Sept. 4, 1956 S. RITTER ET AL 2,761,600

EXPANSIBLE BRACELETS

Filed Jan. 28, 1952

Fig. 1.

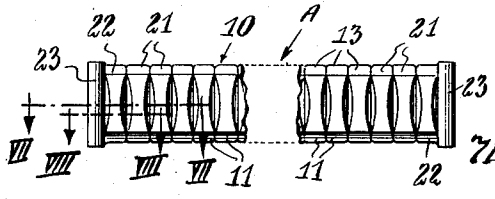
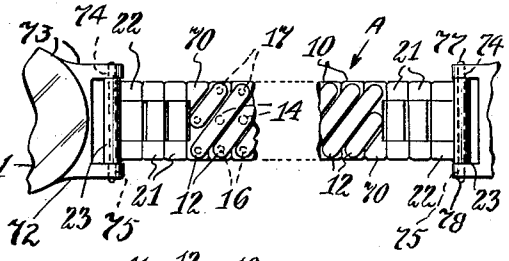


Fig. 2.



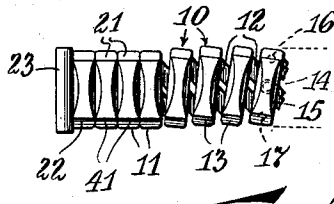


Fig. 3.

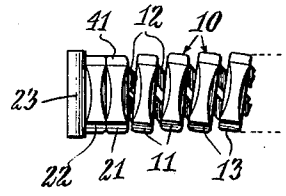


Fig. 4.

Fig. 5.

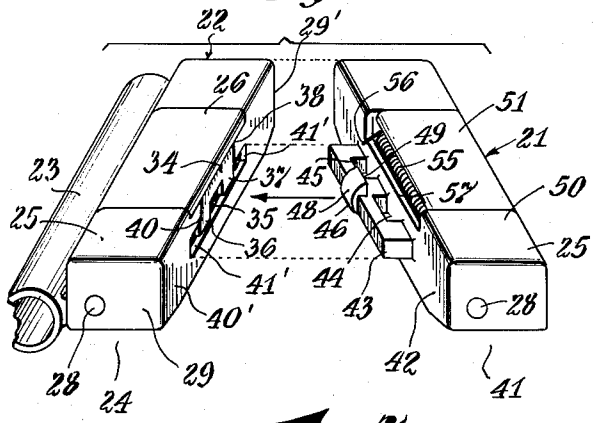


Fig. 6.

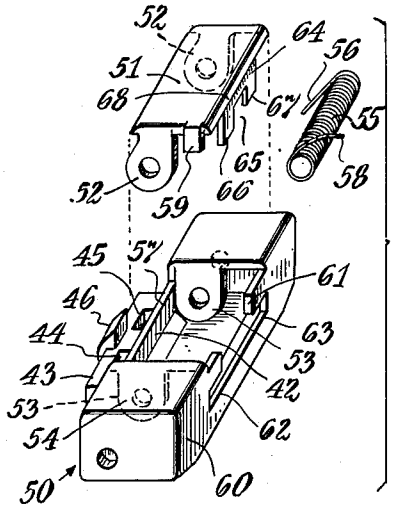


Fig. 7.

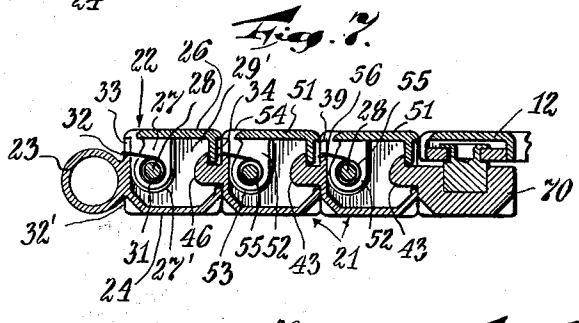


Fig. 8.

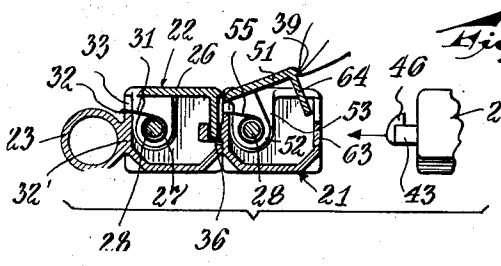
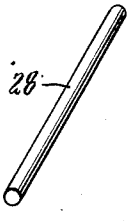


Fig. 9.



INVENTORS
SAUL RITTER &
WILLIAM J. PFEIFER.
BY
ATTORNEY

United States Patent Office 2,761,600 Patented Sept. 4, 1956

2,761,600

EXPANSIBLE BRACELETS

Saul Ritter, New York, N. Y., and William J. Pfeifer, Montclair, N. J.; said Pfeifer assignor to Bruner Ritter Inc., New York, N. Y., a corporation of New York

Application January 28, 1952, Serial No. 268,554

9 Claims. (Cl. 224—4)

The present invention relates to wrist watch bracelets or the like, of the expansible type, and relates more particularly to a bracelet which may be adjusted in length.

Expansible bracelets of well known construction are made up of linkage units consisting of a series of front or outer ornamental members pivotally connected to inner members. These members are controlled by springs so mounted and arranged as to normally maintain the members in adjacent or contracted relation. When the bracelet is expanded, as when passed over the hand, the link members may be separated to a limited degree. It is evident that the length of the bracelet when expanded or contracted will depend upon the number of links employed.

The object of the manufacturer of wrist watch bracelets is to so construct the bracelet that when in use it will hold a watch in proper relation to the wrist. In order to accomplish this the linkage should be of such length as to be almost entirely contracted when about the wrist, but with enough space between the link members to provide the proper tension to retain the watch with comfort to the wearer. At the same time the link members must not be separated to such degree as to make the spaces between the links conspicuous or even noticeable to the extent of detracting from the ornamental overall affect attained by the link design.

In order to meet the above conditions wrist watch bracelets have been made with a selected number of linkage units, usually about six inches in length, so that when expanded the bracelet will pass over the average hand and contract about the wrist to the proper degree as mentioned above. It will be readily understood, however, that although this practice is satisfactory in the majority of cases it will not meet all requirements. If the wrist is relatively small as often happens, then even with the links completely contracted the fit will be loose and unsatisfactory to the wearer. In other cases the opposite condition may arise as when the wrist is relatively large, thus when the bracelet is in position on the wrist the links are expanded to such degree that, as mentioned above, the added spaces between the links is so great as to destroy the desired ornamental appearance of the bracelet.

In certain types of bracelets it is simply a matter of disconnecting a link, as in the ordinary type of chain, in order to change the length of the bracelet. In the expansion type of bracelet, however, the links as mentioned above are pivotally connected. The pivots are in the form of rivets and a link cannot be removed without destroying the linkage assembly. It is evident that in order to be of any value from a commercial standpoint the operation of changing the length of the bracelet must be within the ability of the retailer who deals directly with the purchaser and must be able to fit the bracelet by changing its length at the time the sale is made and without excessive delay.

Bracelets of the type to which the present invention relates are provided with end connectors for attaching

the bracelets to a watch. An extensively used form of end connector, known as a spring-bar connector, includes a tubular member or barrel integral with an end link. The tubular member being part of a link is of a definite length to fit between the spaced lugs of a watch.

Watches of course vary in size and consequently the distance between the end lugs is different for different size watches. It is necessary, in order to meet this condition, for the seller to have a number of each style bracelet with different length tubular members. As hereinafter set forth the present invention provides replaceable end connectors hence the retailer may be stocked with a limited number of bracelets of a given design but may have a supply of end connectors of different lengths making it possible to remove an end connector that may be too long or too short for a particular watch and substitute an end connector to meet the dimensional requirement and immediately satisfy the customer.

It is an object of the present invention to provide a bracelet of the expansible type so constructed and arranged that it may be adjusted as to length, by the retailer, to meet the purchaser's requirement.

Another object of the invention is to provide an expansible bracelet with a number of sections similar in appearance to the link members of the bracelet and removable to change the length of the bracelet.

Another object of the invention is to provide an expansible bracelet with a plurality of sections serving as part of the bracelet but readily removable in the absence of tools or other mechanical aid.

Another object of the invention is to provide removable and replaceable end connectors to attach a bracelet to wrist watches having differently spaced connector lugs.

Other objects and advantages of the invention will be more clearly understood by reference to the following description together with the accompanying drawing, in which

Fig. 1 is a front view of a bracelet showing one embodiment of the invention including a number of removable sections;

Fig. 2 is a back view of the bracelet shown in Fig. 1;

Fig. 3 is a view similar to Fig. 1 but showing only a portion at one end of the bracelet and with the links expanded;

Fig. 4 is a view similar to Fig. 3 but shows two of the sections removed to shorten the bracelet;

Fig. 5 is a perspective, exploded view of a removable section in position to be connected to a bracelet end connector;

Fig. 6 is a perspective exploded view showing the several parts of a removable section;

Fig. 7 is an enlarged cross-sectional view taken on line VII—VII in Fig. 1;

Fig. 8 is an enlarged cross-sectional view taken on line VIII—VIII in Fig. 1 but showing the relation of another section ready to be connected, and

Fig. 9 is a perspective view of a pintle used as part of a removable section.

In the embodiment of the invention herein disclosed for the purpose of illustration the invention is applied to an expansible bracket indicated as a whole by the reference character A and includes a plurality of linkage units **10**. These linkage units may be of the well known type and include outer members **11** and inner members **12**. Each of the front or outer members **11** usually includes a cover or shell **13** which may be of any selected design to impart the desired overall ornamental effect to the bracelet. The outer and inner members are hingedly connected by a tubular pivot **14** in which a coiled spring **15** is disposed. One end of this spring engages an outer member and the other end engages an inner member to normally bring the members into adjacent relation or

contract the bracelet. The inner and outer members are also connected by pivots 16 and 17 at their ends. This construction is well known in expansion bracelets and no further description is necessary. It will, however, be evident that a bracelet of this type is a complete article made up of a definite number of links and further that any attempt to remove a link to change its length would result in a destruction of certain of the operating parts. Obviously the length of a bracelet of this type is a factory operation and any attempt to remove a link would be entirely impractical.

In accordance with the present invention it is proposed to provide an expansion bracelet with a plurality of removable sections 21, and with a specially constructed end connector section 22 which latter serves in the usual manner for attaching the ends of the bracelet to a wrist watch.

As shown more clearly in Fig. 5 the connector or end section 22 may be in the form of a link member insofar as its design from the ornamental standpoint is concerned. As shown the section 22 is provided with the usual tubular sleeve 23 to receive the well known spring-bar for attaching the bracelet end to a watch.

The section 22 is in the form of a tubular housing and in the present showing is of generally rectangular form in transverse cross-section.

The top wall 24 of section 22 has a surface design similar to the design on the cover shells 13 of the outer link members 11. The bottom wall 25 includes a hinged cover or latch piece 26. This latch piece is provided with bearing lugs 27 which are journalled on a pintle 28 supported at its ends by end walls 29 and 29' of section 22 and in bearing lugs 27' integral with wall 25.

The cover or latch piece is held normally flush with portions of bottom wall 25 by means of a tensoin member in the form of a helical spring 31 disposed about the pintle 28. One end 32 of the spring extends and engages the edge of a slot 33 in wall 32' of the section 22 and the other end is secured to the latch piece and holds it normally closed. Thus the cover or latch when raised is opposed by the force exerted by the spring 31.

The cover or latch piece 26 is provided with a projection or plate member 34 provided with a notch 35 between wads 36 and 37. The projection 34 which extends at right angles to the inner surface of the latch piece 26 is spaced from the edge 38 of the latch piece to provide a lip 39 to be engaged to lift the latch piece in opposition to the spring 31. When the latch piece 26 is in its normal or closed position the projection 34 is disposed in slot 40 provided in wall 40' of section 22. The slot 40 is formed with oppositely extending elongated longitudinal slots 41' to receive a part to be presently described.

It will be evident that in accordance with the present invention the bracelet end connector is provided with a manually operable latch to engage and hold a removable section or link.

A removable section 21 is therefore provided in the form of a tube of generally rectangular form in transverse cross-section. The top or outer surface 41 of the section 21 may be of the same design as the links 10 to conform with and give the desired overall ornamental effect to the bracelet. Side wall 42 of section 21 is provided with a rigid extension 43 so formed as to provide slots 44 and 45 and a detent 46.

Thus when section 21 is moved toward section 22 the extension 43 enters slots 41' and a curved face 48 of detent 46 causes the latch piece 26 to lift as the detent moves into notch 35 between wards 36 and 37 which are lifted as the latch piece is lifted. When opposite walls of the sections 21 and 22 are in close relation, the projections 34 drops behind lip 49 of the detent and wards 36 and 37 enter the slots 44 and 45 due to the action of the tension member 31. The sections are thus held against separation. When the sections are to be separated

the latch piece 26 is lifted as indicated in Fig. 8 thereby lifting the wards 36 and 37 from slots 44 and 45 and clearing the detent 46.

In the foregoing the structure of a connector section 22 was described with respect to its attachment to a section 21. Each of the sections is also provided with a latch piece to engage or release an adjacent section.

The sections 21 are of like construction and interchangeable. A description of one of the sections will answer for all. Each section 21 includes a tubular housing 50 provided with detent 46 and extension 43 having slots 44 and 45. As shown more clearly in Figs. 6 to 8 each section is also provided with a latchpiece 51.

The latch piece is provided with bearing lugs 52 for alignment with supporting lugs 53 integral with wall 54 of housing 50. A tension member in the form of a helical spring 55 is mounted on a pintle 28 which passes through lugs 52 and 53 and the end walls of the housing 50. One end 56 of the spring engages the edge 57 of side wall 42. The other end 58 of the spring is secured by means of a bendable lug 59 to the latch piece 51. Thus the spring serves to normally hold the latch piece closed. The wall 60 of housing 50 is provided with a slot 61 having oppositely extending longitudinal slots 62 and 63 similar to the slots in wall 40' of connector section 22.

The latch piece 51 is similar to that shown for connector section 22, and is provided with a projection or plate member 64 having a notch 65 between wards 66 and 67. The plate member is so spaced from the edge 68 of the latch piece as to provide a lip to be engaged to lift the latch.

Any number of sections similar to 21 may be employed and the ends of the expansion linkage are provided with a terminal section 70 as shown in Figs. 7 and 8.

This terminal section may have a body portion to which link ends are pivotally connected in the same manner as they are connected to the end connector in common practice.

In accordance with the present invention, however, this terminal section is provided with a detent and slots similar to detent 46 and slots 44 and 45 of section 21. Thus the end terminal section may be readily connected to or released from a section 21, or it may be connected directly to an end connector 22.

As shown in Figs. 1 and 2 the end connector sections 22 constitute a complete removable and replaceable unit having a tubular sleeve 23. The length of this member 23 as heretofore employed was of a definite length and if the bracelet was to be used with a watch 71 having a three quarter inch space between the lugs 72 and 73 the member 23 would be slightly less to be positioned for alignment with apertures 74 and 75 of the lugs. In practice the member is provided with a spring-bar element 76 including spring actuated pins 77 and 78 which enter apertures 74 and 75 of the lugs to connect the bracelet to the watch. This method of attachment is widely used and no further description is deemed necessary.

The present invention makes it possible to furnish several end connectors of different lengths as for example three quarter inch, five eighths inch and one half inch. The seller may then permit the purchaser to select a particular design and if, as happens in many cases, the customer's watch requires a spring-bar length different from that provided on the selected bracelet the bracelet end connector section may be replaced with one suitable for the watch. The advantage gained by reason of the present invention is therefore not only to provide for changing the length of the bracelet but to meet the condition of providing an end connector to fit any standard watch. On the other hand, the present structure which permits the replacement of a link, may, if desirable, be employed only to replace the end or connector section 22 to meet the variation in the dimensions between the apertured lugs

of different watches as in cases where no change in bracelet length is necessary.

From the above it will be evident that the present invention provides an expansible bracelet including a plurality of removable sections. These sections may be located at one or both ends as desired to allow for appreciable change in length. It has been found, however, that one or two removable sections at each end is sufficient to meet most conditions.

When a bracelet including the removable sections is to be changed in length it is only necessary to lift a latch piece by applying the finger nail under the lip (see Fig. 8) to raise the latch piece and release one side of the section. The latch piece on the adjacent section may then be raised thereby completely releasing the section to be removed. The remaining section may then be moved to bring the detent into engagement with the latch piece of the end section and by pressing the opposite walls of the sections together the latch will automatically lock the sections in fixed relation. As will be noted the latch pieces are disposed on the inner side of the sections and are in contact with the wrist when the bracelet is in use. As stated above the appearance of the bracelet is maintained since the sections are so constructed and arranged that they carry the same design and appear as a continuation of the expansion linkage.

Although a preferred embodiment of the invention is shown and described herein it is to be understood that modifications may be made therein without departing from the spirit and scope of the appended claims.

We claim:

1. Replaceable units for a link bracelet, each of said units comprising a housing having top, bottom, and side walls, a detent integral with one of said side walls and the other side wall having an aperture to receive a detent of a similar unit, a latch piece hingedly mounted on said unit and normally serving as part of said bottom wall, tension means for actuating said latch piece for engagement with said detent when moved into said aperture and means for lifting said latch piece to release said detent.

2. Replaceable link units for a link bracelet, each of said units comprising a housing of substantially rectangular configuration, having top, bottom, and side walls, a detent extending from and integral with one of said side walls, the opposite side wall having an aperture to receive said detent of another unit, a latch piece hingedly mounted on said unit, said latch piece including a cover for normally forming part of said bottom wall, tension means for actuating said latch piece for engagement with said detent when moved into an aperture of an adjacent unit.

3. Replaceable units for a link bracelet, each of said units comprising a housing of substantially rectangular form having top, bottom, and side walls, a detent extending from and integral with one of said side walls, the opposite side wall having an aperture to receive a detent of an adjacent unit, a latch piece, said latch piece including a hinged cover forming part of said bottom wall, tension means for actuating said latch piece to engage said detent when moved into said aperture and to move said cover to position flush with said bottom wall and means for lifting said cover to release said detent.

4. Replaceable units for a link bracelet, each of said units comprising a housing of substantially rectangular form, having a top, bottom, and side walls, a detent extending from and integral with one of said side walls, the opposite side wall having an aperture to receive a detent extending from a side wall of an adjacent unit, a latch piece, said latch piece including a hinged cover forming part of said bottom wall, bearing lugs on said cover, a pintle journaled in said lugs and a helical spring on said pintle for actuating said latch piece to engage said detent when moved into said aperture and to move said cover to position flush with said bottom wall.

5. Replaceable units for a link bracelet, each of said units comprising a housing having top, bottom, and side walls, an extension integral with one of said side walls, a detent integral with said extension, said extension having a slot, an aperture in the opposite side wall to receive said extension and detent of a similar unit, a latch piece mounted on said bottom wall, tension means for actuating said latch piece to engage a detent of another unit when said detent is moved into said aperture, said latch piece having a ward to enter said slot when said detent is engaged by said latch piece.

6. Replaceable units for a link bracelet, each of said units comprising a housing having top, bottom, and side walls, an extension integral with one of said side walls, a detent integral with said extension, said extension having slots, an aperture in the opposite side wall to receive said extension and detent, a latch piece mounted on said bottom wall, tension means for actuating said latch piece to engage a detent of another unit when moved into said aperture, said latch piece having wards to enter said slots when said detent is engaged by said latch piece.

7. Replaceable units for a link bracelet, each of said units comprising a housing having top, bottom, and side walls, an extension integral with one of said side walls, a detent integral with said extension, said extension having slots, an aperture in the opposite side wall to receive said extension and detent, a latch piece mounted on said bottom wall, tension means for actuating said latch piece to engage a detent of another unit when moved into said aperture, said latch piece having wards to enter said slots when said detent is engaged by said latch piece, and a finger piece for lifting said latch piece.

8. An end link member for attaching a replaceable link unit to the lugs of a watch, said end link member having top, bottom, and two side walls, one side wall having means for engaging a pair of watch lugs, the opposite side wall having an aperture to receive a detent extending from a side wall of a replaceable link unit, a latch piece having a portion adapted to normally serve as part of the bottom wall of said end link member and tension means for actuating said latch piece to engage said detent when moved into said aperture to connect said replaceable unit to a watch.

9. An end link of substantially rectangular form for attaching a replaceable link unit to the lugs of a watch, said end link having top, bottom, and two side walls, one side wall having means for engaging a pair of watch lugs, the opposite side wall having an aperture to receive an extension integral with the side wall of a replaceable unit, said extension having slots and a detent, a latch piece having a portion adapted to normally serve as part of the bottom wall of said end link, and tension means for actuating said latch piece to engage said detent, said latch piece having wards to enter said slots when said detent is moved into said aperture and engaged by said latch piece.

References Cited in the file of this patent

UNITED STATES PATENTS

447,692	Magerhans	Mar. 3, 1891
836,080	Bennett	Nov. 20, 1906
1,130,438	Schmidt	Mar. 2, 1915
1,440,230	Mestakin	Dec. 26, 1922
1,473,796	Newman	Nov. 13, 1923
1,625,063	Valcourt	Apr. 19, 1927
1,892,281	Kestenman	Dec. 27, 1932
2,376,633	Szeglin	May 22, 1945
2,417,289	Bisso	Mar. 11, 1947
2,536,007	Milner	Dec. 26, 1950
2,699,035	Becker	Jan. 11, 1955

FOREIGN PATENTS

76,721	Switzerland	Feb. 1, 1918