to each other and the spring housing supported by one of said telescoping members.

Other objects and advantages of the invention relate to various new and improved details of construction and arrangements of the parts as will be more fully set forth in the detailed description to follow.

Referring to the drawing:—

Fig. 1 is a side elevational view of the bracelet structure showing the extensible take-up means with the elements in their folded positions in full lines, and illustrating them in their extended positions by means of dotted lines,

Fig. 2 is a perspective view of the take-up means showing the sections in partially opened position and illustrating the form and arrangement of certain of the elements,

Fig. 3 is a view, partially in section, showing the form and arrangement of the parts of the outer section of the take-up means together with the telescoping member associated therewith,

Fig. 4 is a longitudinal sectional view through the take-up means, showing the parts in their folded positions,

Fig. 5 is a top plan view of the take-up means, showing the parts in their fully extended positions,

Fig. 6 is a perspective view of the inner telescoping member,

Fig. 7 is a perspective view of the supporting plate or outer telescoping member, and,

Fig. 8 is a perspective view of the separate spring housing removed from the supporting plate.

In the embodiment of the invention illustrated herewith 1 designates generally a bracelet structure, which comprises a take-up means 2 and wrist watch 3 connected by bracelet sections 4 and 5, each of which may be formed from a plurality of link members 6 interconnected with each other by link connecting members 7.

The take-up means 2 may be said to comprise end members 9 and 10 and an intermediate member 11 having their adjacent ends pivotally connected together in any suitable manner, as by hinge pins 14 and 15, to permit the members to be moved into extended position or be folded together into interfitting relation with each other.

Each bracelet section 4 and 5 has one end pivotally connected with the watch 3, as indicated at 16, and the opposite end suitably secured to one of the end members 9 or 10 of the take-up means as is usual in devices of this character.

The end member 9 of the take-up means may be provided with a rolled end 17 for attachment to the adjacent link member 6, and the end link 6 of the bracelet section 4 may be connected with the end portion of a telescoping member or extension member 18, carried by the end number 10, by means of a loop shaped connecting member 19.

The interfitting members 9 and 11 are each channel shaped in cross section, as shown more particularly in Fig. 2, being provided with opposite side flanges 20 and 21, respectively, shaped to permit the members 9 and 11 to interfit with each other when in folded position with the side flanges 21 fitting within the side flanges 20 and the side flanges 20 fitting closely within the inward turned portions of the flanges 22 carried by the member 24.

The member 10 of the take-up means comprises a supporting member or plate 24 which is provided with longitudinally extending side flanges 22, each having a portion 26 turned inwardly from the plane of the flange 22, and

spaced from the main body portion of the plate or member 24 a substantially equal distance throughout its extent to form a guideway 28 for the reception of one of a pair of spaced arms or lateral edge portions 29 carried by or forming a part of the inner telescoping member or extension member 18. The supporting plate or member 24 is also provided at one end with an out-turned lip 30 for a purpose which will be more fully described hereinafter, and has openings 31 formed in the flanges 22 for the reception of the hinge pin 15. The end of the plate or member 24 opposite to the outturned lip 30 is intumed to provide a lug 32 having undercut notches 33 formed in the ends thereof, as shown in Fig. 7 of the drawing.

The inner telescoping member of extension member 18, forming a part of the take-up section 10, may be formed from a thin metal sheet and provided with a pair of spaced arms or lateral edge portions 29 arranged substantially parallel with each other and adapted to fit slidably within the guideways 28 of the plate or member 24. The spaced arms or side edges 29 have adjacent ends connected together by means of a bar 34, which may also be formed from rolled metal plate. The opposite ends of said spaced arms 29 are connected by a plate 35, which in the present instance is formed integral with the metal of the arms 29, and comprises a centrally positioned channel shaped portion 36 of suitable size to slidably engage the spring housing 37 when the same is positioned upon the plate or member 24.

If desired, the spaced arms 29, or the bar 34, or both, may be formed from solid stock, either round or angular in cross section, and these parts may be of integral construction or may be secured together in any desired manner. In such case the plate 35 connecting the arms 29 may be rolled thereover or secured thereto in any suitable or desired manner. A downturned lug 38 is provided at one end of the channel shaped portion 36 and is adapted to fit slidably within the slot 40 formed in one end of the housing 37 and engage one end of the coiled spring 41, the opposite end of the spring 41 seating against the lug 32 carried by plate or member 24. The spring housing 37 is provided at one end with a pair of projecting ribs 44 adapted to fit within the notches 33 formed in the lug 32 in order to hold one end of the spring housing 37 securely positioned relative to the plate or member 24 when the parts are in assembled position.

The opposite end of the spring housing is inclined slightly as indicated at 45, so as to fit beneath and be held in position by the coiled end portion 46 of the member 11 when the parts are in assembled position and the hinge pin 15 is passed through the openings 31 formed in the flanges 22 and the coiled end portion 46 of the member 11 to retain these parts in pivotal engagement with each other.

In assembling the elements making up the member 10 the inner telescoping member or extension member 18 may be first telescoped within the plate or member 24 by inserting the spaced arms or lateral edge portions 29 and channel shaped portion 36 within the plate or member 24 in such a manner that the spaced arms or lateral edge portions 29 slide within the guide-ways 28. The spring housing 37, having the spring 41 positioned therein is then inserted within the channel shaped portion 36 sufficiently to permit the projecting ribs 44 to pass the lug 32, when the spring housing is pressed closely against the plate 34 and

forced backwardly in the direction of the lug 32 to bring the projecting ribs 44 into position within the notches 33. The rolled end portion 46 of the member 11 is then inserted between the flanges 22 of the plate 24 in such a manner as to permit the insertion of the pin 15 within the oppositely positioned openings 31 formed in the flanges 22 and through the rolled end portion 46 of the member 11 to hold the members 10 and 11 in pivotal relation with each other. The inclined end 45 of the spring housing 37 fits beneath the rolled end 46 of the member 11 when the parts are in assembled position and the spring housing is thus held in position upon the plate or member 24 with the ribs 44 fitting within the notches 33. The channel shaped portion 36 of the inner telescoping member or extension member 18 overlies and slidably engages the spring housing 37 to assist in retaining the spring housing in position and guide the telescoping member or extension member 18 in its movement relative to the plate or member 24. The downturned lug 38 carried by one end of the channel shaped portion 36 is shaped to fit within the slot 40 and engage one end of the compression spring 41, the opposite end of the spring 41 abutting against the lug 32 carried by the plate or member 24. The spring 41 is thus normally effective to draw the telescoping member or extension member 18 into telescoping relation with the supporting plate or member 24. That portion of the spring housing 37 which forms one end wall of the slot 40, which is designated as 47, serves as a stop for the lug 38 to limit the movement of the telescoping member or extension member 18 relative to the plate or member 24 and thus limits the degree of compression to which the coiled spring 41 may be subjected in expanding the telescoping member 18 with relation to the plate or member 24.

The member 11 of the take-up means is provided with a plurality of transverse slots or depressions 48, any one of which is adapted to be engaged by an upstanding lug or detent 49 carried by the telescoping member 18 in such a manner as to lock the telescoping member in any one of a plurality of extended positions with relation to the plate or member 24 when the pivoted members of the take-up means are in their folded position. In practice, the position of the lug 49 upon the portion 36 of the telescoping member may be varied as desired longitudinally thereof and the openings or depressions 48 in the member 11 may be varied to correspond with the position of the detent 49. If desired, also, the side flanges 21 of the foldable member 11 may be omitted, particularly when some means other than the openings or depressions 48 are employed for cooperative engagement with the latching means carried by the extension member 18. The opposite side flanges 20 of the take-up member 9 may be provided with one or more outwardly projecting detents 50 adapted to engage beneath the edge 51 of the intumed portions 26 of the plate or member 24 to firmly secure the take-up members in folded position and hold them against accidental separation.

In order to separate the infolded members of the take-up means for the purpose of removing the bracelet structure the outturned lip 30 of the plate 24 may be engaged to move the parts into their extended positions.

In the operation of the above structure the take-up means may be extended as shown in dotted lines in Fig. 1 for the purpose of passing the bracelet over the hand of the user. The

members 9, 10 and 11 may then be partially folded as shown in Fig. 2, in order to roughly adjust the bracelet to the wrist, resulting in partially withdrawing the inner telescoping member or extension member 18 from the plate or member 24, as indicated in dotted lines in Fig. 3 of the drawing, to such an extent as may be desired in order to cause the bracelet to fit about the wrist with the desired degree of tightness.

The members 9, 10 and 11 are then forced into engaging folded position with each other, whereupon the detent 49 engages one of the openings or depressions 48 formed in the member 11 thus holding the members 18 and 24 against further extension or contraction relative to each other. At the same time the projecting detents 50 engage beneath the edge 51 of the inturned portions 26 of the flanges 22 to lock the members 9, 10 and 11 against separation.

It will be seen that the structure above described is thus substantially self adjusting in that the spring 41 tends to draw the telescoping member 18 within the plate 24 to an extent sufficient to fit the wrist with the desired closeness, and when thus adjusted the parts lock automatically in any desired adjusted position upon pressing the take-up sections together, since the detent 49 automatically engages with one of the openings or depressions 48 upon the take-up sections being folded into close engagement with each other.

It will be seen also that the spring housing 37 tends to maintain the spring 41 in separated position relative to the moving parts of the relatively expansible members whereby wear upon the spring is avoided as well as the danger of breakage through the spring becoming caught upon one of the movable members. The provision of the separate spring housing 37 also permits removal and replacement of the spring member readily when desired.

What I claim is:—

1. In a device of the character described, a plurality of members hinged together and foldable into engagement with each other, an extension member slidably supported by one of said foldable members, resilient means operative between said extension member and its supporting member for drawing said extension member into telescoping relation with its supporting member, and interengaging means carried by said extension member and one of the remaining members for locking said extension member in any one of a plurality of positions relative to its supporting member when the foldable members are in their folded positions.

2. A take-up means comprising pivotally connected members movable into extended position or into folded relation with each other including a supporting member provided with lateral flanges having inturned edge portions forming guides, an extension member having portions slidably mounted in said guides, a spring enclosing housing fixedly supported by said supporting member, and a spring positioned within said housing and engageable with said supporting member and extension member respectively effective to draw said extension member into telescoping relation with said supporting member.

3. In a bracelet structure, extensible means for connecting the ends of a pair of bracelet sections comprising a supporting member, an extension member slidably mounted on said supporting member, resilient means engaging said extension member and supporting member for drawing said extension member into telescoping relation with said supporting member, a foldable member mounted for pivotal movement into folded relation with said supporting member, and cooperating means carried by two of said members out of engagement with each other when said foldable member is in unfolded position and engageable upon movement of said foldable member into folded relation with said supporting member for locking said extension member in fixed position upon and against sliding movement in either direction relative to said supporting member when said foldable member is moved into folded engagement with said supporting member.

4. An extension means comprising a supporting member having means for slidably supporting and guiding an extension member, an extension member slidably supported by said supporting member and having laterally spaced longitudinally extending side portions, spring means positioned between the spaced side portions of said extension member and engaging said extension member and supporting member respectively for drawing said extension member into telescoping relation with said supporting member, and a separate spring housing carried by said supporting member and located between the spaced longitudinally extending side portions of said extension member and enclosing portions of said spring means to maintain them out of direct contact with said extension member.

5. An extensible connector for bracelets comprising two sliding members connected to slide endwise one upon the other, spring means engaging said sliding members and effective to draw them into telescoping relation with each other, a folding member, means pivotally connecting the folding member to one of the sliding members, said folding member constituting a connecting link between the sliding members and one end of the bracelet, and means carried by said folding member and one of said sliding members inoperative when the folding member is in open position but operative when the folding member is folded over in closed position upon the sliding members to prevent lengthwise adjustment of the sliding members in either direction relative to each other.

6. In an extension means for connecting the ends of a pair of bracelet sections comprising a supporting member provided with spaced guideways, an extension member having spaced sides slidably mounted in the spaced guideways of said supporting member, a spring housing fixedly secured to said supporting member and located between and in laterally spaced relation with the spaced sides of said extension member, and a spring means positioned within said housing and resiliently engaging portions of said supporting member and extension member and normally operative for drawing them into telescoping relation with each other.

EDWIN G. CARLSON. 70