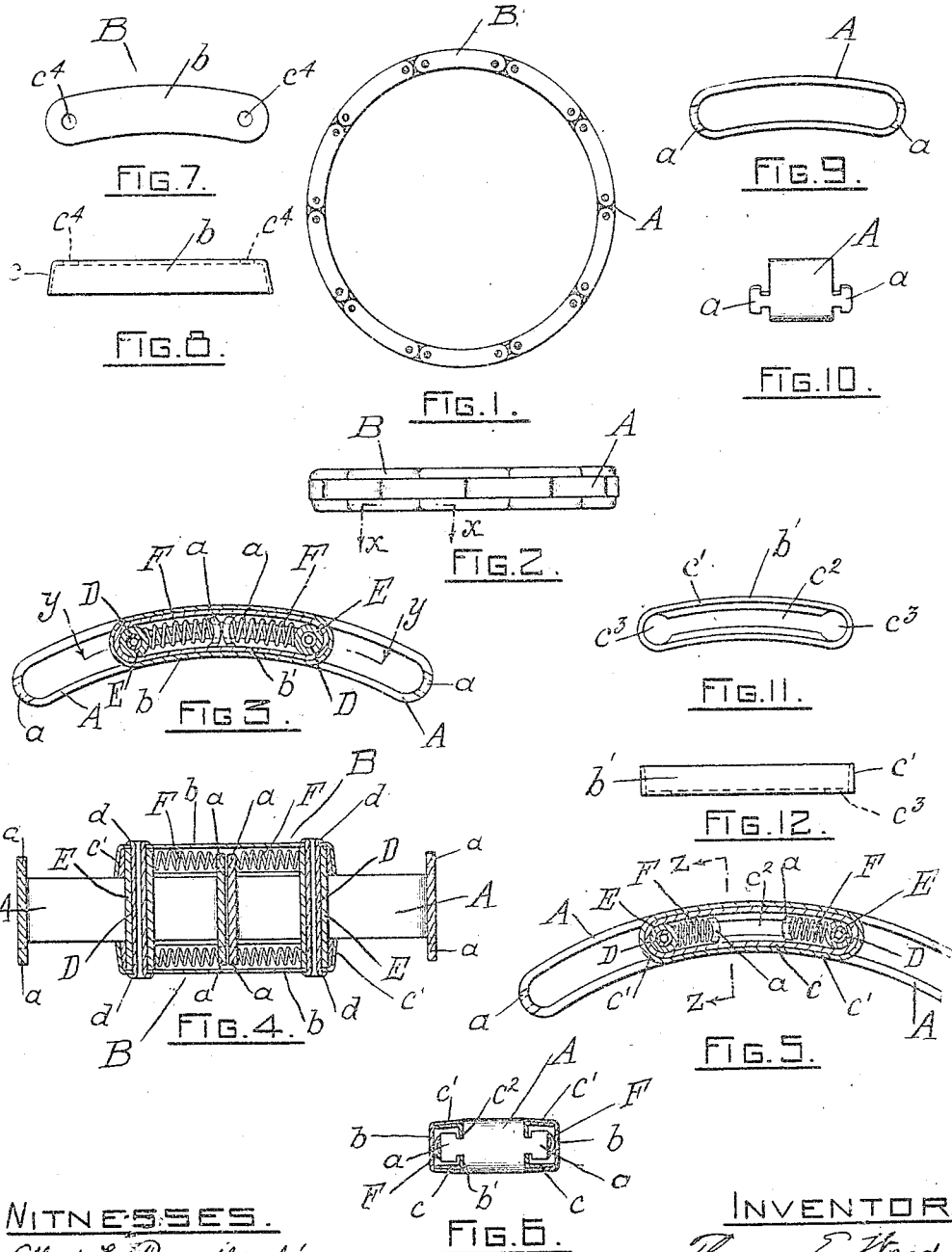


1,051,934.

Patented Feb. 4, 1913.



WITNESSES.

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BRACELET.

1,051,934.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed April 4, 1912. Serial No. 638,369.

To all whom it may concern:

Be it known that I, THOMAS E. WARD, a citizen of the United States, residing at Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Bracelets, of which the following is a specification.

My invention relates to that class of structures known as expansion bracelets, wherein interengaging links or connected links are united with spring elements to effect the expansive and contractive result.

The objects of my invention are to provide a structure particularly adapted to facile repair and wherein the constituent members shall have a facile and uninterrupted movement during expansion and retraction.

Other advantages will be hereinafter pointed out and referred to in the specification.

To the above ends my invention consists essentially in such novel parts and combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings which form a part of this specification, Figures 1 and 2 are plan and front elevations respectively of a bracelet embodying my invention, Figs. 3 and 4 are sections taken respectively on lines $x-x$ of Fig. 2, and $y-y$ of Fig. 3, Fig. 5 is a section similar to that of Fig. 3 showing the parts in expanded position, Fig. 6, a section on line $z-z$ of Fig. 5, Figs. 7 and 8 are top and side elevations respectively of one of the outer links, Figs. 9 and 10, plan and end elevations respectively of one of the body links, and Figs. 11 and 12, top plan and side elevations respectively of the inner member of one of the outer or lateral links.

Like reference characters indicate like parts throughout the views.

The bracelet comprises a series of central links A and side or lateral links B, slidable upon the opposite sides of the links A. Each of the links A is preferably arcuate in contour and oblong in shape, provided with an oblong body and having integral with or fixed to one end upon each side a T-shaped projection a .

Referring now to the lateral links B which are arranged opposite each other al-

ternately disposed with relation to the links A and wholly closed instead of having open ends as do the links A, the construction is as follows: Each link B is preferably composed of an outer and an inner shell or plate b and b' respectively. The shell b constitutes the base and is provided with an angularly directed flange c adapted to frictionally engage a flange c' extending from the top wall b' . The base portion b is provided with a longitudinally disposed curved slot c^2 extending into end enlargements c^3 at the ends of the base. The inner and outer shells b and b' may be united by solder or merely swaged together in any manner, but in order to facilitate the removal of the spring members inclosed within the members B, I prefer that the parts b and b' be assembled in such a manner as to be readily separated one from the other. In the plate b in alinement with the enlargement c^3 are openings or perforations c^4 of less diameter than the openings in the base or inner wall b' . The slot c^2 is a guide slot, and the adjacent portions of the inner plate b' furnish bearing seats on either side of the slot to receive the T-shaped projections a upon the links A. The members B may be connected to each other by posts of any convenient construction connecting their opposite ends and passing through the links A. The form of connection employed in the present instance consists of a pin or post D passing through the openings c^3 and c^4 and having its ends riveted over upon the outer faces of the plate b of the members B. Tubes or washers or rollers E are rotatably mounted upon the pins D and pass through the opening c^3 and abut against the inner faces of the outer plates b of the members B. In each member B is a helical spring F. One of these springs bears against one of the rolls E and the face of the adjacent projection a ; while the other spring F bears against the other roll E and against the adjacent face of the second projection a . Figs. 3 and 5 illustrate the positions of the springs F as they are respectively in expanded or compressed position. The expansion of the springs F maintains the adjacent ends of the links A in contact with each other; while any manual longitudinal pull upon the

bracelet compresses the springs F by bringing the projections *a* toward their respectively cooperating posts D.

It will be observed that the guiding effect of the T-shaped projections which extend at right angles and overlap the edges of the plate *b'* adjacent the slot *c'* forms together with the surface of the last mentioned plate an efficient guide that will prevent cramping of the parts.

The location of the springs F in the lateral members B exclusively and wholly outside of the body members A renders the springs very accessible when repair is necessary. If the particular two-part construction of these members B is employed, which is not necessary to a successful embodiment of my invention, the inclosed springs F are reached by bending upwardly the riveted over portion *d*, whereupon the plate *b* may be lifted from the base member *b'* and the springs withdrawn. Even in such construction of the members B as that wherein the entire member is composed of an inclosing wall wherein no part is separable, there accrues a great advantage in that the location of the springs in the members B being entirely free from the intermediate members A and equidistant laterally from these members, serves to balance the action of all the links and springs when the bracelet is expanded or contracted in the usual longitudinal direction.

What I claim is,

1. In a bracelet of the type set forth, the combination of a series of oblong arcuate flat links provided with projections upon their ends, link members wholly closed except for guide slots to receive said projections, said link members being alternately disposed with relation to said flat links, means for connecting said alternately disposed link members, and springs in the outermost link members upon opposite sides of adjacent projections of two adjoining links, said springs being entirely free from the body portions of the inner members and bearing against said projections.

2. In a bracelet of the type set forth, the combination of a series of oblong arcuate flat links provided with projections upon their ends, link members wholly closed except for guide slots to receive said projections, said link members being alternately disposed with relation to said flat links, means for connecting said alternately disposed link members, springs in the outermost link members upon opposite sides of adjacent projections of two adjoining links, said springs being entirely free from the body portions of the inner members and

bearing against said projections, and pins passed through the link members and connecting opposite link members.

3. In a bracelet of the type set forth, the combination of a series of oblong arcuate open flat links provided with projections upon their ends, arcuate link members wholly closed except for guide slots to receive said projections, said link members being alternately disposed with relation to said flat open links, means for connecting said alternately disposed link members, springs in the outermost link members upon opposite sides of adjacent sections of two adjoining open links, said springs being entirely free from the body portions of the inner members and wholly disposed outside of the body portions of the said flat open links, and rollers rotatably mounted upon said connecting means.

4. In a bracelet of the type set forth, the combination of a series of oblong links, projections upon opposite sides of the adjacent ends of adjacent links, link members slidable upon each side of the first-named links, said link members each comprising a base member provided with a longitudinal slot and with enlargements at each end of said slot, and provided with a flange, another member being provided with perforations in alignment with said enlargements and smaller than the latter and having a flange adapted to frictionally engage the first-mentioned flange, pins fixed in the perforations and passed through the oblong links, sleeves upon the pins passing through said perforations of opposed link members and two springs in each link member pressing at one end against the sleeves and at the other ends against said projections extending through said slots.

5. A bracelet comprising a series of oblong links, link members in pairs upon opposite sides of said links and closed except for guide slots, means passed through the ends of each link member and received in two adjacent oblong links, a pair of springs in each link member and entirely free from the body portions of the inner members, means carried by the said links and the link members respectively between which said springs are disposed in each link member, and means preventing separation of the open links and the link members.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS E. WARD.

Witnesses:

HORATIO E. BELLOWES,
FRED W. PERKINS.